SIGACCESS Annual Report
July 1, 2023 - June 30, 2024
Submitted by: Matt Huenerfauth, Chair

SIGACCESS supports the international community of researchers and professionals applying computing and information technologies to empower individuals with disabilities and older adults. The SIG also promotes the professional interests of students and computing personnel with disabilities and strives to educate the public to support careers for people with disabilities.

SIGACCESS Health and Viability

Now celebrating its 53rd year, SIGACCESS continues to have both healthy membership and fund balance, allowing it to support workshops, create new accessibility resources, and initiate new scholarships. In 2023, our flagship ASSETS conference continued in an in-person modality in New York City with a virtual attendance option, with a total of 320 attendees. This attendance was an increase from 307 in the previous year.

Accessibility continues to grow as a research field, with increasing numbers of accessibility papers being presented at related conferences. ASSETS remains the premier venue for accessibility research work that is deeply rooted in the disability community. Submissions for our flagship ASSETS conference in 2023 were very healthy, with an acceptance rate of 30% (out of 182 submissions to the full-length technical paper track). The number of technical papers being presented at the conference continues to increase, and the SIG is now considering whether we need to move to a multi-track conference format in future years.

Diversity, Equity, and Inclusion

In 2020, SIGACCESS initiated a <u>Diversity and Inclusion Scholarship</u> for the ASSETS 2020 conference, and this continued for a fourth year for the ASSETS 2023 conference. This scholarship program is in addition to the existing SIGACCESS Travel Scholarship Program, but it has a specific focus on encouraging promoting diversity and inclusion among participants at the ASSETS conference. This new scholarship covers registration for the (virtual) conference or a discount on the in-person conference, and is intended to support practitioners, researchers, members of advocacy groups, individuals with disabilities or neurological difference who are interested in the field of computers and accessibility, to actively participate in the ASSETS conference.

The Diversity and Inclusion Scholarship aims to reach out to diverse communities that are underrepresented in the accessibility research field. Examples include, but are not limited to, faculty and students from historically Black and Hispanic-serving institutions in the United States, practitioners working in developing regions, members of Indigenous communities, or individuals bringing LGBTQ+ perspectives to accessible computing. Increasing participation from these communities will contribute to the

academic perspective of ASSETS and help create a more supportive, welcoming and inclusive ASSETS conference. The scholarship was actively advertised among these communities, and in 2023, four (4) individuals applied for the scholarship, and all were approved and awarded the scholarship towards conference attendance.

For the ASSETS 2022 conference, 18 individuals had applied for and received the scholarship. For the online-only ASSETS 2021 conference, 42 scholarships were awarded to support virtual conference attendance, and, similarly, for the online-only ASSETS 2020 conference, 42 had also been awarded to support virtual registration.

The SIGACCESS election in 2021 had been advertised openly, and the elected executive committee members of SIGACCESS (who began in July 2021) include individuals who are women, who identify as LGBTQIA+, and who are from non-U.S. institutions.

SIGACCESS Awards and Recipients

The **SIGACCESS ASSETS Paper Impact Award** is presented every other year (in odd-numbered years) to the authors of an ASSETS conference paper that has had a significant impact on computing and information technology that addresses the needs of persons with disabilities. The award recognizes work that presents a significant innovation or contribution to knowledge that has proved influential. The selection committee focuses on a paper's impact as judged by influence in the research community, a community of practice, industry, and/or social impact resulting from the work. The award includes a $500 prize and a plaque of recognition for the paper's authors. A public citation for the award will be placed on the SIGACCESS website. The ASSETS registration fee for one author of the selected paper will be waived if the author is able to attend the ASSETS conference to receive the award. Technical papers presented 10 or more years prior to the award year are eligible. For instance, for the 2023 award, papers published at ASSETS 2013 or earlier were eligible.

The 2023 recipient was: Amy Hurst and Jasmine Tobias. 2011. Empowering individuals with do-it-yourself assistive technology. In *The Proceedings of the 13th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '11)*. Association for Computing Machinery, New York, NY, USA, 11–18. https://doi.org/10.1145/2049536.2049541

The SIGACCESS community prides itself on directing the technology community's understanding of disabled people and the role technology serves in their lives. Over the past decade, this community has diversified its view of assistive technologies and considered various ways that technology can serve individuals' unique experiences of disability rather than generalizing across broad groups. Designing for the N of 1 is a unique and critical challenge distinguishing accessibility from other fields because all disability is individual. Perhaps the greatest impact of Hurst and Tobias' paper is the insight that we can look to the creativity of disabled people themselves for novel and impactful solutions.   By centering the role disabled people play in acquiring and

designing these technologies, Hurst and Tobias have inspired a diverse line of research. This paper was instrumental in starting a new direction of accessibility research and making accessibility a core topic intersecting other areas of HCI, such as design and digital fabrication.

The **ASSETS 2023 Best Paper** award went to Naoki Hirabayashi (Osaka Prefecture University), Masakazu Iwamura (Osaka Metropolitan University), Zheng Cheng (Osaka Prefecture University), Kazunori Minatani (National Center for University Entrance Examinations), and Koichi Kise (Osaka Metropolitan University), for their work "VisPhoto: Photography for People with Visual Impairments via Post-Production of Omnidirectional Camera Imaging." Especially notable about the winner of the award this year was that the authors of this work had participated in the mentoring program that the ASSETS conference provides for authors who had not previously published work at the conference, and the authors made use of this feedback from the mentor to successfully produce the Best Paper Award winning paper.   In this paper, the authors address the challenge faced by people with visual impairments in pointing a camera at a target by proposing a novel photo-taking system called VisPhoto. Unlike conventional methods, VisPhoto generates a photograph in post-production by capturing an omnidirectional image when the shutter button is pressed and then outputting a cropped region that satisfies the user's preferences. The researchers conducted experiments where 24 visually impaired participants used VisPhoto and conventional methods to take photographs, and 20 sighted people evaluated the photo quality, revealing a preference for VisPhoto in capturing difficult targets and highlighting the influence of participants' needs, values, and confidence in their photographic abilities.

The **ASSETS 2023 Best Student Paper** was awarded to Humphrey Curtis (King's College London) and Timothy Neate (King's College London), for their work "Watch Your Language: Using Smartwatches to Support Communication." In this paper, the authors address the need for scalable high-tech augmentative and alternative communication (AAC) apps by designing and evaluating two discreet AAC smartwatch apps. AAC applications are used by individuals who have difficulty speaking or composing language for communication. Using participatory design techniques, they collaborated with a community of people living with aphasia to develop a smartwatch app for public communication, "Watch Out," and one for private cognitive support, "Watch In." The researchers then evaluated these apps through an experience prototyping workshop and focus group, finding that participants successfully used both apps without restricting their agency and non-verbal communication.

SIGACCESS Significant Papers or New Areas of Work Published

Continuing a trend in recent years, there was an increasing number of papers at the ASSETS'23 conference on research relating to artificial intelligence and machine learning for accessibility. For instance, full-length technical papers included:
- Cecily Morrison, Martin Grayson, Rita Faia Marques, Daniela Massiceti, Camilla Longden, Linda Wen, and Edward Cutrell. 2023. Understanding Personalized Accessibility through Teachable AI: Designing and Evaluating Find My Things for

People who are Blind or Low Vision. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 31, 1–12. https://doi.org/10.1145/3597638.3608395

- Jared Duval, Laia Turmo Vidal, Elena Márquez Segura, Yinchu Li, and Annika Waern. 2023. Reimagining Machine Learning's Role in Assistive Technology by Co-Designing Exergames with Children Using a Participatory Machine Learning Design Probe. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 33, 1–16. https://doi.org/10.1145/3597638.3608421
- Lee Kezar, Jesse Thomason, Naomi Caselli, Zed Sehyr, and Elana Pontecorvo. 2023. The Sem-Lex Benchmark: Modeling ASL Signs and their Phonemes. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 34, 1–10. https://doi.org/10.1145/3597638.3608408

We also observed a cluster of papers published at the intersection of computing accessibility and critical studies in disability, identity, and social justice topics:

- Christina N. Harrington, Aashaka Desai, Aaleyah Lewis, Sanika Moharana, Anne Spencer Ross, and Jennifer Mankoff. 2023. Working at the Intersection of Race, Disability and Accessibility. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 26, 1–18. https://doi.org/10.1145/3597638.3608389
- Kirk Andrew Crawford, Katta Spiel, and Foad Hamidi. 2023. Complex Dynamics: Disability, Assistive Technology, and the LGBTQIA+ Community Center Experience in the United States. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 27, 1–15. https://doi.org/10.1145/3597638.3608401
- Stacy Hsueh, Beatrice Vincenzi, Akshata Murdeshwar, and Marianela Ciolfi Felice. 2023. Cripping Data Visualizations: Crip Technoscience as a Critical Lens for Designing Digital Access. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 25, 1–16. https://doi.org/10.1145/3597638.3608427
- Erin Higgins, Zaria Oliver, and Foad Hamidi. 2023. Towards a Social Justice Aligned Makerspace: Co-designing Custom Assistive Technology within a University Ecosystem. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 28, 1–13. https://doi.org/10.1145/3597638.3608393

Finally, we also observed a continuing interest in accessibility and video-conferencing technologies, likely as a lingering impact from the COVID pandemic:

- Anant Mittal, Meghna Gupta, Roshni Poddar, Tarini Naik, Seethalakshmi Kuppuraj, James Fogarty, Pratyush Kumar, and Mohit Jain. 2023. Jod: Examining Design and Implementation of a Videoconferencing Platform for Mixed Hearing Groups. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 43, 1–18. https://doi.org/10.1145/3597638.3608382
- Taslima Akter, Yoonha Cha, Isabela Figueira, Stacy M. Branham, and Anne Marie Piper. 2023. "If I'm supposed to be the facilitator, I should be the host": Understanding the Accessibility of Videoconferencing for Blind and Low Vision Meeting Facilitators. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 45, 1–14. https://doi.org/10.1145/3597638.3608420
- Danyang Fan, Sasa Junuzovic, John Tang, and Thomas Jaeger. 2023. Improving the Accessibility of Screen-Shared Presentations by Enabling Concurrent Exploration. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 44, 1–16. https://doi.org/10.1145/3597638.3608411

SIGACCESS Conference Activity

Our flagship conference, ASSETS 2023 was held with an in-person modality with a virtual attendance option that included a synchronous transmission of the conference talks over Zoom, pre-recorded videos of presentations available online, and a Discord-based discussion board.   The conference was general chaired by Shiri Azenkot (Cornell Tech) with Maria Wolters (OFFIS Institute for Information Technology, Germany, and University of Edinburgh, UK) and Erin Brady (IUPUI) as Program Chairs.

This year, we continued to grow and diversify the field of accessibility through the ACM Student Research Competition, the ASSETS Doctoral Consortium, a mentoring program for new authors, and the previously mentioned diversity awards. This year was the second year of the Workshops track at the ASSETS conference, and the ASSETS 2023 conference featured four workshops held virtually or in hybrid format in the weeks preceding the conference. These four workshops were selected after a juried review process where researchers and practitioners who work in the areas of accessibility, disability and computing were invited to comment and discuss the workshop proposal submissions.

SIGACCESS Special Projects or Non-Conference Programs

This year, the SIGACCESS Executive Committee held meetings with a new member-at-large that we appointed, Jen Mankoff from the University of Washington, to plan and

discuss a new SIGACCESS initiative to provide more opportunities for networking and engagement among members of our community who find it difficult to travel to conferences. Jen recruited an additional SIGACCESS member Rua Williams to co-lead this effort, and we have announced this initiative among our community, to call for interested individuals to identify themselves to join an organizing committee. Potential programming that has been discussed for this initiative includes Zoom-based talks or panel discussions, to feature the work of members of our community or to discuss career mentoring topics.

Key Issues for SIGACCESS in the Coming Years

Our flagship conference has been continuing to grow in the number of paper submissions and accepted technical papers. While this is a welcome sign of interest and engagement from our community, the conference's traditional 3-day single-track format may need to be modified to accommodate an increasing number of papers in the technical program. For ASSETS, planning and paying for the costs of accessibility is a high-priority for our community, given the focus of our work and the composition of the research community members. However, many costs and accessibility complexity increase with the shift to a multi-track program, e.g., doubling the costs of sign-language interpreters or captioning services, creating challenges for participants who need to move between rooms during the day for multiple tracks, and increasing costs for transmission of streaming presentations from multiple tracks for any virtual/hybrid conference option.   Our SIG executive board and conference leaders are actively discussing how we can plan for this increased complexity and accessibility costs. In addition, as our community becomes more global, we have begun to receive requests for additional sign-language interpreting beyond American Sign Language (ASL). The costs to provide interpreting in additional sign languages can become prohibitively high for a small conference ASSETS and small community like SIGACCESS. Eventually, ACM may need to examine the potential of providing a more centralized set of funding for accessibility service requests across conferences or events, since we are concerned about the increasing registration costs of our conference for our community, as we navigate these complex logistical and accessibility requirements.

As discussed in our report last year, with COVID conditions improving, SIGACCESS made the decision to commit to an in-person conference for ASSETS'2022, with a hybrid virtual attendance option, and we continued with this approach in 2023. While the number of individuals who selected the virtual conference option was small, our community views providing a virtual option as an accessibility issue, i.e., supporting members of our community who find it difficult to travel for reasons of disability. Providing a lightweight option for virtual attendance (e.g., pre-recorded videos and a discussion/chat system for virtual participants to engage in questions and conversation about paper) has been our approach to hybrid conferences thus far, but we did provide live streaming of presentations over Zoom in 2023 In future years, our SIG must weigh whether we will we continue to provide hybrid conference experiences, and if so, then there may be opportunities to find new ways to provide an engaging experience for virtual attendees and support them in interacting with in-person participants.

SIGAda Annual Report
July 1, 2023 – June 30, 2024
Submitted by: S. Tucker Taft, President

SIGAda was merged into SIGPLAN this spring, and will create a High Integrity Language Technology (HILT) technical committee within SIGPLAN.

We have not made significant efforts related to DEI, but will attempt to broaden the membership as we formulate the HILT technical committee.

SIGAda has two awards:

1. Robert Dewar Award for Outstanding Ada Community Contributions -- For broad, lasting contributions to Ada technology & usage.

2. ACM SIGAda Distinguished Service Award -- For exceptional contributions to SIGAda activities & products.

The most recent award winners were from 2022, Fabien Chouteau for the Robert Dewar award, and Luis Miguel Pinho for the Distinguished Service Award.

Our Ada Letters newsletter published the proceedings for the work-in-progress session of Ada-Europe 2023, as well as for the DeCPS 2023 workshop. Here is a selection of the papers:

- Georg Jäger, Gero Licht, Norman Seyffer, and Stefan Reitmann. 2024. VR-Based Teleoperation of Autonomous Vehicles for Operation Recovery. Ada Lett. 43, 2 (December 2023), 25–29. https://doi.org/10.1145/3672359.3672361

- Bakary Badjie, José Cecílio, and António Casimiro. 2024. Denoising Autoencoder-Based Defensive Distillation as an Adversarial Robustness Algorithm Against Data Poisoning Attacks. Ada Lett. 43, 2 (December 2023), 30–35. https://doi.org/10.1145/3672359.3672362

- Dene Brown and Glenn Hawe. 2024. Exploring Trade-offs in Explainable AI. Ada Lett. 43, 2 (December 2023), 36–42. https://doi.org/10.1145/3672359.3672363

- Douglas C. Schmidt, Jesse Spencer-Smith, Quchen Fu, and Jules White. 2024. Towards a Catalog of Prompt Patterns to Enhance the Discipline of Prompt Engineering. Ada Lett. 43, 2 (December 2023), 43–51. https://doi.org/10.1145/3672359.3672364

- Tiago Carvalho, Hugo Silva, and Luís Miguel Pinho. 2024. A Real-Time Parallel Programming Approach for Rust. Ada Lett. 43, 2 (December 2023), 57–61. https://doi.org/10.1145/3672359.3672366

- A. Pimentel, C. Grelck, L. Miedema, D. Sapra, M. Völp, F. Lucchetti, A. Matovic, M. Maggio, N. Vreman, S. Altmeyer, F. Haas, A. Casimiro, J. Cecílio, G. Jäger, A. Espindola, S. Skalistis, J. Kouwer, G. de Lange, J. Almeida, H. Blasum, M. Brotz, S. Wagner, and P. Novobílský. 2024. The ADMORPH Approach for Adaptively Morphing Embedded Systems. Ada Lett. 43, 2 (December 2023), 78–83. https://doi.org/10.1145/3672359.3672372

- Miguel García-Gordillo, Joan J. Valls, Javier Coronel, and Sergio Sáez. 2024. Mode Change Management for Adaptive Cyber-physical Systems. Ada Lett. 43, 2 (December 2023), 84–88. https://doi.org/10.1145/3672359.3672373

- Alessio Medaglini and Sandro Bartolini. 2024. Performance Study of Object Tracking with Multiple Kalman Filters in Autonomous Driving Systems. Ada Lett. 43, 2 (December 2023), 89–93. https://doi.org/10.1145/3672359.3672374

There was no HILT workshop in 2023-2024 due to the impending merger with SIGPLAN.

Over the next year, we will try to build up a robust online community as part of the HILT technical committee within SIGPLAN. We intend to reach out to the Rust community in addition to the former SIGAda members, and others interested in safety-oriented languages such as Ada and Rust.

SIGAI Annual Report
July 1, 2023 – June 30, 2024
Submitted by: Sanmay Das, Chair

Comment on the ways in which the SIG is a healthy and viable organization
SIGAI continues to sponsor and co-sponsor several conferences that are vibrant and thriving. Many of our conferences are co-sponsored with other SIGs and other professional societies, and we play a key role in conferences that are at the intersection of AI and other areas. We also support the community in a number of ways, including through student support for conference attendance, special events and activities (both at, and independent of, our conferences), and outreach in other forms. As you will see below, these activities serve a range of constituencies, and provide an important link between ACM and other organizations that are active in AI (e.g. AAAI and IJCAI).

Describe your efforts related to Diversity, Equity, and Inclusion.
We have to main channels for supporting DEI activities. First, our funding of students to attend conferences has a strong DEI focus. We used to run this program ourselves in order to better track and align with our goals, but administrative changes mean that we now administer grants to conferences who select the recipients themselves. We have instituted a new process, whereby we give travel grants to conferences we sponsor, and ask them to demonstrate that the award will help drive up the diversity and inclusivity of their event. As part of the application process, they specify the intended target audience of their awards (e.g. general hardship travel, student authors, etc), the eligibility requirements for receipt of an award, and prioritization of support. We are asking conferences to report on the recipients afterwards, and plan to track whether this version of the program is aligning with our goals. Second, we often provide special funding for programs that we think will broaden participation in computing – for example, we funded the AAAI/ACM SIGAI New and Future AI Educator Program at EAAI-24 (see below for more).

Provide a list of awards and recipients
SIGAI presents three 3 major awards annually. Complete details and nomination procedures for all awards are available at the SIGAI awards page:
https://sigai.acm.org/main/sigai-awards/

The ACM SIGAI Autonomous Agents Research Award is presented for excellence in research in the area of autonomous agents. The recipient is invited to give a talk at the International Conference on Autonomous Agents and Multiagent Systems (AAMAS). The 2024 ACM SIGAI Autonomous Agents Research Award was presented at AAMAS 2024 in Auckland, New Zealand to Professor Catholijn Jonker, professor of Interactive Intelligence at the Faculty of Electrical Engineering, Mathematics, and Computer

Science of the Delft University of Technology. Professor Jonker is a leader in the field of human-machine interaction, in particular regarding modeling the cognitive processes and concepts involved in negotiation and teamwork. Professor Jonker initiated the Automated Negotiating Agents Competition at AAMAS and IJCAI. She has also contributed to other research domains such as integrating interactive intelligence for hybrid intelligent systems. She is also very active in advancing research into value-sensitive and responsible AI. She is very much involved in promoting women in academic positions. She chaired the Network of Female Professors. She is a role model for many young researchers. Her research is highly visible and praised. Professor Jonker received numerous awards. She was the past President of IFAAMAS.

ACM SIGAI also sponsors the ACM SIGAI Industry Award for Excellence in AI, an annual award which is given to an individual or team in industry who created a fielded AI application in recent years that demonstrates the power of AI techniques via a combination of the following features: novelty of application area, novelty and technical excellence of the approach, importance of AI techniques for the approach and actual and predicted societal impact of the application. The committee decided not to present the award in 2024.

Finally, we also sponsor, jointly with AAAI, the AAAI/ACM SIGAI Doctoral Dissertation Award to recognize and encourage superior research and writing by doctoral candidates in AI. This annual award is presented at the AAAI Conference on AI in the form of a certificate. In the aftermath of the pandemic, we have fallen behind on this award. In February of 2024 the award was presented to Shibani Santurkar of the Massachusetts Institute of Technology for her work entitled "Machine Learning Beyond Accuracy: A Features Perspective On Model Generalization." We are catching up on the remaining award backlog with a plan to make additional award announcements soon.

List significant papers on new areas that were published in proceedings

Notable papers appearing in conferences sponsored and in-cooperation (with ACM DL Proceedings) with ACM SIGAI include:

"Multi-Purposeful Activities for Robot-Assisted Autism Therapy: What Works Best for Children's Social Outcomes?" Aida Zhanatkyzy, Zhansaule Telisheva, Aida Amirova, Nazerke Rakhymbayeva, Anara Sandygulova, **Best Studies Paper HRI 2023**

"Design Principles for Robot-Assisted Feeding in Social Contexts." Amal Nanavati, Patricia Alves-Oliveira, Tyler Schrenk, Ethan K. Gordon, Maya Cakmak, Siddhartha S. Srinivasa. **Best Design Paper HRI 2023.**

"Feminist Human Robot Interaction: Disentangling Power, Principles and Practice for Better, More Ethical HRI." Katie Winkle, Donald Mcmillan, Maria Arnelid, Katherine Harrison, Madeline Balaam, Ericka Johnson, Iolanda Leite. **Best Theory & Methods Paper HRI 2023**

"Interactive Policy Shaping for Human-Robot Collaboration with Transparent Matrix Overlays." Jake Brawer, Debasmita Ghose, Kate Candon, Meiying Qin, Alessandro Roncone, Marynel Vázquez, Brian Scassellati. **Best Technical Paper HRI 2023**

"Lively: Enabling Multimodal, Lifelike, and Extensible Real-time Robot Motion." Andrew Schoen, Dakota Sullivan, Ze Dong Zhang, Daniel Rakita, Bilge Mutlu. **Best Systems Paper HRI 2023**

"The Bureaucratic Challenge to AI Governance: An Empirical Assessment of Implementation at U.S. Federal Agencies" Christie Lawrence, Isaac Cui, and Daniel Ho. **Best Paper AIES 2023**

"☑ Fairness Toolkits, A Checkbox Culture? On the Factors that Fragment Developer Practices in Handling Algorithmic Harms." Agathe Balayn, Mireia Yurrita, Jie Yang, and Ujwal Gadiraju. **Best Student Paper AIES 2023.**

"Equal Pay for Similar Work." Diego Gentile, Fuhito Kojima, and Bobby Pakzad-Hurson. **Best Paper Award EAAMO 2023.**

"30 Million Canvas Records Reveal Widespread Sequential Bias and System-design Induced Surname Initial Disparity in Grading." Jiaxin Pei, Zhihan Wang, and Jun Li. **Best Student Paper Award EAAMO 2023.**

"Common Voice and Accent Choice." Kathy Reid and Elizabeth T. Williams. **New Horizons Award EAAMO 2023.**

"Design on Matroids: Diversity vs. Meritocracy." Isa Hafalir, Fuhito Kojima, M. Bumin Yenmez, and Koji Yokote. **Best Theory Track Paper Award EAAMO 2023.**

"Setting the Right Expectations: Algorithmic Recourse Over Time." Joao Fonesca, Andrew Bell, Carlo Abrate, Francesco Bonchi, and Julia Stoyanovich. **Best AI Track Paper Award EAAMO 2023.**

"Evaluating a Model of Pathological Affect based on Pedagogical Situations for a Virtual Patient." Amine Benamara, Jean-Claude Martin, PrigentElise and Brian Ravenet. **Best Paper Award IVA 2023**

"Utilizing a Dense Video Captioning Technique for Generating Image Descriptions of Comics for People with Visual Impairments." Suhyun Kim, Semin Lee, Kyungok Kim and Uran Oh. **Best Paper Award IUI 2024**

"FrameKit: A Tool for Authoring Adaptive UIs Using Keyframes." Jason Wu, Kashyap Todi, Joannes Chan, Brad A. Myers and Ben Lafreniere. **Best Paper Award IUI 2024.**

"Trust Region Bounds for Decentralized PPO Under Non-stationarity." Mingfei Sun, Sam Devlin, Jacob Beck, Katja Hofmann and Shimon Whiteson. **Best Paper AAMAS 2023**

"A Map of Diverse Synthetic Stable Roommates Instances." Niclas Boehmer, Klaus Heeger and Stanisław Szufa. **Best Student Paper AAMAS 2023.**

"TinyML-Driven On-Device Personalized Human Activity Recognition and Auto-Deployment to Smart Bands." Bidyut Saha, Riya Samanta, Soumya Kanti Ghosh, and Ram Babu Roy. **Best Paper Award in Research Track AIMLSystems 2023**

"Adapting Open-Source LLMs for Contract Drafting and Analyzing Multi-Role vs. Single-Role Behavior of ChatGPT for Synthetic Data Generation." Jaykumar Kasundra and Shreyans Dhankhar. **Best Paper Award in Industry Track AIMLSystems 2023**

Describe conference activity
2023-24 saw increased uptake of our travel award scheme. New requests for in-cooperation agreements continued to arrive at a higher volume than previously and we agreed a number of policies for handling such requests, including that travel awards would not be offered to conferences in their first year in-cooperation with the SIG.

ACM SIGAI sponsored the following conferences in 2023 and 2024:

K-CAP 2023
EAAMO 2023
CSCS 2023
ASE 2023
IVA 2023
IUI 2024
HRI 2024

and it will sponsor the following conferences coming up in 2024 and 2025:

IVA 2024
ASE 2024
EAAMO 2024
HRI 2025
IUI 2025

ACM SIGAI supported the following in-cooperation events covering a wide thematic and geographical range across the international AI community:

AIBDF 2023
AILMLSystems 2023
IJCCI 2023
IC3K 2023
ICINCO 2023
ICAICE 2023
ICMML01
ICIEAI 2023
DEAI 01
BIOSTEC 2024
ICPRAM 2024
ICAART 2024
ROBOVIS 2024
CAMMIC '04
FDG 2024
ICEIS 2024
IMPROVE 2024
AAMAS 2024
ICSCI01 2024
RAIIE 2024
DATA 2024
IEA/AIE 2024
DeLTA 2024
SIMULTECH 2024
AIAHPC04 2024
MLPRAE01 2024

Comment on special projects and non-conference programs that provided service to some part of your technical community

We funded a few major special projects last year. This included the AAAI/ACM SIGAI New and Future AI Educator Program at EAAI-24, the 14th Symposium on Educational Advances in Artificial Intelligence, collocated with AAAI-24. EAAI provides a venue for researchers and educators to discuss pedagogical issues and share resources related to teaching and using AI in education across a variety of curricular levels (K-12 through postgraduate training), with an emphasis on undergraduate and graduate teaching and learning. The New and Future AI Educator Program provides a platform for new educators (early career lecturers, assistant professors, and other university or secondary school faculty) and future educators (full-time PhD candidates or postdocs at colleges and universities who intend a career in academia) to attend EAAI to actively share and discuss their ideas and visions for AI education. Specifically, the program provided partial travel support for 3 awardees to attend EAAI-24 in Vancouver, CA. Awardees presented their blue sky ideas and actively participated in the EAAI birds-of-a-feather discussion sessions at the symposium in February 2024, enabling discussions and providing networking opportunities for new educators. They further collaborated on an article summarizing their ideas and visions for AI education. This article is currently pending publication in the ACM SIGAI AI Matters magazine.

Another special project was at the intersection of AI and OR. As AI/ML continues to push toward not just learning and inference, but into decisioning and acting, building bridges between our community and the operations research and management science communities continues to grow in importance. Toward that end, SIGAI, joint with the Institute for Operations Research and the Management Sciences (INFORMS) and CRA's Computing Community Consortium (CCC) was happy to continue supporting a multi-year push to help build such a bridge. We have helped support Artificial Intelligence / Operations Research Workshops I, II, and III -- each of which brought together 40-50 practitioners across AI, ML, and operations research, and more recently supported to the tune of $5000 the Artificial Intelligence School for Computer Science and Operations Research Education (AI-SCORE), a summer school associated with those workshops that attracted keynote speakers Profs. Michael Fu (University of Maryland), Kevin Leyton-Brown (University of British Columbia), Tuomas Sandholm (Carnegie Mellon University) and David Shmoys (Cornell University) as well as education modules focused on fairness and reinforcement learning, two focuses shared across AI/ML and operations research. We were happy to support this early-career, educational complement to the more senior-career-focused AI/OR workshops supported over the last two years.

We also continued to run the successful SIGAI job fair at AAAI in 2024.

A very brief summary of the key issues that SIG membership will have to deal with in the next 2-3 years.

With the rapid growth of interest in AI over recent years there is a renewed energy around these topics. The current landscape contains many institutions with a focus on promoting and advancing AI. Given ACM's broader remit and how pervasive AI has become through the whole discipline we believe greater integration and interaction between SIGAI and other SIGs as well as ACM as a whole may be necessary. Additionally, we are, like other SIGs, unsure of the impact of the coming changes to Open Access and the DL revenue model.

SIGAPP Annual Report
July 1, 2023 – June 30, 2024
Submitted by: Tei-Wei Kuo, Chair

SIGAPP Mission

The SIGAPP mission is to further the interests of the computing professionals engaged in the development of new computing applications and applications areas and the transfer of computing technology to new problem domains.

SIGAPP Officers

Chair - Tei-Wei Kuo, National Taiwan University and Delta Electronics, Inc, Taipei, Taiwan
Vice Chair – John Kim, Utica University, NY, USA
Treasurer – Juw Won Park, University of Louisville, KY, USA
Secretary – Austin Hanson, Oracle Corporation, SD, USA
Immediate Past Chair – Jiman Hong, Soongsil University, Seoul, Korea
ACM Program Coordinator, Katie Balben, ACM HQ

1. Comments on the ways in which SIGAPP is a Healthy and Viable Organization

(1)   SIGAPP Membership and Benefits for Members

In order to attract and retain members, SIGAPP continues the benefit policies offered to its members. Officers focus on enhancing the SIG by working with ACM SGB to increase the membership population and to establish a new journal on applied computing. The strength and uniqueness of SIGAPP among ACM SIGs are to provide a valuable platform for scientific diversity, offering a crosscutting of multiple disciplines within the ACM community. As of 2024, SIGAPP has a total of 285 members. Although the number of members has been increasing over the past few years, there was a temporary decrease recently. It might be due to COVID-19 effects. We need to watch out and respond to changes accordingly. Additionally, SIGAPP has reorganized the Steering Committee of ACM SAC 2025, its flagship conference, to comply with ACM policies on diversity, equality, and inclusion, following the decision made in business meetings during ACM RACS 2023 and ACM SAC 2024. It aims at inviting more people joining the communities. The SIGAPP webpage is also revamped to enhance ways to provide more information and foster stronger relationships among its members.

The member benefits provided by SIGAPP include:

• Subscription to Applied Computing Review (Published quarterly)
• Reduced registration fee for SIGAPP conferences (SAC, RACS)
• Access to all SIGAPP materials in the ACM Digital Library, including SAC and RACS conference proceedings and Applied Computing Review (ACR)
• Discounted registration fees of SAC and RACS conferences

Furthermore, the community benefits offered by SIGAPP include:

• 100% sponsorship of SAC and RACS conferences
• 50% sponsorship of PEARC conference
• Best Paper/Poster awards at SAC, RACS, and PEARC conferences
• Distinguished Service Award for outstanding service to SAC and RACS
• Student travel support to SAC, RACS, and PEARC conferences

(2)   SIGAPP Fund Balances
The Fund balance has been increasing due to the success of sponsored conferences, including SAC, RACS, and PEARC in receiving generous local support, and the increase in the ACM DL revenue:

<Table 1. Fund Balance>

Year	Amount	Expense	Discretionary
June 2023	$1,105,546	$306,503	$799,043
June 2022	$1,025,481	$231,610	$793,871
June 2021	$932,768	$70,704	$862,064
June 2020	$857,977	$72,393	$785,584
June 2019	$757,248	$125,974	$631,274
June 2018	$760,807	$142,526	$618,281

<Table 2. Digital Lib. Revenue>

Year	Amount
2023	$39,893
2022	$41,034
2021	$51,854
2020	$42,004
2019	$40,438
2018	$60,046

2.   Efforts related to Diversity, Equality, and Inclusion

To Increase Diversity and Equity of SIGAPP Officers and Organizing Committee members and to foster a sense of community among SIGAPP Officers and Organizing Committee members, SIGAPP tried to recruit volunteers without discrimination against various races and countries. As a result of these efforts, compared to 20~30 years ago where authors of SAC mainly from EU, and USA, we have lots of authors from Asian and African countries now. SIGAPP has also reorganized the Steering Committee of ACM SAC 2025, its flagship conference, to comply with ACM policies on diversity, equality, and inclusion, following the decision made in business meetings during ACM RACS 2023 and ACM SAC 2024. There are five members of the Steering Committee of ACM SAC 2025: Alessio Bechini (University of Pisa, Italy), Jiman Hong (Soongsil University, Korea), John Kim (Utica University, USA), Tei-Wei Kuo (National Taiwan University & Delta Electronics, Inc, Taiwan), Lorie M. Liebrock (New Mexico Institute of Mining and Technology, USA), where all of them are active members of the community.

3.   List of Awards and Recipients

Both the SIGAPP Outstanding Service Award and the SIGAPP Distinguished Service Award have been presented almost every year. However, there were no   recipient from 2020 to 2022 due to the COVID-19 pandemic. In 2023, the SIGAPP Distinguished Service Award was presented to Dr. Tei-Wei Kuo from National Taiwan University in recognition and honor of his significant contributions as the Vice Chair of SIGAPP. He has played a crucial role in establishing the SIGAPP China Chapter and SIGAPP Taiwan Chapter. His dedication and efforts in promoting the major sponsored conferences of SIGAPP, namely SAC and RACS, in various Asian countries, including Taiwan and China, have been exceptional.

In the coming future, SIGAPP also plans to introduce more recognitions to cultivate young members for different community services and recognize our senior people. In particular, SIGAPP has established its Advisory Committee in 2024 to recognize the significant contributions of our senior leaders and to encourage more communication among them and our community members to pass experiences to the community: Barrett R. Bryant (Texas State University, USA), Hisham M. Haddad (Kennesaw State University, USA), Sascha Ossowski (University Rey Juan Carlos, Spain), Sung Y. Shin (South Dakota State University, USA), Roger L. Wainwright (University of Tulsa, USA).

4. Significant papers on new areas

There were no special and significant papers on new areas.

5. Sponsored Conference Activity

Due to the sudden outbreak of COVID-19, the main event within SIGAPP, the Symposium on Applied Computing (SAC), was unable to be held in its ordinary in-person format between 2020 and 2022. Thanks to the tremendous efforts of the community, In 2023,

the 38th Annual edition of SAC was successfully held in Tallinn, Estonia, and it became another significant event for the Symposium on Applied Computing in the SIGAPP history. In 2024, the 39th Annual edition of SAC was successfully held in Avila, Spain. This international gathering attracted more than 400 attendees from over 50 different countries. It was hosted by University of Salamanca, Spain. The conference featured 35 accepted tracks, which were selected after careful prescreening based on the success of previous SACs and the inclusion of new and emerging areas. The Call for Papers for these tracks resulted in 773 final paper submissions from 40 different countries. After a blind review process, 180 papers were accepted as regular papers for inclusion in the Conference Proceedings and presentation during the Symposium. It resulted in a final acceptance rate of 23.8% for the overall track. The event also awarded the Best Papers Awards to five exceptional papers. We also have ACM Europe Award which recognized authors of outstanding technical contributions to ACM conferences taking place in Europe. This award was   presented to Jinheng Li, Qiao Li, Hu Wan, and Chun Jason Xue for their paper, "Binary Folding Compression for Efficient Software Distribution."

In 2024, ACM Research in Adaptive and Convergent Systems (RACS) conference will be held in Pompei, Metropolitan City of Naples, Italy, between November 5 and 8, where ACM RACS was held in Gdansk, Poland, in August 2023. RACS was cancelled in 2021 and 2022 due to the impacts of COVID-19. RACS, which started as a SIGAPP in-cooperated conference and a 10% partially sponsored conference of SIGAPP in 2012, has now become SIGAPP's fully sponsored conference since 2019, owing to its successful organization by the steering committee and the organizing committee over the past 12 years. Moreover, SIGAPP has a 50% sponsored conference named Practice and Experience in Advanced Research Computing Conference   (PEARC), which took place in Columbus, OH, between July 20 and 24, 2024. SIGAPP plans to sponsor SAC, RACS, and PEARC in the coming years.

Additionally, SIGAPP has several In-cooperation conferences, the list of which is provided below:
• IDEAS '23 International Database Engineered Applications Symposium, Crete, Greece, 05/05/23 - 05/05/23
• MEDES '23 The 15th International Conference on Management of Digital EcoSystems, Crete , Greece, 05/05/23 - 05/07/23
• MEDES '22 International Conference on Management of Digital EcoSystems, Venice, Italy, 10/19/22 - 10/21/22
• SBSI '22 XVIII Brazilian Symposium on Information Systems, Curitiba , Brazil, 05/16/22 – 05/19/22
• ICCA '22 International Conference on Computing Advancements, Dhaka , Bangladesh, 03/10/22 - 03/12/22
• MEDES '21 International Conference on Management of Digital EcoSystems, Virtual Event , Tunisia, 11/01/21 - 11/03/21
• BRAINS '21 3rd Conference on Blockchain Research & Applications for Innovative Networks and Services, Paris , France
• SMA '21 The 10th International Conference on Smart Media and Applications, Gusan, Republic of Korea, 09/09/21 - 09/11/21

• SBSI '21 XVII Brazilian Symposium on Information Systems, Uberlândia , Brazil, 06/07/21
  - 06/10/21
• ECBS '21 Conference on the Engineering of Computer Based Systems, Novi Sad, Serbia,
  05/26/21 - 05/27/21

6. Comments on special projects and non-conference program

(1)   ACR, newsletter for members and non-members

ARC, Applied Computing Review is distributed to all ACM/SIGAPP members as benefits of membership, and it is available to non-SIGAPP members, libraries, and other institutions by special subscription.

ACR is now stabilized, and we have begun publishing quarterly electronically since the Spring of 2012. Ultimately, we would like to have ACR appear in the SCI (Science Citation Index). ACR contains invited papers from world-renowned researchers and selected papers presented by prominent researchers and professionals who attended the SAC, RACS, and PEARC. The selected papers have been expanded, revised, and peer-reviewed again for publishing in ACR. The next issue will be published in the fall of 2024. We hope that ACR will serve as a platform for many new and promising ideas in the many fields of applied computing. It is strongly related to nearly every area of computer science, and we feel it as our obligation to serve the community as best as we can. The papers in ACR represent the current applied computing research trends. These authors truly contribute to the state of the art in applied computing.

(2)   SIGAPP Chapter

Especially in Far East Asian countries, such as Korea, China, Taiwan, and Hong Kong, there is notable government-level support to applied and convergent computing. As a result, we have established new SIGAPP chapters in these countries, which has led to a significant increase in the number of SIGAPP members through these local chapters. Looking ahead, we are planning to establish SIGAPP Japan to host various academic events in collaboration with the existing six SIGAPP Chapters. Additionally, SIGAPP aims to facilitate joint seminars and small workshops between neighboring SIGAPP chapters (e.g., SIGAPP Korea, SIGAPP China, SIGAPP Taiwan, and SIGAPP Hong Kong), which can provide researchers with opportunities to share their research works locally and across regions.

(3)   Others

Student Grants: We have implemented the Student Travel Award Program (STAP) to support students who face financial challenges in attending SIGAPP-sponsored conferences. The STAP has been highly successful in assisting SIGAPP student members in participating in conferences sponsored by SIGAPP. Each year, around 40 to

45 students receive awards, and approximately $40,000 to $50,000 has been allocated for this purpose. Additionally, we have plans to introduce a Developing Countries Travel Award to support faculty-level researchers from developing countries, enabling broader geographical participation in the SAC conference. From 2024, we will expand the Student Travel Award Program (STAP) to provide support for students attending the RACS and PEARC conferences as well.

7. Brief Summary of key issues that SIGAPP membership will have to deal with in the next 2~3 years

Member retention is a constant concern for SIGAPP, and it is even more challenging after COVID-19. To retain existing members and attract new ones, SIGAPP has implemented a free one-year membership offer for authors who have previously registered for SAC and RACS in recent years. Those authors who receive the complimentary membership can then submit their papers to SAC and RACS the following year at a discounted member's registration fee. By involving these authors, we aim to foster a sense of engagement with SIGAPP.

Furthermore, to comply with ACM policies on diversity, equality, and inclusion and to foster a sense of community, SIGAPP has reorganized the Steering Committee of ACM SAC 2025, its flagship conference. There are five members of the Steering Committee of ACM SAC 2025: Alessio Bechini (University of Pisa, Italy), Jiman Hong (Soongsil University, Korea), John Kim (Utica University, USA), Tei-Wei Kuo (National Taiwan University & Delta Electronics, Inc, Taiwan), Lorie M. Liebrock (New Mexico Institute of Mining and Technology, USA), where all of them are active members of the community. SIGAPP shall also try to recruit volunteers without discrimination against various races and countries. Compared to 20~30 years ago where authors of SAC were mainly from EU and USA, we have lots of authors from Asian and African countries now. SIGAPP is continuously enhancing and building our volunteer development process, recognizing its significance for the organization. The Executive Committee actively seeks new volunteers to serve as future SIGAPP officers. We encourage SIGAPP members to volunteer for the SAC conference, which serves as the flagship event of our organization.

In the coming years, we are dedicated to creating a career path for young researchers to support their professional growth and implement new awards/recognitions to encourage more participation and contributions from senior and young people. This includes initiatives such as the Career Award, Young Researcher Award, and a range of service positions, from Technical Program Committee (TPC) members and Track Chairs to Conference Chairs. These opportunities aim to attract talented individuals to join and collaborate within SIGAPP, fostering a vibrant and engaged community. We shall also develop a robust renewal strategy to retain our members and sustain our revenue. We have identified that the primary reason for members not renewing is a lack of engagement. It would be crucial to improve real engagement of members as a key element of our membership renewal strategy.

1.   Health and Viability

Every year we report on our activities and initiatives along the three pillars in our mission statement – technical exchange, talent development and recognition, and outreach. These three pillars have a strong emphasis on diversity and inclusion with initiatives that have impacted communities across ACM and beyond.
As later sections of the report will show, our conference attendance and paper submission rates are very healthy. We maintain a healthy fund balance that allows us to support a range of activities. SIGARCH members are actively engaged in our various activities and the SIG continues to perform well.

2.   Efforts related to Diversity, Equity and Inclusion

Efforts to support diversity, equity and inclusion have been a key focus of SIGARCH in recent years. We continue to maintain a wide range of programs to build and maintain an inclusive community.

(1)   **Student mentoring:** "Meet a Senior Architect (MASA)" runs together with "Meet a Senior Student (MASS)" launched by CASA at our conferences. The programs match students with mentors (through questions asked in the conference registration form), providing students the opportunity to meet 1-on-1 with a senior architect or a senior student for about half an hour at the conference. These programs ran virtually during COVID. Mentorship is now codified at ISCA, ASPLOS and MICRO as a service with an assigned chair on the conference organizing committee and guidelines about how to run the mentorship programs. These programs collectively boast several hundreds of mentees and mentors in our conferences. As of 2022, CASA has launched an online mentorship platform called CALM which offers services beyond conferences and meeting events.

(2)   **Women In Computer Architecture (WICArch):** WICArch became a SIGARCH sponsored subcommittee in 2018 as part of SIGARCH to build a community of female architects, celebrate their accomplishments, and boost talent development for women in architecture. WICArch is currently chaired by Kelly Shaw with a portfolio of activities including an annual flyer showcasing women graduates in the academic market, virtual seminars, reading groups, industry engagement and conference meetups. In 2024, they launched an early career travel grant program that supports the one WICARCH member to attend ISCA. In return for receiving the travel, the WICARCH member must organize

a networking or professional development activity for WICARCH at the conference. The inaugural recipient was Tamara Lehman.

(3)   **Computer Architecture Student Association (CASA):** CASA is an independent student-run organization with the express purpose of developing and fostering a positive and inviting student community within computer architecture. CASA is now run by a steering committee of 13 members. SIGARCH has been co-sponsoring CASA together with IEEE TCCA with funds for activities aligned with its mission. SIGARCH also hosts CASA on the sigarch.org website. We have funded CASA for hosting balanced mental health seminars for graduate students and networking events including a joint dinner for ISCA with PLDI students at FCRC'23.

(4)   **Talent development grants:** We have launched financial support for initiatives aimed at developing talent, improving well-being, and advancing diversity and inclusion for the computer architecture community. The Undergrad Architecture Mentoring Workshop (Uarch) targets boosting participation from undergrads in parts of the world and institutions with lower average participation at computer architecture conferences. In 2024, the workshop was held at ISCA in Buenos Aires. Given this, the focus was on schools in South and Central America. Over 25% of attendees in-person attendees came from these locations. The 2024 edition supported 37 in-person attendees and 80 virtual attendees from 14 countries and 23 schools (in person). Countries outside of North America included Chile, Argentina, Peru, Brazil, Poland, Vietnam, Ethiopia and others.

(5)   **Student travel grants:** Student travel grants for conferences are among our flagship benefits for student members. All conferences where SIGARCH co-sponsors at a level greater than 33% are eligible for student travel grant support at levels of $5K-$20K. Survey results in 2016 indicated that 39% of the respondents said they would come to ISCA only if they received some travel grant and 5% of the students used personal funds to cover the difference between actual costs and these travel grants. In 2024, we continued supporting our student members through the travel grants at sponsored conferences.

(6)   **Diversity and inclusion grants:** SIGARCH provides financial support for a number of initiatives aimed at developing talent, improving well-being, and advancing diversity and inclusion for our members at various levels of seniority at SIGARCH-sponsored events. In 2024, we continued to support CASA, the Undergrad Architecture Mentoring Workshop (Uarch), Young Architect Workshop (Yarch), and the grad cohort of CRA Committee on Widening Participation in Computing Research (CRA-WP).

(7)   **Companion assistance and childcare grants:** SIGARCH was a pioneer in supporting travel grants for companions for childcare or disability support for those attending professional meetings while traveling. These have expanded to supporting on-site childcare in recent years.

3.   Award recipients

We have a number of awards that are given annually either by ACM/IEEE directly, by SIGARCH alone, or SIGARCH together with TCCA. Martha Kim is our Awards Chair and coordinates the Maurice Wilkes and Alan Berenbaum awards. The Dissertation award has an alternating chair between a SIGARCH EC and a TCCA EC member every year. José Martinez coordinates the CACM highlights. The influential paper awards are coordinated by the conference chairs together with the respective steering committees or SIGARCH/TCCA chairs.

(1) ACM/IEEE Eckert-Mauchly award: This is the most prestigious award in our community given for contributions to computer and digital systems architecture. The 2024 recipient was Wen-mei Hwu for "For seminal contributions to architectures, compilers, and adoption of multiple generations of processors, including superscalar, VLIW, and GPUs."

(2) SIGARCH Maurice Wilkes award: This is the most prestigious award given to a researcher in the first 20 years of their career. The 2024 recipient was Reetuparna Das for "contributions to in-memory computing."

(3) SIGARCH/TCCA influential ISCA paper award: In the past year, SIGARCH and TCCA agreed to modify the terms of this award. The new award proposal was approved by the SGB Awards committee and the ACM Awards committee. Previously, this award had recognized a paper from the ISCA 15 years earlier. Starting in 2024 and moving forward, the Influential Paper award will recognize a paper from ISCA 20 years ago +/- 2 years. This sliding window will allow papers to be eligible across multiple years and is more consistent with Influential paper awards given in other computer architecture conferences such as IEEE/ACM International Symposium on Microarchitecture (sponsored by SIGMICRO) and IEEE International Symposium on High Performance Computer Architecture (sponsored by TCCA). The 2024 recipient was "Exploiting ILP, TLP, and DLP with the polymorphous TRIPS architecture" by Karthikeyan Sankaralingam, Ramadass Nagarajan, Haiming Liu, Changkyu Kim, Jaehyuk Huh, Doug Burger, Stephen W. Keckler, and Charles R. Moore which originally appeared in ISCA 2003.

(4) ASPLOS influential paper award: This award recognizes ASPLOS papers from 10 or more years ago. The 2023 recipients were "DianNao: a small-footprint high-throughput accelerator for ubiquitous machine-learning" by Tianshi Chen, Zidong Du, Ninghui Sun, Jia Wang, Chengyong Wu, Yunji Chen, Olivier Temam from ASPLOS

2014, "Paragon: QoS-Aware Scheduling for Heterogeneous Datacenters" by Christina Delimitrou, Christos Kozyrakis from ASPLOS 2013, and "ELI: bare-metal performance for I/O virtualization" by Abel Gordon, Nadav Amit, Nadav Har'El, Muli Ben-Yehuda, Alex Landau, Assaf Schuster, Dan Tsafrir from ASPLOS 2012.

(5) SIGARCH Alan D. Berenbaum Distinguished Service Award: This award is presented annually to an individual who has contributed important service to the computer architecture community. The 2024 recipient was Timothy Pinkston for "decades of exemplary research service spanning computer architecture and the wider research community via his leadership at NSF, ACM, and broadening participation."

(6) SIGARCH/TCCA Outstanding Dissertation Award: This award is presented annually to recognize excellent thesis research by doctoral candidates in the field of computer architecture. The 2024 recipient was Tanvir Ahmed Khan from University of Michigan (advised by Baris Kasikci) for "Rescuing Data Center Processors." The award citation is "For proposing system interfaces for software to efficiently identify hardware inefficiencies and for designing architectural abstractions for software to effectively avoid them, accelerating datacenter processing." Honorable mention went to Poulami Das from Georgia Tech (advised by Moin Qureshi) for "Software and Architecture Techniques for Improving Fidelity of Emerging Quantum Computers" with the award citation "For developing software and architecture techniques to increase the throughput and reliability of emerging quantum computers."

(7) CACM Research Highlights: SIGARCH has a four-member standing committee to nominate papers for CACM Research Highlights. The candidate papers are solicited through a survey of conference attendees as well as nominations by Program Chairs of the most prestigious conferences sponsored by SIGARCH. These candidates are then forwarded to the CACM Editorial Board to make the final decision. The nominated papers are also listed on our website to reflect the high prestige of the papers being selected. Papers nominated this year were "GenDP: A Framework of Dynamic Programming Acceleration for Genome Sequencing Analysis," by Yufeng Gu, Arun Subramaniyan, Tim Dunn, Alireza Khadem, Kuan-Yu Chen, Somnath Paul, Md Vasimuddin, Sanchit Misra, David Blaauw, Satish Narayanasamy, Reetuparna Das (ISCA 2023), "LeCA: In-Sensor Learned Compressive Acquisition for Efficient Machine Vision on the Edge," by Tianrui Ma, Adith Jagadish Boloor, Xiangxing Yang, Weidong Cao, Patrick Williams, Nan Sun, Ayan Chakrabarti, Xuan Zhang (ISCA 2023), and "Pond: CXL-Based Memory Pooling Systems for Cloud Platforms," by Huaicheng Li, Daniel S. Berger, Lisa Hsu, Daniel Ernst, Pantea Zardoshti, Stanko Novakovic, Monish Shah, Samir Rajadnya, Scott Lee, Ishwar Agarwal, Mark D. Hill, Marcus Fontoura, Ricardo Bianchini (ASPLOS 2023).

(8) Honoring retirees: Jointly with TCCA, we launched a program in 2017 to honor at ISCA the contributions of members of our community who are retiring or have recently retired. We did not have any announced retirees in 2024.

(9) Remembering recently departed members: With TCCA, we also launched a program at ISCA in 2017 to remember members of our community who have passed away. At ISCA'24, we mourned the passing of several significant members of our

community including Arvind, Professor at MIT, Lynn Conway, Professor Emerita from University of Michigan, Robert Dennard of IBM, and Luiz Barroso of Google. Joel Emer, Derek Chiou, Partha Ranganathan, Valeria Bertacco and Pradip Bose gave tribute. SIGARCH is grateful to ACM for recognizing the broad legacy of Luiz Barroso with their newly announced award in his name.

4.   Significant papers published in proceedings

As noted above, we continue to nominate multiple papers each year as CACM Research Highlights representing some of significant work being published in our community. As later sections indicate, submission rates for our top conferences continue to increase and ASPLOS has published a record number of papers this year. The computer architecture community continues to publish high impact work at the intersection of architecture, systems, programming languages, devices, and machine learning among other topics.

5.   Conference Activities

SIGARCH (co-)sponsors a strong portfolio of conferences, many of which co-host a variety of highly attended specialized workshops and tutorials on leading-edge topics. We highlight below two conferences: ISCA, the premier conference for computer architecture (co-sponsored with IEEE-CS TCCA), and ASPLOS, the premier multidisciplinary systems conference that brings together architecture, programming languages, and operating systems (co-sponsored with SIGPLAN and SIGOPS).

(1) ISCA: The 51st ISCA was held in Buenos Aires, Argentina in June 2024 and marked the first time ISCA has been hosted in South America. The conference featured 10 workshops, 13 tutorials, three keynotes, an industry track session, and 18 technical paper sessions (with 423 papers submitted and 83 accepted, a slight increase from last year). The credit for the success of ISCA 2024 also goes to the 430 in-person participants from all over the world, and to an equally passionate group of organizers who raised $150K in industrial sponsorship funds for the conference during this difficult financial year for our industry. With additional funding from SIGARCH, TCCA, and NSF, ISCA'24 provided student travel grant support to 78 students. An additional 5 companion and childcare assistance travel grants were provided to attendees.

(2) ASPLOS: ASPLOS'24 was held in San Diego, California. The conference was run for the second time with a multi-deadline review process allowing more time for the authors to decide when to submit their papers throughout the year and an extended window for revision and resubmission. In the first year, this new process increased the number of submissions by nearly 50% and resulted in a program with 155 accepted papers (128 which appeared in ASPLOS'23 and the rest to be included in ASPLOS'24) and 588 submissions. In the second year, this multi-deadline process increased the number of submissions an additional 57% to 922 total submissions across three deadlines. Of those 922 submissions, 170 were accepted to appear at ASPLOS'24 along with an additional 23 papers that were accepted with major revisions from ASPLOS'23 and appeared at ASPLOS'24. This large program of 193 papers necessitated 4 parallel paper tracks over 3 days. ASPLOS'24 papers given a major

revision decision in the final (fall) cycle will appear at ASPLOS'25 is accepted upon re-review. The program included four keynotes, thirteen workshops, and ten tutorials and had a total of 806 in-person and 28 remote attendees.

6.   Special Projects

Boris Grot continues to lead the communication team. The communication team has welcomed new membership this year including Adarsh Patil as content editor (for the website, announcements, and the newsletter), Elba Garza and Jonathan Balkind as social media editors (we've transitioned our social media presence away from X to Mastodon and LinkedIn), and Jayneel Gandhi remains as the video editor in charge of the SIGARCH YouTube! channel. The YouTube! channel has continued to serve as a platform to host all recordings for the virtual/hybrid conferences, starting with ASPLOS'20. SIGARCH gratefully acknowledges the members of the communication team that concluded their service during 2023-2024 including Adrian Sampson (social media, now an elected member of the SIGARCH EC) and Akanksha Jain (content editor).

(1) Computer Architecture Podcasts: The Computer Architecture Podcasts run by Lisa Hsu and Suvinay Subramanian as the editors interviews leading figures in the architecture community about cutting-edge topics in architecture, their vision, and career experiences. The podcasts are available in standard formats and are hosted at comparechpodcast.podbean.com. In 2024, the podcasts enjoyed 16,200 downloads, a 40% year-to-year increase.

(2) Computer Architecture Today (CAT): In 2024, CAT continued serving as a successful platform for our community members and those in related fields to discuss diverse topics of interest. We welcomed a new blog editor, Dmitry Ponomarev and thank Brandon Lucia (editor) and Christina Delimitrou (associated editor) for their service. In the past year, CAT featured 25 new blog posts with over 101K views.

We continue to support initiatives from the previous EC aimed at improving our communities overall health and maintaining trust in our review processes. These initiatives include extending CARES' mandate to cover aid with reporting violations of publication and review policies and code of ethics, announcing clear ethics guidelines to all program committee members at ISCA and ASPLOS, and tightening security and activity tracking in HotCRP. In collaboration with TCCA, and under Martha Kim's leadership we have outlined, created and maintained "packets" for Program Chairs and General Chairs, best practices for conference reviewing and best practices for program chairs (with Boris and José collaborating with Daniel Jiménez and Moin Qureshi of TCCA). Martha has also created and maintained a document outlining guidelines for SIGARCH sponsored conferences that include high standards for review processes, well-articulated processes for the creation and maintenance of a steering committee and a commitment to diversity and inclusion from organizers. We are continuing to work on the launch of ConflictDB. In 2020, we launched the development of ConflictDB that enables tracking both DBLP-crawled and self-declared conflicts (through two-way confirmation) for use by the community across multiple computer architecture

conferences. We have finished the development and will pilot the platform with ISCA'25. We are also in touch with ACM to make this platform available to other SIGs.

7.   Key Issues

We have concerns that our SIG members are not well-aware or well-prepared for the transition to ACM Open. We have messaged to our members via our SIGARCH Business Meeting about the upcoming transition and encouraged members to determine if their institution is participating and to reach out to their library if they have not yet signed up.

As noted above, ASPLOS has grown substantially in submissions in the past year. This has created a very high workload on program chairs and program committee members and reviewers. We are facing scalability issues in terms of scaling the review workload while maintaining a fair and consistent process and also scaling up the conferences themselves in terms of increasing the number of parallel tracks.

Finally, industrial sponsorship of conferences continues to be tight due to current economic conditions. This coupled with increasing hotel costs following the pandemic have placed a burden on organizers to put together a conference experience that our attendees will appreciate while controlling costs. We are reluctant to raise conference registration rates as they are already quite high. Furthermore, the increasing burden of organizing our growing conferences during financially challenging times has made the role of General Chair less attractive to our members and recruiting future general chairs may be challenging.

SUMMARY
SIGARCH remains a financially healthy and vibrant organization while increasing the scope of its initiatives to sponsor activities for technical exchange, talent development, and recognition, outreach, and grants/support programs with a strong emphasis on diversity and inclusion. It takes a village to launch and deliver on these initiatives. We would not be able to realize our vision without the dedication of a large number of volunteers in various committees. We gratefully acknowledge the ACM staff, notably our liaison Katie Balben, for her support and for graciously handling the increased workload.

SIGBED Annual Report
July 1, 2023 – June 30, 2024
Submitted by: Steve X. Liu, Chair

This year, ACM SIGBED has actively organized and sponsored multiple activities and conferences for the real-time, embedded, and cyber-physical systems communities. Below are the highlights during the reporting period reflecting that SIGBED is a healthy and viable organization.

- **SIGBED Leadership**

The elected SIGBED leaders for the current term are:
Steve Liu (Chair), Sayan Mitra (Vice Chair), and Wanli Chang (Secretary-Treasurer).
Please note: Sayan has informed us that due to the workload from his university responsibilities, he is intended to resign from the Vice Chair. We are looking for a replacement.

Board of Directors:
Jim Anderson (Past SIGBED Chair), Samarjit Chakraborty, Farinaz Koushanfar, Insup Lee, Jie Liu, Martina Maggio, Niki Trigoni, Wang Yi.

Three out of the eight members of the Board are female.

Other Executive Committee Members:
Tei-Wei Kuo, Mitra Nasri, Song Han, Chenren Xu, Fanxin Kong, Kyoseung Kim, Yuan-Hao Chang, Meiyi Ma.

We welcome Dr. Meiyi Ma from Vanderbilt University who joined in 2024 to be the new SIGBED Diversity, Equity and Inclusion Director.

- **Diversity, Equity, and Inclusion**

SIGBED currently has about 10% of our members being women. Three of the eight SIGBED Board members are women. We are eager to improve the representation and engagement of women and other minorities at every level in our community.

SIGBED this year continued to co-sponsor the CPS Rising Stars Workshop organized by the University of Virginia (2024), together with NSF. For the first time, we funded international applicants. This Third Annual CPS Rising Stars Workshop was held on May 29, 2024. Forty-eight Rising Stars were selected from a competitive applicant pool of 226. The workshop also exceeded its aim to increase representation and diversity in CPS with a large portion of the Rising Stars being women or from other underrepresented groups. The CPS Rising Stars Workshop provided Ph.D. students and postdocs with critical information to be successful in the next steps of their careers, including insight into the

academic search process, obtaining research grants, and establishing research groups and collaborations. The workshop also provided an opportunity to create connections and networks with other rising leaders in CPS which they will be able to leverage in their future research and careers.

Please see the CPS Rising Stars Workshop website for additional information and details on the 2024 Rising Stars: [Rising Stars | CPS Rising Stars 2024 (virginia.edu)](#).

In 2024, SIGBED continued with the ACM SIGBED Undergraduate Scholar Program, which sponsors outstanding undergraduate students who are broadly interested in embedded systems to attend leading conferences in the field. Four students have been selected with full financial support to attend CPS-IoT Week 2024.

SIGBED will continue to improve the representation and engagement of women and other minorities.

- **List of Awards**

SIGBED offers several awards to recognize outstanding members or work by members of the community. Details and most up-to-date information about the awards, selection processes, and nomination deadlines can be found on SIGBED's awards page (https://sigbed.org/awards/).

The Paul Caspi Memorial Dissertation Award is a SIGBED award established in 2013. The award recognizes outstanding doctoral dissertations that significantly advance the state of the art in the science of embedded systems, in the spirit and legacy of Dr. Paul Caspi's work. The 2023 Award Selection Committee was formed with Prof. Wanli Chang as the Award Chair, with 6 other award committee members who are all respected researchers with diverse technical backgrounds in the field. We received 9 strong nominations and the award committee independently evaluated all nominated dissertations. The award was given to Jongouk Choi from Purdue University, for his thesis "High-Performance and Reliable Intermittent Computation". Feedback has been provided to the candidates.

The SIGBED Early Career Award was established in 2017. The award recognizes outstanding contributions by early career investigators in embedded, real-time, and cyber-physical systems. The 2023 Award Selection Committee was formed with Prof. Tulika Mitra as the Award Chair, with 5 other award committee members who are all respected seniors in the field. We received 5 strong nominations for the Early Career Researcher Award. Each candidate was discussed fully by the Award committee. The final decision for the selection of SIGBED Early Career Researcher Award 2023 was Zhishan Guo from North Carolina State University. In 2024, the Award was presented to Renato Mancuso from Boston University in the CPS-IoT Week 2024.

The SIGBED-SIGSOFT Frank Anger Memorial Award is a student award in the name of the late Dr. Frank Anger to promote cross-disciplinary research between embedded

systems and software engineering. SIGBED solicits applications from qualified student members who have published a paper at a SIGBED-sponsored conference in the current or previous year. The Award Selection Committee in 2023 is chaired by Rajeev Alur. All the applicants have excellent research records in embedded systems, and proposed exciting research topics crossing over embedded systems and software engineering. Finally, the selection committee decided to grant the award to Zhengxiong Luo from Tsinghua University and Ipsita Koley from Indian Institute of Technology.

SIGBED has created two new senior awards, i.e. SIGBED Technical Achievement Award, and SIGBED Distinguished Leadership Award, which have been officially approved by ACM.

The SIGBED Technical Achievement Award is to recognize significant and sustained contributions to research and/or system implementations relevant to SIGBED. The award is based on the impacts of the research and/or system implementations made by the awardee throughout their lifetime.

The SIGBED Distinguished Leadership Award is to recognize individuals who have exemplary and substantive leadership in leading and implementing activities over the communities relevant to SIGBED, at regional, national, and/or international levels.

Both senior awards are handled by the Award Selection Committee, which is chaired by Prof. Tei-Wei Kuo.

- **List significant papers on new areas that were published in proceedings**

The research activities in SIGBED-sponsored events continue to be vibrant and robust. Many of the conferences sponsored by SIGBED (listed in the next section) recognize significant contributions with the distinguished paper awards. Previously, SIGBED also established a process and a subcommittee for nominating papers from this pool to appear in CACM's research highlights section. As a sampling of the strongest contributions, here we list the four papers that have been nominated for CACM RH (Research Highlights) for 2023 and 2024.

1. Kai Zheng, Kun Qian, Timothy Woodford, Xinyu Zhang: NeuroRadar: *A Neuromorphic Radar Sensor for Low-Power IoT Systems*. Appeared in the proceedings of ACM SenSys 2023, 223-236.
2. Enrico Soprana, Matteo Trobinger, Davide Vecchia, and Gian Pietro Picco: *Network On or Off? Instant Global Binary Decisions over UWB with Flick.* Appeared in the proceedings of IPSN 2023, 261-273.
3. Lélio Brun, Christophe Garion, Pierre-Loïc Garoche, Xavier Thirioux: *Equation-Directed Axiomatization of Lustre Semantics to Enable Optimized Code Validation*. Appeared in the proceedings of EMSOFT 2023 and ACM Transactions on Embedded Computing Systems 22(5s): 151:1-151:24 (2023)
4. Cédric Courtaud and Björn Brandenburg: *G(IP)2C: Temporally Isolated Multiprocessor Real-Time IPC with Server-to-Server Invocations*. Appeared in the proceedings of RTAS 2023, 276-288.

- **Conference Activities**

SIGBED is currently sponsoring the following conferences: Three ESWEEK conferences (CASES, CODES+ISSS, EMSOFT) and two symposia (MEMOCODE and NOCS); five CPS-IoT Week conferences (ICCPS, HSCC, RTAS, IPSN, and IoTDI); and three other conferences, namely, Chase, LCTES, and SENSYS.

- **Student Grants and Competitions**

To promote excellence in embedded systems education and research, SIGBED offers travel grants for students to attend ESWEEK and CPS-IoT Week, the premier forums in the areas of embedded and cyber-physical systems design. The travel grants can be used to partially cover conference registration, flight, and/or hotel accommodation. The SIGBED leadership views travel grants as one of the best investments into the SIG future and the budget allocation for travel grants has remained stable yearly. In 2023, USD 40k was passed to CPS-IoT Week and ESWEEK in total.

We plan to continue to provide student travel grants to support students to attend conferences in the field.

We are holding the ACM SIGBED Student Research Competition in ESWEEK 2024. SIGBED is investing in prizes, travel grants, and relevant activities, to attract participants. Champions from SIGBED in 2023 participated in the ACM Grand Finals and Prof. Wanli Chang was invited to join the judging panel.

SIGBED has also initiated the ACM SIGBED Scholar Program (for Undergraduates), which has been included in the previous DEI section.

- **SIGBED Business Meeting**

The SIGBED Business meeting this year was held on May 14, 2024, in conjunction with the CPS-IoT Week 2024 in Hong Kong. Steve Liu, and Sayan Mitra were at the CPS-IoT Week 2024 to represent SIGBED leaders and hold the meeting in person. Several of the SIGBED Executive Committee Members, and Board of Directors also attended it. During the meeting, we presented and discussed the SIGBED background and history, the reasons and benefits of joining SIGBED and ACM, the SIGBED leadership, conferences, awards, SIGBED Research Highlights, student competitions ACM SIGBED SRC, SIGBED Scholars Program, SIGBED blog, new initiatives and updates etc.

SIGBED Website and Blog

The SIGBED website has been constantly updated with fresh content, and it has become a useful source of references for the awards and events sponsored by SIGBED. The website is available at https://sigbed.org/.

SIGBED blog has attracted many contributions by highly active researchers that reflect cutting-edge work and new events on embedded systems being done today. The blog published 11 posts in 2022, 10 posts in 2023, and 4 posts in 2024 so far. Please see https://sigbed.org/blog/ for more details.

- **SIGBED Cross-SIGs Activities**

SIGBED started a new initiative in 2022, called SIGBED Cross-SIGs Activities. It aims to collaborate with closely related ACM SIGs to organize events that will benefit the members of SIGBEDs and other SIGs. In this way, we promote interdisciplinary collaborations, knowledge sharing and transfer, and spark new ideas. Major events in this year are listed below:

- The 1st ACM SIGBED x SIGMOBILE Workshop on Satellite Networking and Computing (SatCom) was held on October 6, 2023 in conjunction with ACM SIGMOBILE (MobiCom) 2023. It provides a platform for researchers to exchange ideas, share their latest research findings, and discuss the current state of the field to significantly contribute to advancing our understanding of the complexities involved in designing networking and computing systems for LEO mega-constellations. More information of the event can be found at: https://soar.group/satcom23/
- ACM SIGBED x SIGMOBILE workshop on next-generation Internet of Things: from Embedded to General AI (NIoT 2024) was held in Hong Kong, May 13, 2024, co-located with CPS-IoT Week 2024. NIoT 2024 provides a premier venue for the presentation and discussion of research in the design, development, deployment, and evaluation of emerging AIoT systems. It bridges together academic researchers and industrial practitioners to share and exchange the latest developments in intelligent sensing, intelligent robotics, autonomous driving, unmanned systems, and 5G communication. It also focuses on academic research, panel discussions, technical exchanges, and experience sharing. More information of the event can be found at: http://crowdhmt.com/NIoT2024/
- ACM SIGBED X SIGMOBILE workshop on Coupling of Sensing & Computing in AIoT Systems (CSCAIoTSys) was held in Hong Kong, May 13, 2024, co-located with CPS-IoT Week 2024. This workshop provides an opportunity for researchers and system developers to discuss the design, development, deployment, use of algorithms and models, distributed systems and algorithms, task scheduling, and other aspects in intelligent IoT systems. More information of the event can be found at: http://crowdhmt.com/CSCAIoTSys/

We plan to continue to host more workshops on the intersection of embedded systems and AI in the upcoming year.

- **The SIGBED Distinguished Speakers Program**

The SIGBED Distinguished Lecture Series is the initiative that SIGBED launched in 2023.

It is a prestigious program that brings renowned experts in the field of embedded computing systems and cyber-physical systems to deliver engaging and insightful talks in a regular manner. The series aims to foster intellectual exchange, promote cutting-edge research, and inspire the next generation of innovators and scholars.

These distinguished speakers, often leaders in their respective areas, share their expertise, research findings, and visionary ideas, covering a wide range of topics. The SIGBED Distinguished Lecture Series serves as a platform for knowledge dissemination, encouraging collaboration, and driving advancements in embedded systems, including both software and hardware.

During the period of 07/2023 to 07/2024, we have organized the following three distinguished lectures. In each lecture, Steve Liu gave the opening speech and introduction of the speaker, and Song Han hosted the meeting. Around 100 people attended each lecture.

Speaker #1: Prof. John A. Stankovic (University of Virginia)
Date: Thursday, Sep 21st, 2023
Time: 11:00 am – 12:30pm EST

Talk Title: Towards Ambient Intelligence for Healthcare: A CPS Perspective

Speaker #2: Prof. Insup Lee (University of Pennsylvania)
Date: Wednesday, Feb 21st, 2024
Time: 11:00 am – 12:30pm EST

Talk Title: Toward High-Assurance Learning-Enabled Cyber-Physical Systems

Speaker #3: Prof. Lui Sha (UIUC)
Date: Wednesday, April 24, 2024
Time: 11:00 am – 12:30pm EST

Talk Title: Verifiably Safe Deep Reinforcement Learning-Enabled Control

The next two lectures are scheduled to be held in August 2024 and November 2024, respectively.

- **Issues**

SIGBED does not have a flagship conference of its own. We discussed this issue at the Business Meeting this year. A proposal is in discussion.

SIGCAS Annual Report
July 1, 2023 – June 30, 2024
Submitted by: Dr. Michelle Trim, Chair

1. Comment on the ways in which the SIG is a healthy and viable organization.

SIGCAS has revived its works in progress series, hosting events about every other month to approx 30 attendees. Membership numbers remain steady, and we have had good participation and suggestions from younger, newer potential members during the sister session at SIGCSE. We have been active participants in the ACM EAC and in the ACM 2023 curriculum efforts.

2. Describe your efforts related to Diversity, Equity, and Inclusion.

We have recently recruited a new newsletter editor who occupies an identity underrepresented in computing. In addition her AI policy work in Nigeria enables her to helps us start to hold a more global focus in our organizational efforts. In addition, Brian Krupp the volunteer now running our works in progress series is actively targeting students and young career professionals to participate, since our membership trends toward older adults.

3. Provide a list of awards and recipients

Doug Schuler and Heidi Ellis were given awards in 2023 by the previous board. The new board elected in 2023 have not yet identified awardees for 2024. That process is ongoing currently.

4. List significant papers on new areas that were published in proceedings

NA

5. Describe conference activity

SIGCAS sponsored (with SIGCHI) COMPASS in early summer 2024 and it appears to have gone well. We also sponsor GoodIT which is taking place in September 2024.

6. Comment on special projects and non-conference programs that provided service to some part of your technical community

We are currently developing volunteer drives and concerted efforts to provide a platform for students and early career professionals to participate. We hope to use our organizational platform to arrange a sponsored pre-conference session at SIGCSE 2025 that provides both workshop and publication opportunities for participants who

want to explore specific pedagogical approaches to teaching ethical, responsible computing in their college courses.

7. A very brief summary of the key issues that SIG membership will have to deal with in the next 2-3 years.

Our biggest issue is our shortage of volunteers. As of July 2024 when the Chair recruited a new Newsletter editor, we finally have four executive committee members. As all have varying degrees of time to afford to volunteer service, we need to expand our volunteer base. We are slowly finding success in adding volunteers by assigning them specific services or programs. Brian Krupp is running the Works In Progress series, for example, and we hope to add a social media manager and a student engagement manager in the coming months. We are also exploring outreach to French-speaking Africa as it has come to our attention that few recruitment efforts from ACM use French language materials to reach other potential global participants. We hope to expand membership into Africa, and we see engaging in outreach through materials translated into French to be a potentially welcoming way to do that. Finally, we are still unsure what the move to ACM Open will mean for our sig as our newsletter is in the digital library, which is very important to us, but we are not running a peer reviewed publication with significant traffic or frequent publications. Our hope is that we can persist as we are as we do not have sufficient revenue to absorb open access costs.

SIGCHI Annual Report
July 1, 2023 - June 30, 2024
Submitted by: Neha Kumar, Chair

ACM SIGCHI is the leading international community of students, researchers, and professionals interested in research, education, and practical applications of Human-Computer Interaction (HCI). The SIG enables its members to create and shape how people interact with computing technologies, and to understand how such technologies impact people's lives.

0. The SIGCHI Executive Committee

The SIGCHI Executive Committee (EC), when it concluded its term in June 2024, included the following 23 members. We extend our deepest gratitude to this team of dedicated volunteers, as well as others who came before them, for helping us accomplish the updates we present in this report.

Neha Kumar, President
Luigi De Russis, Executive Vice President
Simone Kriglstein, Vice President for Communications
Hao-Chuan Wang, Vice President for Finance
Naomi Yamashita, Vice President for Membership
Dhruv Jain, Vice President for Accessibility
Adriana S. Vivacqua, Vice President at Large (for Global)
Matt Jones, Vice President at Large (for Communities)
Susanne Boll, Vice President for Conferences
Kashyap Todi, Vice President for Operations
Pejman Mirza-Babaei, Vice President for Publications
Jeni Paay, Vice President for Chapters
Helena Mentis, Past President
Niklas Elmqvist, Adjunct Chair for Awards
Naveena Karusala, Adjunct Chair for Community Support
Cayley MacArthur, Adjunct Chair for Equity
Katta Spiel, Adjunct Chair for Equity
Kathrin Gerling, Adjunct Chair for Hybrid
Susan Dray, Adjunct Chair for Partnerships
Keith Instone, Adjunct Chair for Partnerships
Nicola Bidwell, Adjunct Chair for Sustainability
Catia Prandi, Adjunct Chair for Volunteer Support
Abhinav Thukral, Adjunct Chair for Web

A new EC term began on July 1, 2024, after the SIG elections were concluded in June. Leading up to these elections, the Nomination Committee Chair and Past President Helena Mentis organized a series of Meet-the-Candidates sessions where SIGCHI members were invited to engage with and ask questions of all candidates. These Zoom sessions were recorded and shared on the SIGCHI YouTube channel. This was also the first time that such dialog was made possible with all election candidates, for which we are thankful to Helena Mentis. The elections closed with the results below. We thank all the members who came forth to run for election, and hope that—regardless of the election outcomes—they will continue to volunteer to take the SIG forward.

Neha Kumar, President
Luigi De Russis, Executive Vice President
Susan Dray, Vice President at Large
Pejman Mirza-Babaei, Vice President at Large
Dragan Ahmetovic, Vice President for Accessibility
Naveena Karusala, Vice President for Communications
Hao-Chuan Wang, Vice President for Finance
Adriana S. Vivacqua, Vice President for Membership

1. Health and Viability
Now completing 42 years, SIGCHI remains one of ACM's largest SIGs, growing steadily. The number of members has been increasing; we have nearly doubled in size over the last three years. According to an analysis we conducted in May 2024, we have approximately 5,400 members, our student membership has gone up from 21 to 34%, SIG-only membership from 29 to 44%, and the total number of countries represented from 71 to 84. The top ten countries that our members come from are distributed across the world, including USA, Germany, UK, Canada, Japan, India, China, Australia, Republic of Korea, and Netherlands, in decreasing order of membership strength.

We thank VP Membership Naomi Yamashita for her tireless efforts towards ensuring the health of our membership, by managing member benefits such as complimentary Grammarly subscriptions for members, keeping an eye on numbers and distribution of members, trouble-shooting to ensure that interested community members were able to sign up with ease, and overseeing the provision of complimentary membership to continuing volunteer leaders as a token of gratitude for their service.

We are an active SIG. We produced almost 5,000 publications in 2023, more than any other ACM SIG. The next highest SIG stands at approx. 1900 publications. We have 26 conferences, touching on many different facets of a rich and interdisciplinary field that

we broadly recognize as HCI. We now have 70 chapters, spanning 42 countries and 6 continents. These numbers are all on the rise.

We are also a volunteer-rich SIG. Our SIG is governed via 271 volunteer roles at present [1], organized into 24 committees that are aligned in their focus on (a) ensuring high-quality knowledge production through our conferences and publications, (b) enriching our members' experience, and (c) establishing a global community. These committees are collectively overseen by the SIGCHI EC (see above).

2. Efforts related to Diversity, Equity, and Inclusion (DEI)
SIGCHI is constantly making strides when it comes to efforts related to Diversity, Equity, and Inclusion. We strongly believe in broadening equitable participation, and many EC roles have been focused on efforts to this end. Below we list just a few efforts that our EC members worked towards in 2023-2024.

The **SIGCHI Development Fund (SDF)** [2], managed by Community Support Chair Naveena Karusala, has since inception financially supported dozens of events and initiatives held by conferences, chapters, and the HCI community more broadly. SDF grants have enabled SIGCHI-sponsored conferences to experiment with new initiatives that make them more accessible, globally inclusive, sustainable, hybrid, equitable, etc., helping work towards these goals even in the midst of recent financial pressures on conference planning. During Fiscal Year 2024 (FY24), we supported our conferences with approximately $114K for 13 events (disbursed $98K). SDF grants have also supported our chapters in growing and connecting to one another, nurturing global participation in the field. Grants for chapters were approximately $26K, supporting 8 events. Other community initiatives the SDF supported brought diverse research areas and career stages together at workshops, mentorship initiatives, and new, in-cooperation, or regional conferences, adding to the richness of the field. Grants in this category were approximately $126K, supporting 20 events (disbursed $100K). Under our specific call for sustainability-related initiatives, we also supported two events with $9.5K (disbursed $8K).

Naveena Karusala also led the effort to introduce and iterate upon (with community feedback) the **SDF Guidelines for Events and Initiatives** [3] to prioritize accessible, safe, sustainable, equitable, global, and hybrid participation, with leadership roles, committees, and working groups dedicated to engaging community and infrastructuring to put these values into practice. We do not *require* SDF applicants to meet these guidelines; rather, they are intended to generate broad awareness and support organizers who may wish to incorporate these values in their events and initiatives. As an example, we share below the guidelines for accessibility.

- Does the event/initiative have an accessibility chair? If not, is it clearly indicated on the event/initiative website who can be reached to respond to accessibility requests?
- Does the event/initiative website provide information regarding accessibility (e.g., related to a venue, local area and accommodation, catering, COVID-19 masking policies, software, presentation formats, etc.)?
- Can Communication Access Realtime Translation (CART), sign language interpreters, or other accessibility services be arranged at short notice if requested? If not, is a deadline indicated on the call?
- If some part of the technical program is not accessible by default (e.g., PDFs, presentations), is there a plan to make this accessible? Is information on how to do this available on the website for the event/initiative?

The **Gary Marsden Travel Awards (GMTA)** [4] program (with Naveena Karusala as GMTA Chair) has continued to support SIGCHI members with financial need in attending our sponsored conferences. In FY24, we awarded $113K to 88 members. We also implemented changes to make the program more flexible and inclusive. We introduced the opportunity for participants to indicate interest in virtual registration in case we are unable to award them support for in-person attendance. This has supported hybrid conferences and allowed us to enable conference attendance that would otherwise not be possible for those relying on the GMTA for funding. Working with the ACM, we implemented a process to request that an award be disbursed through an advance rather than reimbursement, allowing us to support awardees with acute financial constraints. We have also continued to reimburse expenses that support applicants' care and accessibility needs, such as childcare, mobility aids, and companion travel tickets, introduced in the previous fiscal year.

The **SIGCHI Accessibility Committee**, under the leadership of our first VP Accessibility Dhruv Jain, has been working with SIGCHI stakeholders towards enhancing accessibility of our conferences. We have established new guidelines for smaller-scale events for which accessibility is a key component (see above). Now, via collaborative efforts with members of our community and advocacy organizations such as AccessSIGCHI, we are in the process of expanding resources and guidelines for our portfolio of conferences. We have also continued to cover all accessibility requests falling outside the budgets of our conferences (e.g., for sign language interpreting, real-time captioning, etc.), continued our PDF remediation program (taking help of an external vendor to make conference PDFs accessible), and added accessibility considerations to our travel awards program (see above).

SIGCHI's Regional Committees are fueling community engagement globally. The last year saw community events organized by the EC and its regional committees in South Africa, Brazil, Italy, and Singapore. Our Latin America, Mediterranean, and Asia *ad hoc* regional committees have been actively working across chapters in these regions to identify challenges and opportunities they can work towards to grow SIGCHI's global presence and success. Special thanks to Heloisa Candello, Gustavo Lopez, Maristella Matera, and Chat Wacharamanotham who led these committees, with Adriana S. Vivacqua, Luigi De Russis, and Hao-Chuan Wang as their EC Liaisons. Initiatives underway include a workshop at the ACM CSCW 2024 conference in Costa Rica, activities at ACM CHI 2025 in Japan, a summer school at Lake Como in 2025, among others. The EC also sponsored a leadership summit for HCI researchers and practitioners in Cape Town in 2023, led by Partnerships Co-Chair Susan Dray and Community Support Chair Naveena Karusala, and hopes to continue strengthening SIGCHI ties and presence in Africa.

The **SIGCHI Sustainability Committee** inaugurated by Sustainability Chair Nic Bidwell has launched a number of initiatives to grow awareness among SIGCHI members regarding sustainability. A Sustainable-SIGCHI listserv was started last year and, with more than 170 members now, regularly sees updates from members that show a growing intersection of sustainability and HCI. Panels at our flagship conference CHI in 2023 and 2024 have attempted to engage the larger community in dialogue on this intersection. A continuing series of Medium posts from the Sustainability Committee members have also served to shed light on sustainable prototyping practices for HCI professionals.

The **SIGCHI Equity Committee**, under the leadership of Co-Chairs Cayley MacArthur and Katta Spiel, worked towards resources for streamlining safety programming across SIGCHI activities and motivating equity-related training for volunteers across SIGCHI interested in acquiring and updating sensitivities regarding safe conduct and support. **SIGCHI CARES** (led by Co-Chairs Michael Muller and Celine Latulipe) continues to promote safety of members across our 26 conferences. The **Research Ethics Committee** (led by Co-Chairs Melissa Densmore and Cosmin Munteanu) and the **Publications Committee** (inaugurated by VP Publications Pejman Mirza-Babaei) aim to provide support to authors and reviewers regarding ethical research practices and ACM policies. The **Chapters Committee** (led by VP Chapters Jeni Paay) works to support SIGCHI members across the world, and particularly in the Global South, to create and nurture local communities. The **Communications Committee** (led by VP Communications Simone Kriglstein) makes sure that all the work of our volunteer leaders and their committees is visible to the larger community. All these efforts are ongoing, serving to broaden participation and continuing to enrich our SIG-wide activities.

3. Awards and Recipients

The SIGCHI awards for 2024 increased in number this year with the Awards Committee generously and enthusiastically recognizing more nominees than in the past, in particular to align with the rate at which the community is growing. This is the first year that saw four Lifetime Research Awardees (typically there is one), ten Academy inductees (exceeding the prior cap of eight), and five Outstanding Dissertation Awardees (up from three in prior years). Discussions have been underway regarding new awards that might be introduced. You can find the names and affiliations of the awardees below and more information about them on our blog [5]. We are thankful to our Awards Chair Niklas Elmqvist and the Awards Committee he leads for doing the work to arrive at this excellent list of awardees.

SIGCHI Lifetime Research Award

Susanne Bødker — Aarhus University, Denmark

Jodi Forlizzi — Carnegie Mellon University, USA

James A. Landay — Stanford University, USA

Wendy Mackay — Inria, France

ACM SIGCHI Lifetime Practice Award

Elizabeth Churchill — Google, USA

ACM SIGCHI Societal Impact Award

Jan Gulliksen — KTH Royal Institute of Technology, Sweden

Amy Ogan — Carnegie Mellon University, USA

Kate Starbird — University of Washington, USA

ACM SIGCHI Outstanding Dissertation Award

Karan Ahuja — Northwestern University, USA (Ph.D. from Carnegie Mellon University, USA)

Azra Ismail — Emory University, USA (Ph.D. from Georgia Institute of Technology, USA)

Courtney N. Reed — Loughborough University London, UK (Ph.D. from Queen Mary University of London, UK)

Nicholas Vincent — Simon Fraser University, Canada (Ph.D. from Northwestern University, USA)

Yixin Zou — Max Planck Institute, Germany (Ph.D. from University of Michigan, USA)

ACM SIGCHI Academy Class of 2024

Anna Cox — University College London, UK

Shaowen Bardzell — Georgia Institute of Technology, USA

Munmun De Choudhury — Georgia Institute of Technology, USA
Hans Gellersen — Lancaster University, UK and Aarhus University, Denmark
Björn Hartmann — University of California, Berkeley, USA
Gillian R. Hayes — University of California, Irvine, USA
Julie A. Kientz — University of Washington, USA
Vassilis Kostakos — University of Melbourne, Australia
Shwetak Patel — University of Washington, USA
Ryen W. White — Microsoft Research, USA

The SIGCHI EC is currently organizing a series of **Awards Talks**—Zoom sessions where SIGCHI members are invited to listen to the awardees talk about their accomplishments, and engage with them live. These Zoom recordings will be made available on SIGCHI's YouTube channel. Although we started with the 2024 awardees, we have opened up this opportunity to prior awardees as well.

4. Significant Papers

We have 26 conferences and, in the past year, they generated almost 5,000 Digital Library entries, which makes it a gargantuan task to share all significant contributions from the SIG. To simplify this task, we share below the Best Paper Award recipients from our flagship conference CHI in 2024, offering a window into the wide array of research undertakings that make up our field:

1. Computing and the Stigmatized: Trust, Surveillance, and Spatial Politics with the Sex Workers in Bangladesh – *Pratyasha Saha, Nadira Nowsher, Ayien Utshob Baidya, Nusrat Jahan Mim, Syed Ishtiaque Ahmed, & SM Taiabul Haque*
2. Constrained Highlighting in a Document Reader can Improve Reading Comprehension – *Nikhita Joshi & Daniel Vogel*
3. Cooking With Agents: Designing Context-aware Voice Interaction – *Razan Jaber, Sabrina Zhong, Sanna Kuoppamäki, Aida Hosseini, Iona Gessinger, Duncan P Brumby, Benjamin R. Cowan, & Donald McMillan*
4. Cosmovision Of Data: An Indigenous Approach to Technologies for Self-Determination – *Carlos Guerrero Millan, Bettina Nissen, & Larissa Pschetz*
5. Debate Chatbots to Facilitate Critical Thinking on YouTube: Social Identity and Conversational Style Make A Difference – *Thitaree Tanprasert, Sidney S Fels, Luanne Sinnamon, & Dongwook Yoon*
6. Deepfakes, Phrenology, Surveillance, and More! A Taxonomy of AI Privacy Risks – *Hao-Ping (Hank) Lee, Yu-Ju Yang, Thomas Serban von Davier, Jodi Forlizzi, & Sauvik Das*

7. Designing a Card-Based Design Tool to Bridge Academic Research & Design Practice For Societal Resilience – *Novia Nurain, Chia-Fang Chung, Clara Caldeira, & Kay Connelly*
8. Designing for Caregiver-facing Values Elicitation Tools – *Pin Sym Foong, Natasha Ureyang, Charisse Foo, Sajeban Antonyrex, & Gerald Huat Choon Koh*
9. Designing for Harm Reduction: Communication Repair for Multicultural Users' Voice Interactions – *Kimi Wenzel & Geoff Kaufman*
10. Designing Multispecies Worlds for Robots, Cats, and Humans – *Eike Schneiders, Steven David Benford, Alan Chamberlain, Clara Mancini, Simon D Castle-Green, Victor Zhi Heung Ngo, Ju Row Farr, Matt Adams, Nick Tandavanitj, & Joel E. Fischer*
11. DynaVis: Dynamically Synthesized UI Widgets for Visualization Editing – *Priyan Vaithilingam, Elena L. Glassman, Jeevana Priya Inala, & Chenglong Wang*
12. Engaging recently incarcerated and gang affiliated Black and Latino/a young adults in designing social collocated applications for mixed reality smart glasses through community-based participatory design workshops – *Richard Martinez & kurt squire*
13. From Disorientation to Harmony: Autoethnographic Insights into Transformative Videogame Experiences – *Jaakko Väkevä, Elisa D. Mekler, & Janne Lindqvist*
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5. Conference Activity

Our flagship CHI conference remains the premier venue for HCI research. In May 2024, CHI was held in Honolulu, Hawai'i, and hosted 3,282 in-person and 708 online attendees, a total of 3,990 participants. As the **CHI Conference Steering Committee** (led by Cliff Lampe) found via a post-CHI conference survey, the majority of online attendees decided to attend remotely due to ecological or personal reasons. Attendees drew value from attending the conference, as it brought them up to date with scientific contributions in their field. On-site participants appreciated the opportunities for networking, while online attendees highlighted the limited opportunities for participation. Attendees were mostly able to fully access the conference, but some reported issues related to lack of food options, lack of air-conditioned spaces, and some difficulties in using the SIGCHI Programs web app. The analysis of the post-conference survey is available on our Medium publication [6].

Our 25 specialized conferences have, for the most part, recovered their activities post the pandemic, though some still experienced losses in FY24. With the transition to ACM OPEN around the corner, recent transitions to journal publishing, increased overhead, inflationary pressures, reduced sponsorship, rising geopolitical tensions, among other changes, our conferences have been working hard to assess how best to secure

sustainable futures. Our portfolio of specialized conferences is also on a path to growth, and we are thankful for the efforts of Partnerships Co-Chair Keith Instone and Past President Helena Mentis towards planning this growth. We will be looking to include emergent and growing areas within HCI research, such as health, education, and critical perspectives in HCI. We look forward to making progress and reporting on these soon.

We organized the **SIGCHI Futures Summit** in Milan, Italy, over three days in February 2024 [7]. At this Summit, co-led by Hao-Chuan Wang, Matt Jones, Luigi De Russis, and Neha Kumar on behalf of the EC, we met with approximately 150 conference representatives and past/present/future community leaders, and discussed the challenges and opportunities confronting SIGCHI's 26 conferences. The Summit took a participatory approach to discuss topics related to *conference fundamentals*, *the conference experience, and conferencing reimagined*. The event featured unconference sessions, breakout discussions, and plenary presentations. Participants emphasized the importance of inclusivity, transparency, and community connection. The main outcome of the event was the formalization of six focus areas: preparedness for ACM OPEN, knowledge sharing across conferences, sustainable volunteering, support for early career members, improvements in peer review, and overall transparency of processes. These will shape SIGCHI's conference-related activities in the coming year.

CHI-in-Hawai'i (or the location of the CHI 2024 conference in Hawai'i) brought us to engage actively with our community to discuss challenges and considerations around site selection, after wildfires in Maui raised questions around our attention to the role that climate and local and regional communities play [8]. These conversations, via town halls and open sessions, motivated us to create the **Site Selection Working Group** led by Adriana S. Vivacqua (former VP at Large). This working group participated in the SIGCHI Futures Summit mentioned above, and conducted a survey of the SIGCHI membership with a view to making recommendations for the SIG's 26 conferences to engage in more responsible and considered site selection.

Many more EC committees aim to serve and nurture our conferences and conference communities. In addition to the **Site Selection Working Group** mentioned above, there have been efforts to regularly communicate with conference leaders via the **Council of Steering Committee Chairs** (overseen by VP Conferences Susanne Boll), to put together a guide for organizing hybrid conferences via the **Hybrid Working Group** (led by Hybrid Chair Kathrin Gerling), to identify accessibility guidelines and best practices via the **Accessibility Committee** (see above), and more [1]. The EC and its committees have also developed additional resources and guidelines to support our conferences and publications, such as the SIGCHI Conferences Handbook, a

questionnaire for conferences interested in seeking SIGCHI sponsorship, peer review best practices, blog posts on publications policies, and more.

6. Special Projects and Non-Conference Programs that Provided Service

Please refer to Section 2 regarding the SIGCHI Development Fund, Gary Marsden Travel Awards, and other DEI efforts, and Section 3 regarding the Awards Talks, as examples of initiatives that provided service. We list two additional special projects here. The **Futuring SIGCHI** initiative that was started and led by Naveena Karusala supports students and early career professionals across the SIG in implementing creative pilot projects that expand the offerings and potential of the SIGCHI community, while building community and supporting leadership skills. The groups of participants in this initiative completed three projects, and will be sharing takeaways in order to integrate the projects into SIGCHI's ongoing work (as outlined in the context of the SIGCHI Futures Summit above):

1. An event for new scholars (first-time conference attendees who have not published before) to build community and get feedback on research. This event was piloted at CSCW 2023. Takeaways from the project focused on how such events can address barriers to participation at conferences for emerging scholars and a plan for sustainability of the event.
2. An initiative to understand how we might diversify the knowledge formats used within the SIGCHI community, in order to support the reach and use of knowledge we produce. The initiative has involved community conversations around this topic and a case study of TEI as a SIGCHI conference that has shifted towards supporting creative formats. Takeaways will discuss how such a shift might be enabled within the SIGCHI community at large.
3. A podcast series on community-building and research in the Global South to expand awareness of the value of HCI globally. The team has recorded multiple episodes and takeaways will involve ideas for how the SIGCHI community might integrate them into community-building and HCI education.

The **new SIGCHI Website** (https://sigchi.org) is an achievement we are proud of. We brainstormed and discussed the key aspects of the SIG that we wished to highlight on our homepage, centering conferences, volunteers, and additional opportunities to participate. We are still in the process of transferring old content to the new site, fine tuning features to make it more responsive to our members' needs, and integrating workflows that will allow painless updating. Many thanks to Abhinav Thukral, our Web Chair who has been leading this effort, and to VP Operations Kash Todi for his support.

7. Key Issues Ahead

We highlight two key issues that have our attention at present: ACM OPEN and the SIG's financial wellbeing—particularly the financial wellbeing of our portfolio of conferences.

Preparing for ACM OPEN: ACM's transition to 100% open access is going to impact our publishing, conferences, community, and finances, and we will need to be prepared as a SIG. We discussed this topic with our Futures Summit attendees and in dedicated online sessions with the community, thanks to the collaboration and participation of ACM staff and volunteers involved in the project at the ACM level. We have also been in communication with our community via widely circulated blog posts to drive awareness (e.g., [10]). These efforts will be amplified in the next 1.5 years.

Ensuring Financial Wellbeing: The financial pressures that our conferences have faced in recent years have led us to foreground our financial wellbeing. In June 2024, we shared the state of our finances via a detailed Medium post [10] with our community, summarizing our commitments and offering explanations where helpful, covering the last two fiscal years. The EC has broken down and analyzed the SIG's finances to chart next steps: we look forward to a self-sustaining CHI conference series, supporting and ensuring the financial strength of specialized conferences, and managing the SIG's own spending with care to ensure maximum value to our membership as we see it.

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SIG ORGANIZATION HEALTH AND VIABILITY

SIGCOMM is ACM's professional forum for the discussion of topics in the field of communications and computer networks, including technical design and engineering, regulation and operations, and the social implications of computer networking. SIG members are particularly interested in the systems engineering and architectural questions of communications.

SIGCOMM continues to be a thriving organization serving a broad community of researchers from both academia and industry interested in all aspects of computer networking. We sponsor several successful, single-track, high-impact conferences, several of them in cooperation with other SIGs. In this past year, we saw a steady and vibrant return to in person conferences, a welcome chance to reconnect with colleagues and engage in conversations that are difficult to replicate by video conference. As one measure of vitality, the recent SIGCOMM conference in August 2024 had 536 registrants.

There are several highlights to report from the past year.

DIVERSITY, EQUITY, AND INCLUSION (DEI) –

SIGCOMM has made meaningful progress in advancing diversity, equity, and inclusion (DEI) within the networking research community over the past year. While there is still work to be done, the SIG has implemented a range of initiatives that have begun to foster a more inclusive environment.

Southeast Asia Engagement Continues to Grow
A key focus area for SIGCOMM has been strengthening engagement with the Southeast Asian research community. The partnership with Kanchana Kanchanasut on remote viewing pods in Indonesia, Thailand, and Vietnam saw significant participation, with 90 local community members actively engaging in SIGCOMM 2023. This initiative has helped to amplify voices and perspectives from an underrepresented region.

Additionally, SIGCOMM provided 15 travel grants to support the annual AINTEC workshop held in Vietnam. The event attracted over 70 participants and featured 14 papers, 10 posters, a keynote, a panel, and a post-conference tutorial, with the majority of contributions originating from the Asia-Pacific region.

The AINTEC 2024 workshop, co-located with SIGCOMM 2024 in Sydney, maintained this momentum. The event drew 64 attendees, including 23 who received travel grants

to attend the main SIGCOMM conference. Notably, 9 of these attendees had participated in the previous year's remote viewing pods, demonstrating the lasting impact of these initiatives.

In addition to the AINTEC event, SIGCOMM 2024 also featured 7 remote viewing pods in Indonesia, Malaysia, Philippines, Thailand, and Vietnam, with a total of 200 participants. This expanded the reach of the conference to an even wider audience in the Southeast Asian region.

Expanding to Africa
Encouraged by the success in Southeast Asia, SIGCOMM has now turned its attention to increasing engagement with the African continent. Collaborating with partners from the Internet Society, CMU Rwanda, and the University of Cape Town, the SIG plans to offer remote viewing opportunities for African students to follow the upcoming Internet Measurement Conference (IMC) in Madrid.
Additionally, a number of geo-diversity travel grants will be dedicated to supporting African students who wish to present posters at the conference.

Looking further ahead, SIGCOMM 2025, which will be held in Portugal, will replicate the Southeast Asian model, this time focusing on Africa. The SIG is also working with its African partners to establish a regional event that can serve as a hub for the African networking research community, much like AINTEC has done for Southeast Asia.

Sustaining DEI Efforts
To ensure the long-term sustainability of its DEI initiatives, SIGCOMM has authored a proposal that was well-received by the community. The proposal outlines a plan to establish regional centers that will drive and develop the SIG's DEI work. By decentralizing the efforts and empowering local stakeholders, SIGCOMM aims to create a more robust and adaptable framework for advancing inclusion and diversity.

The proposal also explores other strategies, such as dedicated funding sources, mentorship programs, and the integration of DEI metrics into the evaluation of conference submissions and awards. The successful implementation of this proposal will be crucial in solidifying SIGCOMM's position as a leader in promoting DEI within the networking research community.

Ongoing Collaborations and Initiatives
In addition to the new regional efforts, SIGCOMM will continue to support established collaborations and initiatives, such as the TMA PhD School, N2Women, and

COMSNETS. The N2Women workshop, held in person at SIGCOMM 2023, featured a keynote by Professor Tanzeem Choudhury of Cornell Tech, reflecting on diversity, equity, and inclusion in computing, as well as talks by female students and a panel of renowned female researchers in networking.

Looking Ahead
SIGCOMM's DEI initiatives have gained significant momentum, and the SIG is poised to build on this progress in the coming year. By deepening its engagement with Southeast Asia, expanding to Africa, and establishing sustainable mechanisms for its DEI work, SIGCOMM aims to foster a more inclusive and equitable networking research community, unlocking the potential of underrepresented groups and driving innovation.

The CARES Committee to aid discrimination and harassment policy violations underwent membership changes and an increase in scope (per ACM request). The current committee is co-chaired by Ethan Katz-Bassett (Columbia University) and Shir Landau Feibish (Open University of Israel). Additional members are Justine Sherry (CMU), and Sujata Banerjee (VMWare). The committee aims for in person representation at each SIG sponsored conference and workshop; committee members are also reachable by email at any time.

AWARDS AND RECIPIENTS
SIGCOMM makes five awards each year.

The Dissertation Award winner was Udit Paul (Ph.D. from University of California at Santa Barbara), for the dissertation "Towards Bridging the Divide: Enhancing Understanding of Digital Inequity". We had two runner-ups for this award. Bruce Spang (Ph.D. from Stanford) was a runner up, for the dissertation "Making Video Traffic a Friendlier Internet Neighbor". Venkat Arun was another runner up, for the dissertation "Verifying the Performance of Network Control Algorithms".

The Lifetime Achievement Award went to K.K. Ramakrishnan (University of California at Riverside) "*For pioneering, sustained contributions in the research, design and standardization of network congestion control and avoidance protocols, virtual private networks, operating systems support for networking, and carrier-grade voice over IP.*".

The Test of Time Award was given to "P4: programming protocol-independent packet processors", Published in ACM SIGCOMM Computer Communication Review, 44(3), 2014. The authors were Pat Bosshart, Dan Daly, Glen Gibb, Martin Izzard, Nick McKeown, Jennifer Rexford, Cole Schlesinger, Dan Talayco, Amin Vahdat, George Varghese, and David Walker. The award citation is as follows: "*By creating a high-level protocol- and platform- independent programming language for packet processors, P4 changed how we think about customizing and reconfiguring the behavior of packet switches.*".

Finally, the ACM SIGCOMM Networked Systems Award had no winner this year as the nominations received were not deemed strong enough.

CONFERENCE ACTIVITY

The SIG sponsors an eponymous flagship conference and is the sole sponsor of the following conferences: CoNEXT, and the HotNets Workshop. The SIG also co-sponsors the following conferences: Internet Measurement Conference (IMC), SenSys, ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ANCS), Symposium on SDN Research (SOSR), and ANRW, the joint ACM, ISOC, IRTF Applied Networking Research Workshop. In addition to conferences we sponsor or co-sponsor, we are in-cooperation with a number of events.

Recent years saw a shift from all-virtual and hybrid meetings to in person events, except for program committee meetings, where we strongly encourage that virtual meetings be retained to reduce carbon footprint and make it easier for some participants to take part. We recognize that virtual PC meetings may also have disadvantages over in person meetings. This change has inspired our SIG to undertake extensive efforts to study and improve upon the structure of our conferences. The pandemic forced us to experiment -- conferences moved online, and organizers had to rapidly prototype and test highly innovative and experimental approaches, from online broadcasting of talks to use of video game-based tools like gather.town. During this process, we learned a number of things. While some of these efforts had a debatable success, we as a community came away with certain lasting mechanisms (e.g., use of slack to encourage questions, pre-recording of talks, shortening of talks) that improved our conferences. More importantly, the pandemic (we believe) has made our community more comfortable with change, and has presented an opportunity for us to sustain this momentum to make further, more significant, and broader improvements that support students, minority groups, and our community as a whole, with a more principled approach.

In an effort to sustain this momentum, the SIG has been leading an initiative around redesigning our conferences. Keith Winstein was appointed as our "Director of Change", and is leading efforts on collecting information on our conferences, determining their shortcomings and opportunities for improvement, and identifying a set of concrete mechanisms and ideas that organizers could follow to realize change. The CRC produced a report outlining their findings (https://docs.google.com/document/d/1EqpF3GWfB6P_nVKe-ziUytzklH7iGKhnVamEZh0wiAA/). This document was circulated to the community and a discussion was encouraged on the SIGCOMM Slack workspace. During the discussion, it became clear that there were several approaches of interest where it might be possible to coalesce teams behind further discussion or implementation. Some community members were in favor of making the reviewing process more public (e.g., by using OpenReview). It also seems there may be broad support behind reducing talk lengths at our events, and pre-recording talks.

Over the past year we have made significant progress, with a number of conferences implementing the ideas proposed by our community:

CoNEXT'23 created a digital book of participants and conducted some supplementary activities to socialize them. This was done by creating a local HotCRP instance where participants could upload their CV as a pdf. Then the organizers merged together all the CVs using pdflatex and sent the booklet to participants. These efforts worked well and were simple to organize. CoNEXT also held a community session to brainstorm additional ideas for change.

CoNEXT'24 plans to undertake several key efforts to experiment with change (these are proposed plans and may change). They will likely remain single-track, but will have two submission deadlines, in an effort to reduce delays between academic results and publication. CoNEXT'24 will have workshops, student workshops, posters, the keynote talk etc. They also plan to display posters for each accepted full paper at the conference venue on the day the paper is presented to facilitate discussions between authors and audience etc.

HotNets'23 made several efforts to improve reviewing processes. They adopted a slight variation on the PC decision process: accept any papers (and only those) that had one or two reviewers were in favor of. The way this worked in practice was that if some reviewer posted on HotCRP saying they were in favor, and no one objected, the paper was accepted. If someone objected, at the PC meeting we let the proponent and the opponent speak, and then asked if (a) the proponent was still in favor, and (b) was there one other reviewer in favor. If so, we accepted, otherwise the paper was rejected. In addition, early on in the review process, and several times in between, we sent reminders to the reviewers telling them that hotnets papers need not have evaluations, and with what we thought made good Hotnets papers.

IMC'25 plans to add a rolling deadline, in an effort to reduce latency between academic research results and publication, as well as to improve equitability to different groups who have varying workloads and constraints at different points on the calendar year. There was a lot of focus from the community on our main conference (SIGCOMM'24) and the organizers spent very significant efforts to make large and impactful improvements on the conference experience. These changes include, but are not limited to:

- Public reviews of accepted papers for transparency: To increase transparency and visibility into the reviewing and submission process, this year we released the submitted versions of the accepted papers and the sanitized anonymized reviews without scores. We hosted these papers and reviews in a password protected forum https://sigcomm2024-program.discourse.group/ to encourage active discussion with the community. The rationale for having the reviews and the submitted version is that the community can see the reviews in the context of the submission and also the differences on how the paper improved from submitted to final versions. The forum contents will be archived on the SIGCOMM site a few months after the conference.

- Dual track program to enable longer talks and program innovations: To encourage more community building and interactions at the conference, we introduced the dual tracks of the paper presentations, which leave time for a series of non-paper sessions.
- Non-paper track sessions: As an experimental effort, we introduced a new concept of "non-paper sessions" that address broad topics of relevance to the community to create a more social and inclusive experience. We received several innovative proposals and we are happy to have several exciting sessions such as the SIGCOMM review Q&A and reflections on the research design process, to emerging topics at intersection of AI/ML and networking, discussing SIGCOMM history, among others. We hope this will inspire new community activities in the future.
- Posters for accepted papers: Another effort we introduced this year to increase community engagement for student authors, was a separate poster/artifact session for accepted papers. This would allow authors and conference attendees to have a deeper and longer discussion than just the on-stage presentations and Q-and-A.
- We ran 5 pods this year, to allow participants in underserved regions: Thailand, Malaysia, Indonesia, Vietnam and the Philippines. We set one up for Bangladesh but due to government violence where students are being harmed (creating a centralized event like a pod may put students in even more danger), and the fact the government cut off the Internet, we had to cancel this one. But the others were great successes.
- We also created a brand new mentoring program at SIGCOMM this year (pairing up senior people with less-senior people). This year we explicitly included undergraduate students in the process.

We may have had influence even outside of SIGCOMM (we are not sure if these changes were inspired by our efforts or if they were independently arrived at). NSDI experimented with a much larger program committee this year (around 200 members, targeting diversity and including many new faculty). They also did review-reviewing (having senior people check others' reviews for quality)

SPECIAL PROJECTS AND NON-CONFERENCE PROGRAMS
The SIG continued its aggressive efforts to focus on special projects and other activities in support of our community across the globe.

The SIG kept up its efforts to support the well-being and education of students around the globe. In collaboration with the EU's EMPOWER initiative, and the NSF PAWR Project Office, the SIG continued to co-operate **The Networking Channel** (https://networkingchannel.eu/), an online talk series centered around the networking research and education communities. The channel was launched in March 2021 and has already gained a strong and consistent following, with hundreds of participants every other week. The channel has diverse representation, with participants from all continents, from a broad spectrum of university types (R1/R2, teaching universities, etc.). The talks are interactive, taking live questions and encouraging participation from

the community. Topics range from next-generation networking technologies, to how to succeed in graduate school (the latter had over 800 registrants) to how to improve diversity and inclusion in the systems and networking community. We held our first student-run session, allowing students from Brazil, China, and others across the world to meet and discuss issues related to how to succeed in graduate school. The series will continue into the fall, where we expect to have talks on "how do large ISPs work", how networking between LEO satellites is done, digital twins, and more. The SIG also helped launch a spinoff of the Networking Channel for the Southeast Asia region, which we hope will promote inclusion of people from that region into our community.

The SIG also released a beta launch of the Open Library for Computer Networking (https://openlibrary.web.illinois.edu/), its online platform for discovering and sharing resources for teaching, researching, and learning about computer networking. The platform allows a user to search for a variety of materials, ranging from simulators and emulation platforms, to homework and lab assignments, to professional societies and chat services. The platform then displays information about the resource along with some simple guidance on how the resource could be used. Users may post comments about the resource as well as "upvote" (not downvote) resources they like. The site also contains a page listing favorite resources of famous people in our community (https://openlibrary.web.illinois.edu/peer-favorites). Along with some simple curation, we hope the site can become a useful and reliable repository of information for the community. It is our hope this site can make it easier for those in our community who have developed useful resources to share them with others, for students to more easily figure out which resources are the best to use and the differences between them. If the platform is successful, we hope to make it available to other SIGs and post resources from other communities.

While many are returning to in-person activities it is also clear the pandemic continues to place a damper on interactions in our community. The SIG continues to operate an **ACM SIGCOMM Slack** workspace. Slack is a collaborative platform which includes chat functions as well as the ability to share and interact on files and activities. The workspace has been a rousing success, growing to over 4,000 members (approximately 400 of which actively post or read a message during any particular week), and maintaining regular and ongoing discussions on a variety of networking and network-education related topics. The platform also contains a channel run by a licensed social worker from the University of Illinois at Urbana-Champaign Counseling Center to offer emotional and wellness support to students during these challenging times.

We believe the community will need guidance and support as we return to in-person activities. To address this, the SIG was provided some assistance in the planning and operations of SIGCOMM'24. The SIG assisted with diversity and inclusion efforts, awards, and several other initiatives in the main event.

KEY ISSUES IN THE NEXT FEW YEARS

Our community continues to suffer from significant challenges related to diversity and inclusion. We need to do more to include students and diverse groups in our conferences and committees. We are undertaking several efforts, but solving these problems is challenging and we expect to continue to wrestle with these issues in the coming years.

Our community continues to support us, with patience and excitement about "changing" our conferences. We need to capitalize on this quickly while there is still that passion. We also need to transform our "beta tests" at our events into long-standing self-sustaining initiatives that permanently impact the community. This will take continued efforts to refine and improve our approaches. Finally, we expect we would also benefit from improved metrics to understand our community's needs and to gauge the success and failure of our approaches.

SIGCSE Annual Report
July 1, 2023 – June 30, 2024
Submitted by: Alison Clear, Chair

The Special Interest Group on Computer Science Education provides a forum for educators to discuss issues related to the development, implementation, and/or evaluation of computing programs, curricula, and courses, as well as syllabi, laboratories and other elements of teaching and pedagogy.

SIGCSE VIABILITY

SIGCSE is currently a healthy and viable SIG with current membership of over 2500 professional and student members. A viability report from November 2022 found SIGCSE viable for the next four years. As student membership, volunteers, conference attendance is all growing so SIGCSE continues to be viable.

DEI ACTIVITY

In January of 2023 the Board released the SIGCSE DEI message

"The SIGCSE board is committed to creating a welcoming, safe, and inclusive environment for all members of the SIGCSE community. As stated in our email on October 7th 2022: "The SIGCSE Board is taking these matters very seriously and are working on specific next steps and a timeline for addressing them. We are committed to developing ways forward to ensure the safety and respect of all members of the SIGCSE community."

The SIGCSE Board now requires a DEIA Chair for all six conferences. We also have a board liaison position and a member on the ACM Diversity, Equity and Inclusion Council. Two new conferences were added to our activities, a Virtual conference, to enable participation for members who for any reason (cost, visa issues, university policies etc) are unable to travel and the RESPECT conference (Conference for Research on Equitable and Sustained Participation in Engineering, Computing, and Technology) which has an aim of providing the premier venue for research on equity, inclusion and justice in computing and computing education.

The Plans for each SIGCSE conference continue to include:

- Direct conference steering committees to conduct a Diversity, Equity, Inclusion, and Accessibility (DEIA) analysis of any efforts and initiatives they are implementing to create safe and inclusive environments for all attendees and report findings to the Board. (starting February 2023)

- Recommend the creation of the role of DEIA chair for each conference to serve as a point of contact and coordinate the conference's DEIA initiatives. (starting February 2023)

Actions, the SIGCSE Board continues to:

- Host regular listening sessions to solicit input and allow the community to share DEIA concerns.
- Reach out to the individuals or groups that have provided input and/or written calls to action with an invitation to engage in problem-solving and discussion.
- Work with the committees of all SIGCSE-sponsored events to create a culture that ensures representation of scholars from traditionally marginalized groups who are knowledgeable in the topics discussed at the event.
- Identify and implement strategies to minimize bias and increase diversity in all volunteer positions (e.g. conference leadership, committees, reviewers, the SIGCSE Board) and invited speakers.
- Identify and implement strategies to minimize bias and optimize inclusion in our processes for eliciting nominations and selecting recipients of SIGCSE awards.
- Commit to continually educating ourselves about our own biases and blind spots through reading, participating in professional development and discussions, and listening sessions.

These initiatives continue to be our efforts in helping the community towards our goals. To reach the best outcomes, ongoing community input and engagement is essential.

AWARDS

SIGCSE continue to support the community with the current awards

- SIGCSE Outstanding Contribution to Computer Science Education
- SIGCSE Distinguished Service to Computer Science Education Community (renamed from SIGCSE Lifetime Service to the Computer Science Education Community)
- SIGCSE Test of Time
- SIGCSE Broadening Participation in Computing Education

2023 Award winners (presented in March 2024)

The SIGCSE Distinguished Service to the Computer Science Education Community went to **Chris Stephenson**, USA, for "outstanding lifelong service to K-16+ computing education, making indelible contributions to support computer science educators, establishing computing education standards, and developing computing curricula that will continue to impact generations of children to come." Chris gave a keynote address at the First-timers lunch, Technical Symposium in Portland in March 2024 titled "Tales from the Trenches: Using What We've Learned to Move CS Education Forward".

The SIGCSE Outstanding Contribution to Computer Science Education went to **Michael Casperson**, Aarhus University, Denmark, for "far-reaching and long-lasting contributions in computing education research in areas including curriculum development and teacher education; pioneering efforts in establishing computing curricula in Europe and globally; and high-level and impactful policy work on developing and expanding computing programs in schools." Michael gave a keynote address at the 2024 Technical Symposium in Portland titled "The computational revolution and our professional responsibility".

The Test of Time award was presented to the paper "**Evaluating a new exam question: Parsons problems**" first published In Proceedings of the 4th International Workshop on Computing Education Research (ICER '08). https://doi.org/10.1145/1404520.1404532, authors, Paul Denny, The University of Auckland, Andrew Luxton-Reilly, The University of Auckland, Beth Simon University of California San Diego. The authors represented this paper at the 2024 Technical Symposium in Portland.

The Broadening Participation in Computer Science Education was awarded to **Jandelyn (Jan) Plane** for "For spearheading many efforts in developing programs at both K12 and university levels in improving student opportunity and diversity in computing; building capacity through educator and curriculum development across Africa and the Middle East; and her work at the local and state levels in the USA in promoting diversity in computing." Jan gave a keynote address at the Technical Symposium in Portland titled "Find your drop to add to the river".

SIGNIFICANT PAPERS PUBLISHED

The SIGCSE Technical Symposium Conference was held in Portland, OR in March 2024. The best paper awards went to:

Computing Education Research:

Use of AI-driven Code Generation Models in Teaching and Learning Programming: a Systematic Literature Review

Doga Cambaz, *Delft University of Technology,* and Xiaoling Zhang, *Delft University of Technology*

Does Curricular Complexity in Computer Science Influence the Representation of Women CS Graduates?

Albert Lionelle, *Khoury College of Computer Sciences, Northeastern University*, McKenna Quam, *Northeastern University,* Carla Brodley, *Northeastern University, Center for Inclusive Computingx*, and Catherine Gill, *Northeastern University*

A Large Scale RCT on Effective Error Messages in CS1
Sierra Wang, *Stanford University*, John C. Mitchell, *Stanford University*, and Chris Piech, *Stanford University*

Computing Self-Efficacy in Undergraduate Students: A Multi-Institutional and Intersectional Analysis

Vidushi Ojha, *University of Illinois at Urbana-Champaign*, Leah West, *Harvey Mudd College,* and Colleen Lewis, *University of Illinois at Urbana-Champaign*

Experience Reports and Tools:

Automating Source Code Refactoring in the Classroom

Eman Abdullah Alomar, *Rochester Institute of Technology*, Mohamed Wiem Mkaouer, *Rochester Institute of Technology* and Ali Ouni, *ETS Montreal, University of Quebec*

Accessible to Whom? Bringing Accessibility to Blocks

Andreas Stefik, *University of Nevada at Las Vegas,* Willliam Allee, *University of Nevada at Las Vegas,* Gabriel Contreras, *University of Nevada at Las Vegas,* Timothy Kluthe, *University of Nevada at Las Vegas,* Alex Hoffman, *University of Nevada at Las Vegas,* Brianna Blaser, *University of Washington* and Richard Ladner, *University of Washington*

Integrating Natural Language Processing in Middle School Science Classrooms: An Experience Report

Gloria Katuka, *University of Florida*, Srijita Chakraburty, *Indiana University,* Hyejeong Lee, *Indiana University*, Sunny Dhama, Toni Earle-Randell, *University of Florida,* Mehmet Celepkolu, *University of Florida,* Kristy Elizabeth Boyer, *University of Florida,* Krista Glazewski, North Carolina State University, Cindy Hmelo-Silver, *Indiana University* and Tom McKlin, *The Findings Group*

Cultural-Centric Computational Embroidery

F. Megumi Kivuva, *University of Washington*, Jayne Everson, *University of Washington,* Camilo Montes De Haro, *Bellevue College* and Amy Ko, *University of Washington*

Position and Curricula Initiatives:

Beyond HCI: The Need for Accessibility Across the CS Curriculum

Yasmine Elglaly, *Western Washington University*, Catherine Baker, *Creighton University*, Anne Ross, *Bucknell University* and Kristen Shinohara, *Rochester Institute of Technology*

Transforming Grading Practices in the Computing Education Community
Adrienne Decker, *University at Buffalo*, Stephen Edwards, *Virginia Tech*, Brian McSkimming, *University of Oklahoma*, Bob Edmison, *Virginia Tech*, Audrey Rorrer, *University of North Carolina Charlotte* and Manuel Pérez Quiñones, *University of North Carolina Charlotte*

Teaching AI to K-12 Learners: Lessons, Issues, and Guidance

Shuchi Grover, *Looking Glass Ventures / Stanford University*

The best paper award at ITiCSE 2023 held in Turku, Finland was:

Principles of Computers and the Internet - Model Lessons for Primary School Children: Experience Report. Cyril Brom Tereza Hanneman, Paval Jezek, Anna Drobná, Kristina Volna and Katerina Kacerovská.

The best paper award at the 2023 CompEd conference was:

A Bug's New Life: Creating Refute Questions from Filtered CS1 Student Code Snapshots. Nimisha Agarwal, Viraj Kumar, Arun Raman, and Amey Karkare

A Chairs paper was also presented:

Guiding the Development of Undergraduate Educational Robotics. Bryce Ikeda, Janine Hoelscher, Ron Alterovitz and Daniel Szafir

The best paper at the 2023 ICER conference in Chicago was:

Funds of Knowledge used by Adolescents of Color in Scaffolded Sensemaking around Algorithmic Fairness. Jean Salac, Alannah Oleson, Lena Armstrong, Audrey Le Meur and Amy Ko.

CONFERENCES

SIGCSE now supports six conferences, four annual (Technical Symposium, ITiCSE, ICER, RESPECT) and two bi-annual (Virtual, CompEd).

The **SIGCSE Technical Symposium** was held in Portland OR in March 2024. The conference was held in hybrid mode and was attended by xxx attendees. There were three keynote speakers, papers, panels and Special Session. There was pre-conference New and Inspiring Educators Roundtable which was very well attended along with eight affiliated events. SIGCSE also supports a Kids Camp to enable parents and care givers the opportunity to attend the conference with their children.

The 28th annual **Innovation and Technology in Computer Science Education** (ITiCSE) conference was held in Turku, Finland in July 2023. This conference is held in collaboration with ACM Europe. This conference has pre conference Working Groups and in 2023 there were six Working Groups covering subjects, Enhancing Diversity and Inclusion in Computer Science Undergraduate Programs: The Role of Admissions, Conducting Sound, Equity-Enabling Computing Education Research, ulti-Institutional Multi-National Studies of Parsons Problems, The Robots Are Here: Navigating the Generative AI Revolution in Computing Education, Arguments for and Approaches to Computing Education in Undergraduate Computer Science Programmes and Modeling Women's Elective Choices in Computing.

The 19th Annual **International Computing Education Conference** (ICER) was held in Chicago, MI. ICER 2023 was hybrid and also preceded by a Doctoral Consortium of 24 PhD students. The conference was hybrid with in person and virtual attendees. The format was changed and there was no keynote speaker. This conference has one stream and attendees listen to the paper presented then discuss the paper and ask questions as a group.

The **RESPECT** (Research on Equity and Sustained Participation in Engineering, Computing, and Technology) has now partnered with SIGCSE and the conference is run under the SIGCSE umbrella. The conference was held at Georgia Tech Conference Center & Hotel in Atlanta, GA in May 2024. The RESPECT Conference will continue to provide a platform for researchers, educators, and practitioners to engage in meaningful discussions, present cutting-edge research, and share best practices that contribute to creating a more equitable and inclusive computing education landscape.

ACM Global Computer Education Conference (CompEd) was held in December 2023, and was hosted by International Institute of Information Technology, Hyderabad (IIITH). There were three keynote speakers and also included pre conference doctoral consortia and two working groups.

SPECIAL PROJECTS and TRAVEL GRANTS

The SIGCSE Special Projects Fund provides grants up to $5000 per project and has a call for proposals in November and May of each year.

The Special Projects funded in 2023 were:

1. Alexandre Passito de Queiroz - Why Do Students Drop Out of Computer Programs? ($4800)
2. Nicole Herbert - Fostering Culturally Sensitive IT Curriculum: Case Studies Collaboratively infused with Indigenous Perspectives ($5,000)
3. Zachary Kurmasz - A time-efficient system for generating human-crafted questions about student code ($3,600)

Henry Walker Travel Grants

The Henry Walker Travel Grants awards up to five grants per year to defray travel expenses of faculty attending the annual SIGCSE Symposium. Henry WalkerTravel Grant award winners will receive complimentary Symposium registration plus up to $500 towards travel expenses. We are particularly interested in encouraging attendance by new faculty and/or faculty who have never been able to attend previously.

The awards to attend the 2024 Technical Symposium were:

Azqa Nadeem	Netherlands	University of Twente
Umar Alkafaween	Jordan	Al Hussein Technical University (post-secondary, university)
Vetria Byrd	United States	Purdue University
Shaanan Cohney	Australia	University of Melbourne, ~R1 University
Dr. Laura Gurney	USA	University of Maine, post-secondary public university

KEY ISSUES

Updated Mission and About statements
During 2023 the Board actively sought comments and updates from members to our Mission and About statements to enthusiastically reflect what we do. At the beginning of 2024 we released these updated statements to the membership. The revised statements are:

Mission Statement
ACM SIGCSE is the leading global community of professionals, researchers, educators, teachers, and students interested in understanding and improving computing education. We provide opportunities and resources to advance educational research and practice related to designing, developing, and implementing pedagogy, curricula, programs, and tools at all levels in all types of educational settings. SIGCSE values diverse perspectives. We welcome and work to include the participation of all societies, people, and demographics in computing education

About SIGCSE
The aim of SIGCSE is to provide an equitable global forum that promotes and advances research, teaching, and practice in computing education at all educational levels across all demographics

ACM Global Computing Education Conference (CompEd)
ACM SIGCSE held the ACM Global Computing Education conference in Hyderabad, India.   It is held outside of North America and Europe every other year, and started in 2019 in Chengdu, China. This is part of our efforts reach out to our non-traditional geographical membership. This was a highly successful conference in terms of the quality of the papers and the financial return. The next ACM Global Computing Education conference has been confirmed for Gabarone, Botswana in October 2025.

Reviewing
We will also continue to review, revise and upgrade all the reviewing processes for all the conferences.

Open Access
The move to Open Access is also a key issue for our members. We are keeping them informed as much as we can with the information coming from ACM.

Doctorial Consortia
During the latter part of 2023 we created a Task Force to re-evaluate and prepare a new pathway for Doctoral Consortia. The Task Force has finished its work and the report has been submitted to the Board. There will be an opportunity for any SIGCSE conference to have a DC if required.

DEIA Efforts
We continue with our DEIA efforts to keep ourselves informed and ensure all our activities are safe and available for all members of our community.

SIGDOC Annual Report
July 1, 2023 – June 30, 2024
Submitted by: Huiling Ding, Chair

Overview

The ACM Special Interest Group for Design of Communication (SIGDOC) provides a forum for researchers and practitioners of the design of communication, including but not limited to those doing work in information architecture, information design, content management, user experience, user documentation (traditional and user-contributed), as well as governmental, scientific, and public participatory contexts. SIGDOC's overall mission is to: advance the state of knowledge; encourage the research; and support the interdisciplinary practice of the design of communication.

Health and Viability of SIGDOC

SIGDOC remains a consistently healthy organization; at the time of this report, we have 171 members. Most of our members attend and participate actively in our yearly conference. And this year, for SIGDOC '23, we received our highest submission total in recent memory: 134, not including about 20 Student Research Competition submissions. In terms of finances, SIGDOC has to balance our budget and expenditure with the new additional overhead of $15,000. We achieved this by charging an increased conference fee of $350 and an increased membership fee of $45, actively promoting our conferences to attract more presenters, find conference chairs who can host SIGDOC conferences near universities to reduce costs of venues, accommodation, and AV facilities and to provide affordable conference experiences to our members, and develop a more robust sponsorship model that includes industry and academia.

FY 2023 was an election year for the Advisory Board. The new Advisory Board consists of longstanding SIGDOC members and junior faculty members interesting in contributing to the organization. The new Advisory Board members are: Dr. Quan Zhou, Metro State University (Members-at Large); Dr. Jason Tham, Texas Tech University (Members-at Large); Dr. Michelle McMullin, North Carolina State University (Grants and Awards Manager); Drs. Bradley Dilger, Purdue University and Allegra W. Smith, Georgia Institute of Technology (Student Research Co-Chairs), and Dr. Morgan Banville, Massachusetts Maritime Academy (Communication Manager). Returned members include Dr. Chris Lindgren, North Carolina State University (Web Manager); Sherena Huntsman, Boise State University (Access Chair); Carlos J. Costa, Universidade de Lisboa (Chair of EuroSIGDOC); and Dr. Jordan Frith, Clemson University (Editor of publication). We have a larger board to accommodate our increasingly popular Student Research Contest and to better engage our members in workshops and increasingly popular grants and awards.

Our main publication, *Communication Design Quarterly (CDQ),* has continued to attract an increasing number of submissions and build a backlog of articles to be

published in the field of technical communication. As *CDQ* approaches its 12th volume in 2024, we expect submission numbers to continue to increase and the acceptance rate continues to become more competitive. The editor has been tasked with building connections with other organizations and creating a broader vision for the publication, while the Associate Editor will focus on the publishing process and our commitment to equitable and fair reviews. Our current EIC and AE have come to the end of their three-year term and decided not to renew it due to personal reasons (starting a new grant-funded project and going to sabbatical). We will update our job descriptions for EIC and start a national search. The challenges here is the reduced funding for SIGDOC and thus the lack of financial support for the EIC position.

Diversity, Equity, and Inclusion

We continued this past year in our commitments to diversity, equity, and inclusion in two ways.

We continue dedicating our annual budgetary line item ($2000) to inclusion to support projects forwarding justice-centered initiatives in the fields of communication design and technical communication. The most recent CFP for our Design Justice Program supports technical writing work with a nonprofit organization named IDignity which provides documentation support to individuals who need support with legal identification materials. We also continue our commitment to support graduate research by dedicating our budget line item ($2000) to fund graduate students to present their research at SIGDOC.

Awards and Recipients

The following awards and recognitions were given over the past year:

1. **Career Advancement Research Grants**:
   a. "Recontextualizing the Document Design of Patient Information Leaflets." Edzordzi Agbozo, Ph.D., UNC Wilmington
   b. "Dismantling Barriers to Publishing: Identifying Types of Negative Review Experiences and Strategies for Mitigating Them." Hannah Stevens, Utah State University.
2. **Best Paper** (in 2023 conference proceedings):
   a. Corinne Jones. "Methodological Questions for Representation of Social Media Data". In Proceedings of the 40th ACM International Conference on Design of Communication (SIGDOC '23). Association for Computing Machinery, New York, NY, USA, 32–41. https://doi.org/10.1145/3513130.3558975
   b. Tony Li, Yelin Jo, Hanna Lee, Zander Brumbaugh, Michael Murray, and Elin Björling, "Low-Effort, Unqualified, and Malicious User Behaviors in Online Human-Robot Interaction Studies"

3. **Best Paper Honorable Mentions** (Short-List Nominees)
    a. Bradley Dilger and Neil Baird, "Supporting Discourse-Based Interviews: Developing a Methodological Resource for Researchers and Students Using Design Thinking"
    b. Temitope Ojedele-Adejumo, "Folkloric Tradition as an Epistemology of Environmental Justice"
    c. Allegra Smith, "Designing Feminist Methodologies: Foregrounding Gender, Positionality, and Justice in Communication Design Research"
4. **Diana Award**, given every other year (or so); the award is named after Diana Patterson, past President of SIGDOC for three terms (1980–89). The award is given to an organization, institution, or business for their long-term contribution to the field of communication design. This year's winner was EuroSIGDOC. EuroSIGDOC, ACM SIGDOC's European Chapter, consists of a group of researchers and practitioners wanting to pursue the SIGDOC mission in a European context. Like SIGDOC, EuroSIGDOC focuses on the design of communication as it is taught, practiced, researched, and conceptualized in various fields, including technical communication, software engineering, information architecture, and usability.
5. **Student Research Competitions** (from 2023 Conference):

Undergraduate Division: 1st Place

- Vignesh Mullaguru. Kennesaw State. "Designing a Virtual Reality Prototype for Designers: A Model for Accessibility Testing"

Graduate Division:

First Place Caitlin Baulch	University of Minnesota	Antirhetoric and Prenatal Testing: A Rhetorical Heuristic for Examining Implicit and Explicit Values in Expert Medical Documentation
Second Place Chloe Robertson	Virginia Tech	How Graduate Students Navigate Tech Comm Challenges related to their VISA
Third Place Anwesha Chattopadhyay	University of Florida	Decolonial Subversion of Santali Tribal Language Learning Technologies

We plan on giving the same awards next year, save for the switching to the Rigo Award (alternating years for Diana and Rigo Awards).

Significant Proceedings Papers

This year, ten significant SIGDOC '23 proceedings papers got over 150 downloads, which reflects a huge increase from 3 from SIGDOC' 22. The top downloaded paper, along with their citations, are as follows:

1. Eric York. Evaluating ChatGPT: Generative AI in UX Design and Web Development Pedagogy. Pages 197–201. https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623035. Download 877; Citation 4
2. Beatriz Severes, Carolina Carreira, et al. The Human Side of XAI: Bridging the Gap between AI and Non-expert Audiences. Pages 126–132. https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623062. Download 670.
3. Sushil K Oswal, Hitender K Oswal. A Story of Four Documentation Designs for One Medical Device: User Experience Analysis and Recommendations. Pages 10–17. https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623004. Download 534.
4. Allegra Smith. Designing Feminist Methodologies: Foregrounding Gender, Positionality, and Justice in Communication Design Research. Pages 39–48https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623008. Download 460.
5. John T. Murray, Jack Murray, Anastasia Salter. Playing with AI Chat: Positioning "Dangerous" Language Model Futures through Interactive Fiction. Pages 82–88. https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623015. Download 351.
6. Rory Stuart Clark, Tom Owen. It Works Better When I Do That: Interaction and Communication In Radiology Departments. Pages 55–62. https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623011. Downloads 251.
7. Ma-aruf Al-hassan. Revolutionizing Methods and Methodologies: Advancing Indigenous-Centered Research Methodologies in User Experience Research (UXR), Technical and Professional Communication Practice. Pages 103–109. https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623018. Downloads 215
8. Peiyao Liu, Chenxing Xie. Designing Between Virtuality and Reality: Improving Inclusiveness in Hybrid Spaces. Pages 184–190. https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623033. Downloads 184.
9. Joao Tiago Aparicio,Elisabete Arsenio. tex2net: A Package for Storytelling Using Network Models. Pages 119–125. https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623022. Downloads172.
10. Temitope Ojedele-Adejumo. Folkloric Tradition as an Epistemology of Environmental Justice. Pages 49–54. https://doi-org.prox.lib.ncsu.edu/10.1145/3615335.3623010. Downloads172, citation 1

These significant papers well represent the wide range of topics covered by and the diverse areas of expertise of our members.

Conference Activity

Our flagship conference is our annual SIGDOC conference, which typically takes place in the fall of each year. The SIGDOC 2023 conference took place in October 26th through 28th in Orlando, FL, USA. The theme was "On Methods and Methodologies." The conference committee included:

- Conference Chair: Sonia Stephens, University of Central Florida, United States
- Program Co-Chair: Joseph Bartolotta, Hofstra University, United States
- Program Co-Chair: Kristin Marie Bivens, University of Bern, Switzerland
- SRC Co-Chair: Chen Chen, Utah State University, United States
- SRC Co-Chair and Sponsorship Chair: Daniel Richards, Old Dominion University, United States
- Technical Editor: Daniel Hocutt, University of Richmond, United States

We witnessed a big increase in proceeding papers, with 52 items that were peer reviewed and published in the proceedings. This includees 23 research papers, 14 experience papers, 8 industry insights, poster, and panel abstracts and 7 poster abstracts as part of the Student Research Competition. We saw a robust engagement with graduate students who participated in our Student Research Competition, which Microsoft no longer sponsored. At the conference, we included the following features:

- Keynote by Diane Award Winner EuroSIGDOC, represented by Drs. Carlos J. Costa and Manuela Aparicio.
- Keynote by Dr. Dr. Jennifer Sandoval, "Connection and Community in a Time of Crisis"
  - Add more details

- Robust workshops on the following topics:
  - Industry-Academic Resource Development: Structured Authoring
  - Negotiating the Challenges of Human Participants Research in the Rhetoric of Health and Medicine (RHM) and Technical Communication
  - Ethical Data Analytics: Investigating Data Analytics as a Pedagogical Practice
- Ignite talks featuring industry practitioners in the Orlando region.

The research that our members are presenting at our conference continues to address salient issues and themes in the fields of communication design, user experience, and technical communication.

Special Projects

There are currently three special projects at various stages of development to ensure the continued success of SIGDOC:

1. *Open Access Preparation and Education.* We hosted a hearing session to help members understand the impacts of going open access, explore possible issues and concerns, and give them an opportunity to ask questions. We will continue to engage our members in this conversation to prepare them for the transition.

2. *Proactive Siting for Future Conferences.* We worked with interested SIGDOC volunteers and members to build a list of future conference sites for 2025-2028. We encourage all conference chairs to work with their universities to keep the

costs of venues and facilities down for affordability reasons and to generate enough revenue. To ensure the inclusiveness of siting decisions, we took care to make sure that SIGDOC will take place in different parts of the country, i.e., Texas, Minnesota, Colorado, and Ohio. We also tried hard to recruit diverse conference teams and program teams, with intergenerational mentoring by pairing senior faculty with junior ones and with the strong presence of underrepresented demographics, i.e., Asian American and African American faculty in the conference teams.

3. *Proactive Succession Planning for EC, Advisory Board, CDQ Editor Team, and Conference Teams*. With the different cycles of EC, Advisory Board, Newsletter Editor, and Conference Teams, we are recruiting volunteering leaders all the time. We work hard to make the process transparent and inviting while keeping a database of members showing interest in such leadership opportunities so that we can bring them back to conversations if their first attempts are not successful. We also work hard to create intergenerational teams so that senior members can work with and mentor junior faculty/graduate students as a part of the SIGDOC culture.

4. *Peer Cohort Training for Future Conference Chairs.* With conference chairs for 2025-2029 tentatively identified, we are experimenting with peer cohort training to provide collaboration opportunities, knowledge management platforms, and smooth succession planning.

5. *Membership Engagement through Virtual Workshops.* We plan to offer two online workshops outside the conference to better engage with our members. Members submit topics of interest to them and we pick the ones that attract the most attention.

Key Issues for the Future

We have identified the following issues and plans that will occupy our time over the next 2 years:

- *Navigating through Open Access and its Unexpected Consequences*. We are committed to going open access to broad the access to and impacts of our proceeding publications. We also hope to navigate through the financial uncertainties surrounding the Digital Library revenue and the new subscription model by locating future conferences near university campuses to lower the costs and working on volunteers' conference support to reduce that expenditure.
- *Financial stability*. How to make ends meet with the increased overhead and the transition to Open Access is a constant topic of concerns and discussions for SIGDOC as a small SIG. We hope to continue to think through offering value for members outside of our annual conference, perhaps through a spring workshop series, to generate some additional income for the organization. Our EC and

Advisory Board members have already been leading these workshops for free, and we intend to continue doing that throughout our tenure.

SIGecom Annual Report
July 1, 2023 – June 30, 2024
Submitted by: Federico Echenique, Michal Feldman, and Brendan Lucier

The Health and Viability of SIGecom:
The ACM Special Interest Group on Economics and Computation (SIGecom) is the leading professional organization in the field of economics and computation. Our interdisciplinary work is united by the common goal of using economic ideas and computational reasoning to understand and improve social and economic interactions. SIGecom seeks to encourage research and applications at the interface between computer science and economics, and promote the sharing of new ideas across those and related disciplines. SIGecom's three primary activities include: convening technical events; adjudicating awards; and managing community announcements. Our main technical events are the annual Conference on Economics and Computation (EC) and the SIGecom Winter Meetings. Our awards include EC best paper awards, the dissertation award, the test-of-time award, the Mid-Career Award, and the Lifetime Achievement Award. Our community announcements are disseminated through a combination of the electronic newsletter SIGecom Exchanges, our moderated mailing list, and our Twitter account.

Diversity Equity, and Inclusion (EDI):
Every year SIGecom makes a conscious decision to foster diversity, equity, and inclusion (DEI) at the ACM Conference on Economics and Computation (EC). Thus far our programming has focused on three key areas to help support DEI: Travel Support Grants, Childcare Grants, and an annual Women's Breakfast/Gender Inclusion Workshop.

The Travel Support grants prioritize those in need, particularly from marginalized groups (i.e. female, transgender, non-binary, gender non-conforming, etc.) and residents of low or middle-income countries. They also prioritize individuals who would face personal hardship or would not be able to attend EC without it. This support has included different combinations of free registration, partial coverage or free accommodation (of the SIG-invested accommodation), and some travel subsidization.
EC has also provided Childcare Grants over the years. Depending on demand and available resources in the host city the way that this support has been executed has varied. EC'24 chose to provide childcare grants in the form of funding to cover the cost of care executed at the parents' discretion.

The in-person conference also makes a special effort to host an event for underrepresented groups in the EC community. Historically, this event has consisted of

a Women's Breakfast on one of the conference days, but EC'24 saw the second annual EC Gender Inclusion Workshop (ECGI'24): a structured workshop designed to facilitate high quality discussion on topics such as early PhD, mental health, service work and non-promotable tasks, job search, work/life balance, and advocacy on gender-related issues. During the workshop day at EC'24, ECGI'24 provided about 8 hours of programming, including a meal and roundtable discussion (replacing the Women's Breakfast), keynote talks, Rising Stars talks, and a poster session. This workshop was explicitly for EC community members who identify as members of underrepresented genders, but was also open to allies. Organizers also made a conscious effort to prioritize inviting junior faculty for keynote talks and individuals closer to graduation for the Rising Star talks in order to boost upcoming career prospects. When organizing the meal and round table discussion two main components were prioritized: making sure that the event created a safe space for discussion and ensuring that individuals were not sacrificing attending other important programming at the conference in order to attend. All of these aspects represent conscious efforts to achieve the 3 main goals of ECGI'24: 1) to highlight research from members of underrepresented gender identities; 2) to provide participants with networking opportunities, and; 3) to facilitate open discussion about the diverse and intersectional experiences of marginalized gender groups in EconCS, and actions that can be taken to make our communities more inclusive to people of all gender identities.

SIGecom Awards and Recipients:

The SIG gave five awards in 2024.

The SIGecom MidCareer Award recognizes outstanding individuals whose contributions have had great impact in the field of economics and computation and whose employment as a faculty member or full-time industrial researcher started within the past 15 years (or equivalent duration in case of career interruption). The 2024 MidCareer Award was issued to: Ariel Procaccia (Harvard University) for breakthroughs in theory and practice of democracy and social choice, and contributions to SIGecom.

The Test of Time award recognizes an influential paper or series of papers by a single author or team of authors that has had significant impact on research or applications in the field of economics and computation. The 2024 Test of Time Award was issued to: "AdWords and generalized online matching" by Aranyak Mehta, Amin Saberi, Umesh Vazirani, Vijay Vazirani, originally published in the Journal of the ACM 54(5), 2007, Article 22. for introducing and solving a model of online matching with budgets that has seen many practical applications to online markets and broad and continuing impact in the literature.

The SIGecom Doctoral Dissertation Award recognizes an outstanding dissertation in the field of economics and computation. The 2023 Doctoral Dissertation Award was issued to: Gabriele Farina (Carnegie Mellon University), "Game-Theoretic Decision Making in Imperfect-Information Games: Learning Dynamics, Equilibrium Computation, and Complexity" for extensively contributing to our fundamental understanding of equilibrium computation and learning in imperfect-information games, resolving recognized open problems, establishing new positive complexity results, and leading in several cases to state-of-the-art performance in theory and/or practice. Honorable mentions were Martino Banchio (Stanford University) and Alireza Fallah (MIT).

Best Paper Awards are given to work of outstanding quality presented at the ACM Conference on Economics and Computation. We issued two best paper awards for papers published in EC'24.

The Best Paper was:
"When Geography Shapes Preferences: Redesigning Teacher Assignment in Italy" by Mariagrazia Cavallo and Battal Dogan.

The Best Paper with a Student Lead Author was:
"Learning About Informativeness" by Wanying Huang.

Significant Papers:
In addition to the outstanding papers recognized by the awards above, EC'24 also showcased some exemplary papers in spotlight presentations for each of the conference tracks: Applied Modeling, AI, Empirics and Experiments, and Theory.

Exemplary Applied Modeling Track Paper was:
"When Geography Shapes Preferences: Redesigning Teacher Assignment in Italy" by Mariagrazia Cavallo and Battal Dogan.

Exemplary AI Track Paper was:
"GemNet: Menu-Based, Strategy-Proof Multi-Bidder Auctions Through Deep Learning" by Tonghan Wang, Yanchen Jiang, and David C. Parkes.

Exemplary Empirics and Experiments Track Paper was:
"Scars of the Gestapo: Remembrance and Privacy Concerns" by Sebastian Bauer and Florencia Hnilo

Exemplary Theory Track Paper was:
"Online Mechanism Design with Predictions" by Eric Balkanski, Vasilis Gkatzelis, Xizhi Tan, and Cherlin Zhu

Conference Activity:
The 25th ACM Conference on Economics and Computation (EC'24) was held in hybrid format with the main physical activities from July 8th to 11th, 2024 at Yale University in New Haven, USA. We additionally ran virtual pre-conference events including tutorials, a mentoring workshop, and talks of accepted papers whose authors were unable to attend the physical event. The EC'24 program chairs were Daniela Saban (Stanford University) and Robert Kleinberg (Cornell University); the general chair was Dirk Bergemann (Yale University); the local chairs were Vahideh Manshadi (Yale University) and Yang Cai (Yale University); the virtual chair was Manolis Zampetakis (Yale University); the workflow chair was Yingkai Li (Yale University); the workshop chairs were Yannai A. Gonczarowski (Harvard University) and Ellen Vitercik (Stanford University); the tutorial chairs were Laura Doval (Columbia Business School) and Alon Eden (Hebrew University of Jerusalem); the poster chairs were Hu Fu (Shanghai University of Finance and Economics) and Scott Rodilitz (UCLA).

We received 848 technical paper submissions (approximately 36% more than last year), of which 204 were accepted for presentation, resulting in an acceptance rate of 24% (consistent with last year). We had 474 registrants of which 434 were physical (compared to 487 and 360, respectively, last year).

Special Projects and Non-Conference Programs:
Our Exchanges newsletter continues to aim to publish two issues annually. The current editors are Irene Lo (Stanford University) and Sam Taggart (Oberlin College). In a long-standing effort to improve the EC academic job market, Exchanges again collected and published bios of all job market candidates; this marks the ninth annual collection of SIGecom Job Candidates Profiles of the junior faculty job market candidates of the SIGecom community and the fourth annual collection of 2024 Market Design Job Candidate Profiles.
This year also marked the fourth annual SIGecom Winter Meeting. The event, taking place virtually on February 15, 2024, was organized by Sigal Oren (Ben-Gurion University) and Ran Shorrer (Penn State) and was on the topic of behavioral models. The workshop brought together researchers from economics, computer science, and adjacent fields for talks and presentations from leading experts, as well as a more informal fireside chat on entering into the research space and the exciting opportunities that lie ahead. The format included introductory talks by Jon Kleinberg (Cornell University) and Ori Heffetz (Cornell University); a fireside chat with Noam Nisan

(Hebrew University) and Alvin Roth (Stanford University); and spotlight talks by Modibo Camara (Stanford GSB), Ryan Oprea (University of California, Santa Barbara), Gali Noti (Cornell University), and Nicole Immorlica (Microsoft Research).

SIGecom's volunteer development is extremely strong. Many dozens of people serve across a wide range of roles: in the conference organization committee; organizing committees for workshops and tutorials; award committees; SIGecom Exchanges editors; SIG executive; and a wide variety of ad hoc committees and special-topic volunteer roles.

We are extremely conscious of diversity—particularly, but not limited to, diversity across research areas, gender, and countries of origin—and have been very successful in ensuring that our volunteer leaders are diverse, reflective of the community at large, and top-caliber researchers without exception.

Key Issues for the Next 2-3 Years:
This year we received approximately 36% more technical paper submissions than last year, last year had approximately 12% more submissions than its preceding year; while this continued trend signals positive growth and a vibrant community, it also poses its own challenges.

We've begun thinking of and taking action on necessary structural changes that will need to occur to accommodate the strain that comes with continued growth, but we still have more to think about and determine how best to manage. At present, we are in the process of appointing a communication chair to help with external communication in particular, and we've prioritized maintaining records of institutional knowledge to more seamlessly switch over service roles as well as identify additional pressure points in our structure. We expect to continue to have the need to adapt over the next 2-3 years to adequately accommodate this growth in our community and the added strain it puts on our service roles.

About SIGEnergy. ACM SIGEnergy is a professional forum for scientists, engineers, educators, and professionals focused on research in energy systems and energy informatics. It brings together an inter-disciplinary group of computer scientists with diverse backgrounds in sensing, modelling, machine learning, optimization, control, network and systems design, and experimentation to discuss and address key challenges in future energy systems, and their impact on society. SIGEnergy covers a broad range of topics in energy informatics, energy system design, learning and prediction, analysis, and operation ranging from building energy management, renewable energy modelling and integration, energy storage system analysis, electric vehicle modelling and optimal operation, data-centre energy management, transportation system innovation, grid modernization and operation, and energy impact on climate and society.

SIGEnergy completed the fourth year of its existence since being chartered as a new SIG in November 2020. The SIG is serving a broad and growing community of energy and sustainability researchers across the world, both from academia and industry. Indeed, the intersection of society's computer and energy systems is becoming increasingly more prominent with advances in AI that are highly computing and energy intensive.

SIGEnergy sponsors two successful, single-track, high-impact conferences (e-Energy and BuildSys), as well as a number of co-located workshops. SIGEnergy also sponsors a single-track, high-profile workshop (HotCarbon) that is hosted in conjunction with a prominent computer systems conference (this year OSDI). Finally, SIGEnergy also publishes a quarterly newsletter (Energy Informatics Review) that includes refereed articles, special issues on important topics, opinion articles from prominent researchers. In addition, next year, the European Conference "DACH+ Energy Informatics Conference" will be in-cooperation with SIGEnergy, and its proceedings will be published in a special issue of Energy Informatics Review.

Diversity, Equity, and Inclusion Efforts

Prof. Astid Niesse (U. Oldenburg, Germany) served as SIGEnergy's Director of Diversity and Inclusion this past year with the goal of increasing the SIGs DEI activities. The SIG conferences are continuing their efforts to improve gender and geographic diversity at its events. The conference chairs focused on creating a diverse TPC, and striving to include ~ 25% women in its program committees. We will continue these efforts in the coming years. SIGEnergy is also engaged in a long-term effort to collect and track a number of DEI metrics related to conference participation. Major activites included a DEI workshop event that was hosted in conjunction with the e-Energy conference, as well as a women and non-binary networking dinner at e-Energy.

List of Awards

SIGEnergy awarded a SIGEnergy Doctoral Dissertation Award, along with Honorable Mentions, and a SIGEnergy Rising Star Award. Both awardees were selected from multiple nominations that included letters of support and, in the case of the dissertation award, each candidate's dissertation. Nominations were open, and the call for nominations was disseminated via the SIGEnergy mailing list. A SIGEnergy awards committee selected the recipients. Award recipients were given the option to select the conference where they receive the award. This year, the SIGEnergy Doctoral Dissertation Awards were presented at the eEnergy conference, and the SIGEnergy Rising Start Award was also presented at the eEnergy conference. In addition, the eEnergy conference received approval last year from ACM to award an annual Test of Time award, which goes to a paper from a prior conference that has had significant impact on the field. The conference took nominations for the Test of Time award, and awarded two recipients at the conference. Since BuildSys is in its 11th year as a conference, it is starting the process with ACM to also establish a Test of Time award. The list of award recipients is below.

SIGEnergy Rising Star Award - Omid Ardakanian (University of Alberta) for contributions to data-enabled optimization and learning-based control of smart grid, buildings, and energy systems.

SIGEnergy Doctoral Dissertation Award - Xiang Pan (The Chinese University of Hong Kong) for the for thesis titled "Deep Neural Networks for Optimal Power Flow in Electric Power Systems: Design, Analysis, and Experiments"

SIGEnergy Doctoral Dissertation Award Honorable Mention - Utkarsha Agwan (University of California Berkeley) for for the thesis titled "Evaluating and Optimizing Distributed Energy Resources"

SIGEnergy Doctoral Dissertation Award Honorable Mention - John Wamburu (University of Massachusetts Amherst) for the thesis titled "Data-driven Modeling and Analytics for Greening the Energy Ecosystem"

e-Energy Test of Time Award – "SmartCharge: Cutting the Electricity Bill in Smart Homes with Energy Storage" (Published in e-Energy 2012). Mishra, Aditya, David Irwin, Prashant Shenoy, Jim Kurose, Ting Zhu

e-Energy Test of Time Award – "Distributed Control of Electric Vehicle Charging" (Published in e-Energy 2013) Ardakanian, Omid, Catherine Rosenberg, Srinivasan Keshav

e-Energy Test of Time Honorable Mention – "Towards Energy-aware Scheduling in Data Centers using Machine Learning" (Published in e-Energy 2010). Berral, Josep Ll, Íñigo Goiri, Ramón Nou, Ferran Julià, Jordi Guitart, Ricard Gavaldà, Jordi Torres

Significant papers

Both e-Energy and BuildSys continue to attract a diverse set of papers. Both conferences recognize their best papers through best paper awards. The best paper awards for both conferences are listed below. These reflect an increasing focus on leveraging both AI and energy flexibility to improve energy-efficiency and reduce carbon emissions.

e-Energy Best Paper Award – "Quantifying Device Flexibility With Shapley Values in Demand Side Management," Ivo A. M. Varenhorst *(University of Twente)*, Johann Hurink *(University of Twente)*, Marco E. T. Gerards *(University of Twente)*

e-Energy Best Notes Paper Award – "A Dataset for Research on Water Sustainability," Pranjol Sen Gupta, Md Rajib Hossen, Pengfei Li, Shaolei Ren, Mohammad A. Islam

e-Energy Best Poster Awards – "Optimizing VRF System Operation for Energy Efficiency under Power Constraints: On-Site Experiment," Theint Theint Thu *(Osaka University)*, Harrison Malfait *(Osaka University)*, Kenshiro Kato *(Osaka University)*, Dafang Zhao *(Osaka University)*, Hiroki Nishikawa *(Osaka University)*, Ittetsu Taniguchi *(Osaka University)*, Takao Onoye *(Osaka University)*

BuildSys Best Paper Award – "RECA: A Multi-Task Deep Reinforcement Learning-Based Recommender System for Co-Optimizing Energy, Comfort and Air Quality in Commercial Buildings," Stephen Xia *(Columbia University),* Peter Wei *(Columbia University),*Yanchen Liu *(Columbia University),* Andrew Sonta *(Columbia University),* Xiaofan Jiang *(Columbia University)*

BuildSys Best Poster Award – "Action Masking for Safer Model-Free Building Energy Management," Sharath Ram Kumar *(Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, Grenoble, France),* Benoit Delinchant *(Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, Grenoble, France),* Remy Rigo-Mariani *(Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, Grenoble, France),* Arvind Easwaran *(Nanyang Technological University, Singapore)*

Conference Activity

SIGEnergy sponsors two major conferences---ACM e-Energy and ACM BuildSys---as well as a stand-alone workshop---HotCarbon.

The ACM e-Energy conference program was held in Singapore, and included 31 full papers and 10 Notes papers, as well as three keynote speakers, a poster session, and a banquet. The conference featured talks from the presentation of the SIGEnergy Doctoral Dissertation Award, the SIGEnergy Doctoral Dissertation Award Honorable Mention, and the SIGEnergy Rising Star Award, as mentioned above. The conference was well-attended. The conference continued to use a 2 deadlines per year format with both a fall and winter deadline with an opportunity for revision within each period. The

goal is to give authors more flexibility in submitting, and provide them feedback that can improve the quality of their papers

The ACM BuildSys conference was held in Istanbul, Turkey, and was co-located with ACM SenSys. The conference was well-attended with its program featuring 36 full and note paper presentations, a poster/demo session with 27 poster/demos, a joint keynote with ACM SenSys, a BuildSys-specific keynote, as well as a number of co-located BuildSys workshops.

The ACM HotCarbon workshop was held in Santa Clara, California in conjunction with the OSDI conference, and included 24 paper presentations, as well as a keynote. Prior editions of HotCarbon were also published as special issues of Energy Informatics Review.

Special Projects

SIGEnergy continued a number of initiatives from last year, including quarterly publications of Energy Informatics Review (EIR), a SIGEnergy YouTube channel to host talks (which is linked to the ACM YouTube channel and has recording from recent conferences), and a wiki page for papers from both computer science and power system communities on employing machine learning techniques for solving power system problems. SIGEnergy also hosts a monthly graduate student seminar series (https://sites.google.com/view/sigenergy-seminar/).

Issues facing the SIG

As a four year old SIG, we are still in the process of forming a community that focuses on energy systems and informatics. The lack of in-person conferences from 2020-2022 negatively affected community building activities. However, attendance at conferences over the past two years has been strong, and we are encouraged that the community is recovering. The topic of energy and sustainability is growing in importance globally, and we hope to continue to grow our membership in the coming year to ensure long-term viability of our SIG.

Finance

On the financial front, both conferences were profitable in this past year. Despite being a new SIG, the SIG's finances continue to be strong. This has allowed us to continue to offer funding for student focused events and free registrations, and travel support for in-person events.

SIGEVO FY'24 Annual Report
July 1, 2023 – June 30, 2024
Submitted by: Peter A.N. Bosman, Chair

EXECUTIVE BOARD

This year, there were no changes in the executive board.

Comments on the ways in which the SIG is a healthy and viable organization

SIGEVO continues to be in good financial shape. The main conference, GECCO, has struggled in recent years to turn a profit, but SIGEVO has healthy reserves due to many positive results in previous years. The reason for the struggles have been COVID and the (re)quest for offering a hybrid conference experience in the wake. Hybridization is complex and brings extra cost. We are in the process of learning from previous years how to ensure that GECCO can stay within budget in the future while still offering a hybrid mode.

SIGEVO gave out 11k for student travel grants (to attend GECCO). We plan to increase this amount by 1k each year in the coming years.

This was the first time that GECCO went to Australia (because a sizeable community in Australia and New Zealand now exists). This was already planned to happen in 2022, but the tail-end of COVID caused Australia to open late and we decided to divert that year to Boston, USA.

As in the last two years, GECCO was a hybrid event, which allowed not only remote participation but also remote presentation. The hybrid format was a again a success. Switching between online and on-site presentations and questions/interaction was especially smooth this year as we were in a well-equipped conference center with good local support.

We had fewer participants than last year. This year we had a total of 666 participants (57% onsite, 43% online), while last year we had 1k participants in total. Sustainability issues and awareness have only grown in the last few years, which is expected to be a key reason why the number of onsite participants was relatively small, especially with the conference being in Australia. Moreover, this year we raised the registration fee for online participants from 0$ to 50$ for ACM (SIGEVO) members. Even so, the total number of participants was normal for GECCO, especially in an even year (when there is also the European PPSN conference in September that serves largely the same field). The total number of paper submissions was 498, while last year it was 519 and the 5-year running average was 445. As such, SIGEVO and its main conference GECCO can only be considered to be healthy and viable.

Describe your efforts related to Diversity, Equity, and Inclusion

We continue to work on diversity, equity, and inclusion. The women-at-GECCO workshop was again a great success with many participants and interesting discussions and is increasingly advertised as a generic diversity workshop rather than a women-only workshop.

The Editor in Chief of GECCO was female this year, as is the case also for 2025. Furthermore, 43% of all track chairs for GECCO 2024 were female.

As we continue to run GECCO as a hybrid event with lower costs for online participation, we continue to improve inclusiveness, enabling more submissions from underrepresented countries.

Provide a list of awards and recipients

SIGEVO Awards

- Outstanding Contribution Award
  - Anne Auger
  - Franz Rothlauf
- Impact Award
  - Ignacio Arnaldo, Krzysztof Krawiec, and Una-May O'Reilly. 2014. Multiple regression genetic programming. In Proceedings of the 2014 Annual Conference on Genetic and Evolutionary Computation (GECCO '14). Association for Computing Machinery, New York, NY, USA, 879–886. https://doi.org/10.1145/2576768.2598291
  - Jan Koutník, Juergen Schmidhuber, and Faustino Gomez. 2014. Evolving deep unsupervised convolutional networks for vision-based reinforcement learning. In Proceedings of the 2014 Annual Conference on Genetic and Evolutionary Computation (GECCO '14). Association for Computing Machinery, New York, NY, USA, 541–548. https://doi.org/10.1145/2576768.2598358
- Dissertation Award
  - Anton Bouter. 2023. Optimal Mixing Evolutionary Algorithms for Large-Scale Real-Valued Optimization Including Real-World Medical Applications. Delft University of Technology.
- Chair Lecture
  - Una-May O'Reilly. Coevolution in Natural and Artificial Systems.

GECCO awards

- Best Paper Awards
  - These awards are arguably the most important awards of the conference. Multiple best paper awards were given out across different tracks, or combinations of tracks. The categories for best paper awards were

determined following established GECCO rules: tracks with at least 20 paper submissions are eligible for a separate best paper award; smaller tracks need to be combined to meet this threshold.

- Competitions
    - 13 competitions were held at GECCO-2024 with individual awards (and prizes).
- Humies
    - The Humies are a special type of award that is associated with human-competitive applications of evolutionary computation methods. Entries must pertain to publications that appeared in the last year and must adhere to various eligibility criteria. A panel of five independent judges is responsible for the selection of cash prize winners (Bronze, Silver, and Gold) for what comprises in total $10,000. The prize money is donated by Third Millennium Online Products Inc. There were 16 eligible entries this year, of which 8 were selected as finalists. The finalists presented their entries during GECCO in front of the judges and other interested GECCO attendees. As the Humies are considered to be important for our field, a non-parallel session slot was used for this at GECCO, making it possible for all GECCO attendees to be present. Two bronze awards were given out this year, one silver award, and one gold award.

List significant papers on new areas that were published in proceedings

To identify significant papers on new areas is a difficult task, as many breakthroughs only become viewed as breakthroughs a few years after they have been published. Nevertheless, it is clear that this year marked the broader exploration of the use of large language models in/for/with evolutionary computation. The following papers pertain to this:

- Camilo Chacón Sartori, Christian Blum, and Gabriela Ochoa. 2024. Large Language Models for the Automated Analysis of Optimization Algorithms. In Proceedings of the Genetic and Evolutionary Computation Conference (GECCO '24). Association for Computing Machinery, New York, NY, USA, 160–168. https://doi.org/10.1145/3638529.3654086
- Adam Gaier, James Stoddart, Lorenzo Villaggi, and Shyam Sudhakaran. 2024. Generative Design through Quality-Diversity Data Synthesis and Language Models. In Proceedings of the Genetic and Evolutionary Computation Conference (GECCO '24). Association for Computing Machinery, New York, NY, USA, 823–831. https://doi.org/10.1145/3638529.3654138
- Steven Jorgensen, Giorgia Nadizar, Gloria Pietropolli, Luca Manzoni, Eric Medvet, Una-May O'Reilly, and Erik Hemberg. 2024. Large Language Model-based Test Case Generation for GP Agents. In Proceedings of the Genetic and Evolutionary Computation Conference (GECCO '24). Association for Computing Machinery, New York, NY, USA, 914–923. https://doi.org/10.1145/3638529.3654056

- Muhammad Umair Nasir, Sam Earle, Julian Togelius, Steven James, and Christopher Cleghorn. 2024. LLMatic: Neural Architecture Search Via Large Language Models And Quality Diversity Optimization. In Proceedings of the Genetic and Evolutionary Computation Conference (GECCO '24). Association for Computing Machinery, New York, NY, USA, 1110–1118. https://doi.org/10.1145/3638529.3654017
- Martina Saletta and Claudio Ferretti. 2024. Exploring the Prompt Space of Large Language Models through Evolutionary Sampling. In Proceedings of the Genetic and Evolutionary Computation Conference (GECCO '24). Association for Computing Machinery, New York, NY, USA, 1345–1353. https://doi.org/10.1145/3638529.3654049

Describe conference activity

GECCO 2024

- Event held in Melbourne, Australia, July 14-18.
- Good number of submissions (498).
- High number of participants: 666 (57% onsite and 43% online).
- Continued positive experience on running the event hybrid, featuring online presentations and participation. Future GECCOs will also be hybrid.
- Whova as a platform is well accepted by attendees.

GECCO 2025

- Event will be held in Europe, in July.

FOGA 2025

- A decision has been made to streamline the organization of FOGA more like GECCO, with a business committee in place, and to make FOGA more accessible to a somewhat larger audience. FOGA was always aimed at highly theoretical work of a particular nature, drawing only a very specific crowd. The idea is to broaden FOGA to cover the entire spectrum of submissions from rigorously derived mathematical results to carefully crafted empirical studies that can still clearly be labeled as foundational to our field.
- FOGA 2025 will be held in Leiden, The Netherlands, in August.

Comment on special projects and non-conference programs that provided service to some part of your technical community

As every year, a successful summer school for students was organized just before GECCO.

A very brief summary of the key issues that SIG membership will have to deal with in the next 2-3 years.

- Continue to optimize the hybrid format of GECCO to the point where it works smoothly while not being a big issue for the budget.
- Increasing sustainability. In a world where climate change becomes ever more impactful, it is important that we keep considering the impact of organizing a conference. Continuing to offer a hybrid mode is one important way to keep contributing to sustainability, but further ways to contribute should be explored.
- Last, but actually the most important, is ACM Open. GECCO 2026 will be the first conference that will fall under the new ACM Open regulations. For GECCO 2024, only 40% of the full conference papers fall under an ACM institutional agreement. It is unclear at the moment how willing the (institutions of the) authors of the remaining 60% are to acquire an agreement with ACM or to pay the APCs for individual papers so as to be able to continue to have their work at GECCO. During the opening and closing session of GECCO 2024, the SIGEVO Chair (Peter A.N. Bosman) therefore raised awareness and made a call to action to have researchers talk to their libraries about the situation. Moreover, a questionnaire was sent out to all GECCO participants to poll the impact of moving to ACM Open. We are currently awaiting the outcome thereof. The general consensus among the SIGEVO Officers and executive committee is that we are in a volatile and highly uncertain situation at the moment which may potentially threaten the future existence of GECCO. Given that awareness was now created directly amongst SIGEVO community members, a first impact may be observed in the GECCO 2025 submission numbers.

SIGGRAPH Annual Report
July 1, 2023- June 30, 2024
Submitted By: Mona Kasra, Chair

Overview

ACM SIGGRAPH, the premier organization for Computer Graphics and Interactive Techniques, remains committed to fostering innovation, excellence, and an inclusive, equitable culture. We celebrate groundbreaking research and techniques by providing a platform for the exchange of knowledge and ideas through workshops, symposia, conferences, and publications. ACM SIGGRAPH recognizes and honors outstanding contributions to computer graphics and interactive techniques, while encouraging ongoing growth within our community. Strengthening and expanding our community is a top priority for ACM SIGGRAPH. We provide opportunities for networking, collaboration, and mentoring to help members advance professionally and personally, cultivating a supportive and inclusive environment for all.

ACM SIGGRAPH is governed by an Executive Committee (EC), consisting of nine elected directors and three appointed members. The directors annually select officers: Chair, Chair-Elect, Treasurer, and Treasurer-Elect. Our organization currently encompasses 23 volunteer-led committees (Standing, Advisory Board, Ad Hoc, and Strategy) that support the organization's mission throughout the year. These committees offer plenty of resources, learning opportunities, and networking events to our members year-around.

During the fiscal year 2023-2024, the ACM SIGGRAPH Executive Committee (EC) initiated several initiatives. These included investigating new ways to boost member benefits and improve communication with members and volunteers, as well as strengthening strategic alignment within organizational activities and partnerships. The latter initiative led the EC to explore ways to increase efficiency and streamline organizational efforts. As a result, several areas for improvement were identified:

- Reevaluating organizational efforts to ensure alignment with strategic objectives
- Consolidating some committee efforts to enhance efficiency and minimize redundancy
- Phasing out a few committees whose focus no longer aligned with strategic objectives
- Reassessing the budget planning process for greater transparency and effectiveness
- Revising the format and process for submitting annual committee reports

Additionally, the EC made significant progress towards preparing the organization for ACM's transition to open access.

Throughout the year, the EC held regular, agenda-packed virtual meetings via Zoom for one hour every other week. Additionally, they convened in-person for two-day meetings in October 2023 (Chicago, IL) and April 2024 (Santa Clara, CA). A five-hour virtual leadership meeting was also held with the Chairs of all Standing Committees in February 2024.

Our organization continues to have both healthy membership and fund balance. Our flagship conferences (SIGGRAPH & SIGGRAPH Asia) in the fiscal year 2023-2024 were successful. SIGGRAPH celebrated its 50th anniversary with a week-long event in Los Angeles, which saw great attendance following the pandemic. An international audience of more than 14,275 attendees from 78 countries attended the in-person conference and its Virtual Access component.

Outside of our two flagship conferences, ACM SIGGRAPH monitored and supported 19 specialized events, consisting of 7 sponsored events, 7 co-sponsored events, and 5 in cooperation events. Financially, the sponsored and co-sponsored events have been successful in that they tend to run small surpluses. Some of these events are published in PACM CGIT, which has seen its impact grow.

Efforts Related to Diversity, Equity, and Inclusion

ACM SIGGRAPH is committed to honoring and promoting the diversity and inclusion of disciplines, ideas, innovations, journeys, and individuals within the SIGGRAPH community. In FY'23-24, we initiated ACM SIGGRAPH's Underrepresented Communities Travel Grant on a pilot scale for the first time at SIGGRAPH 2023. Based on the insights gained, a dedicated committee was then established by the Executive Committee (EC) to determine the grant's criteria, scope, and logistics for SIGGRAPH 2024. The EC supervised the committee's efforts, selecting five deserving recipients to attend SIGGRAPH 2024. The current grant is limited to the SIGGRAPH conference; however, the long-term goal is to expand it to all conferences. The EC gathered invaluable knowledge from these two experiences, which will be utilized to optimize the grant application and selection process's equity and effectiveness in the future.

We have a dedicated DEI Standing committee whose members offer expertise and resources to our conferences and organization. In the past year, our DEI Committee undertook various initiatives such as organizing or collaborating on several panel discussions, managing the Underrepresented Communities Travel Grant, and developing an outline and framework for a revised DEI website page which is set to launch by September 2024. Furthermore, the ACM SIGGRAPH DEI Chair served as DEI liaison and committee member for the SIGGRAPH conference committee, offering assistance, conducting sessions, and providing unconscious bias learning opportunities for conference committee members.

In addition to the DEI Committee, many of our programs are actively working to increase diversity, equity, and inclusion within their offerings. For example, the ACM SIGGRAPH Digital Arts Committee (DAC) consistently extends invitations to diverse

communities, encouraging their participation in DAC's monthly webinars (SPARKS) and online Exhibition opportunities. Notable successes include the Queer Digital Art Now SPARKS session in March 2024.

Similarly, WiGRAPH, an ACM SIGGRAPH Affinity Group for Women in Computer Graphics Research, aims to increase the number of women pursuing cutting-edge research in computer graphics. The program specifically supports this community, welcoming all women (cis and trans) who are either established researchers or interested in exploring the path to becoming researchers in computer graphics. Launched in 2022, their Rising Stars in Computer Graphics program is designed to encourage people of underrepresented genders to become research leaders in computer graphics. This is a two-year program tailored for researchers who expect to be on the job market within the next two years. Announced in May, 2024, ten up-and-coming researchers selected to participate in WiGRAPH's Rising Stars program, a two-year program of mentorship and workshops co-located with SIGGRAPH 2024 and 2025.

Women of SIGGRAPH Conversations (WOSC) also hosted several sessions at SIGGRAPH 2023 and SIGGRAPH Asia 2023 to connect, empower, and develop women in computer graphics and interactive techniques by providing opportunities for professional advancement and promoting community.

In the upcoming year, ACM SIGGRAPH intends to continue establishing a robust DEI foundation within the organization. Plans include exploring methods for hosting DEI professional development workshops for EC and Standing Committee Chairs, expanding the call for participation for the Underrepresented Travel Grant for SIGGRAPH 2025, and integrating DEI into all organizational initiatives, such as the nomination process for Standing Committee chairs and Executive Committee director candidates, as well as selecting subcommittees.

Awards and Recipients

Each year, ACM SIGGRAPH presents awards recognizing exceptional achievements in computer graphics and interactive techniques at the ACM SIGGRAPH Conference.

Steven Anson Coons Award for outstanding creative contributions to computer graphics is presented in odd-numbered years to honor an individual who has made a lifetime contribution to computer graphics and interactive techniques. The award includes a $6,000 cash prize and a specially commissioned statue. The 2023 recipient was Marie-Paule Cani.

Computer Graphics Achievement Award is given to an individual for outstanding achievement in computer graphics and interactive techniques. The award includes a prize of $2,000. The 2023 recipient was Wolfgang Heidrich.

Significant New Researcher Award is given to a researcher who has made a recent, significant contribution to the field of computer graphics and is new to the field (i.e., received their Ph.D. or the equivalent up to seven years ago). The intent is to recognize people who have already made a notable contribution very early in their careers and are likely to make more. The award includes a $1,000 cash prize. The 2023 recipient was Felix Heide.

Outstanding Doctoral Dissertation Award recognizes a recent doctoral candidate who has successfully defended and completed their Ph.D. dissertation in computer graphics and interactive techniques. The 2023 recipient was Cheng Zhang.

Distinguished Artist Award is presented annually to an artist who has created a substantial and important body of work that significantly advances aesthetic content in the field of digital art.

The 2023 recipient was Paul Brown.

Practitioner Award recognizes outstanding contributions to the practice and advancement of Computer Graphics and Interactive Techniques. The award recognizes the very best and most influential applications and practitioners. The award includes a $2,000 cash prize.

The 2023 recipient was Ken Museth.

Distinguished Educator Award recognizes outstanding pedagogical contributions to computer graphics and interactive techniques at any educational level or within the context of any discipline. The 2023 recipient was Scott Owen.

Outstanding Service Award is presented annually to recognize a career of outstanding service to ACM SIGGRAPH by a volunteer. The award includes a lifetime membership in ACM SIGGRAPH. The 2023 recipient was Lee Yong Tsui.

Significant papers

The research activities within ACM SIGGRAPH continue to be pioneering, vibrant, and thriving. Highlighting some of the most groundbreaking contributions to SIGGRAPH 2023 and SIGGRAPH Asia 2023, the following papers serve as a sample of the cutting-edge research published in 2023, showcasing the diversity and depth of innovation within the ACM SIGGRAPH community:

"3D Gaussian Splatting for Real-Time Radiance Field Rendering"

Bernhard Kerbl, Georgios Kopanas, Thomas Leimkuehler, George Drettakis

*An extremely influential, impactful and transformative paper

"Split-Lohmann Multifocal Displays"

Yingsi Qin, Wei-Yu Chen, Matthew O'Toole, Aswin C. Sankaranarayanan

"Differentiable Stripe Patterns for Inverse Design of Structured Surfaces"

Juan Sebastian Montes Maestre, Yinwei Du, Ronan Hinchet, Stelian Coros, Bernhard Thomaszewski

"Globally Consistent Normal Orientation for Point Clouds by Regularizing the Winding-Number Field"

Rui Xu, Zhiyang Dou, Ningna Wang, Shiqing Xin, Shuangmin Chen, Mingyan Jiang, Xiaohu Guo, Wenping Wang, Changhe Tu

"DOC: Differentiable Optimal Control for Retargeting Motions Onto Legged Robots"

Ruben Grandia, Farbod Farshidian, Espen Knoop, Christian Schumacher, Marco Hutter, Moritz Bächer

"Fluid Simulation on Neural Flow Maps"

Yitong Deng, Hong-Xing Yu, Diyang Zhang, Jiajun Wu, Bo Zhu

"Adaptive Shells for Efficient Neural Radiance Field Rendering"

Zian Wang, Tianchang Shen, Merlin Nimier-David, Nicholas Sharp, Jun Gao, Alexander Keller, Sanja Fidler, Thomas Müller, Zan Gojcic

"Concept Decomposition for Visual Exploration and Inspiration"

Yael Vinker, Andrey Voynov, Daniel Cohen-Or, Ariel Shamir

"Meshes with Spherical Faces"

Martin Kilian, Anthony S Ramos Cisneros, Christian Müller, Helmut Pottmann

"PerfectDart: Automatic Dart Design for Garment Fitting"

Charles de Malefette, Anran Qi, Amal Dev Parakkat, Marie-Paule Cani, Takeo Igarashi

"Warped-Area Reparameterization of Differential Path Integrals"

Peiyu Xu, Sai Bangaru, Tzu-Mao Li, Shuang Zhao

Flagship Conference Activity (SIGGRAPH & SIGGRAPH Asia)

SIGGRAPH 2023

LOS ANGELES - SIGGRAPH 2023, the premier conference and exhibition on computer graphics and interactive techniques, took place 6-10 August 2023, marking its 50th year of breakthroughs and innovation. The conference provided a platform for innovators to share their exceptional contributions in digital art, technology, computer science, and other related content. An international audience of more than 14,275 attendees from 78 countries enjoyed the conference and its Mobile and Virtual Access component.

Highlights from the conference include SIGGRAPH 2023 Keynote Speakers Dr. Darío Gil, IBM Senior Vice President and Director of Research, and Kathryn Kleiman, Founder of the ENIAC Programmers Project, Author, Lawyer, and Professor at American University Washington College of Law. The History Time Tunnel, sponsored by Autodesk, was an immersive and interactive experience that showcased the history of SIGGRAPH conferences and computer graphics. The Technical Papers program continues to be the premier venue for showcasing the most cutting-edge research results from computer graphics and interactive techniques. Papers Fast Forward allowed participants to get a glimpse of all the research papers from the Technical Papers and Art Papers programs. Installations from previous conferences, playable retro video games, and a display of all Pixar Renderman walking teapots were showcased in the Blasts From the Past exhibit. The Experience Hall is where the Art Gallery featured a Retrospective of Female Digital Art Pioneers, while Emerging Technologies and the Immersive Pavilion showcased the latest in technological innovations. With Labs, participants got hands-on experiences with new techniques. Real-Time Live! was live streamed for the first time on Twitch, along with the in-person experience. The live audience and Twitch viewers were amazed by the latest

technologies with interactive visuals in real time. As storytelling and the growth of virtual reality content expands, the VR Theater presented the latest in immersive narratives. The Electronic Theater presented animation excellence across 22 featured films. In Production Sessions, the teams from recent productions highlighted behind-the-scenes creativity, innovation, and collaboration. Mobile and Virtual Access showed strong engagement, with an average of 100 users per minute logging on to explore SIGGRAPH 2023 content. The top three most popular sessions interacted with on Mobile and Virtual Access included "Stylized Rendering Techniques," "Practical Proceduralism in Production," and "Neural Fields for Visual Computing."

SIGGRAPH 2023 Awardees are as follows:

Art Gallery
        Best in Show — "Reinventing the Spindle"
        Ebru Kurbak, University of Applied Arts Vienna

Art Papers

Best Art Paper — "Movement Quality Visualization for Wheelchair Dance"
Yurui Xie, Giulia Barbareschi, Ayesha Nabila, Kai Kunze, Masa Inakage, Keio University Graduate School of Media Design

Electronic Theater

Best in Show — "La Diplomatie de L'éclipse"
[qualifier for the Academy of Motion Picture Arts & Sciences]
César Luton, Ecole MoPA

Jury's Choice [tie] — "The Voice in the Hollow"
Miguel Ortega, half MT studios

Jury's Choice [tie] — "Overwatch: Kiriko"
Jeremiah Johnson and Dave Stephens, Blizzard Entertainment

Best Student Project — "Swing to the Moon"
Marie Bordessoule, Elisa Drique, Solenne Moreau, Adriana Bouissié, Vincent Levrero, Nadine de Boer, Chloé Lauzu, ESMA

Audience Choice* — "Boom"
Gabriel Augerai, Romain Augier, Laurie Pereira De Figueiredo, Charles Di Cicco, Yannick Jacquin, Miyu Distribution

Emerging Technologies

Best in Show — "Reprojection-free VR Passthrough"
Grace Kuo, Eric Penner, Seth Moczydlowski, Alex Ching, Douglas Lanman, Nathan Matsuda, Reality Labs Research, Meta

Audience Choice — "Retinal-resolution Varifocal VR"
Yang Zhao, Dave Lindberg, Bruce Cleary, Olivier Mercier, Ryan McClelland, Eric Penner, Yu-Jen Lin, Julia Majors, Douglas Lanman, Reality Labs Research, Meta

Immersive Pavilion

Best in Show — "Actualities: Seamless Live Performance With the Physical and Virtual Audiences in Multiverse"
Ke-Fan Lin, Yu-Chih Chou, Yu-Hsiang Weng, Yvone Tsai Chen, Zin-Yin Lim, Ping-Hsuan Han, National Taipei University of Technology; Chi-Po Lin, HcMusic Co., Ltd.; Tse-Yu Pan, National Taiwan University of Science and Technology

Real-Time Live!

Best in Show — "Interactive AI Material Generation and Editing in NVIDIA Omniverse"
Hassan Abu Alhaija, James Lucas, Alexander Zook, Michael Babcock, David Tyner, Rajeev, Rao, Maria Shugrina, NVIDIA

Audience Choice* — "Real-time Stage Modelling and Visual Effects for Live Performances"
Taehyun Rhee, Andrew Chalmers, Faisal Zama, Anna Stangnes, Vic Roberts, Computational Media Innovation Centre, Victoria University of Wellington

Technical Papers
Best Paper Awards —

"Split-Lohmann Multifocal Displays"
Yingsi Qin, Wei-Yu Chen, Matthew O'Toole, Aswin C. Sankaranarayanan, Carnegie Mellon University

"3D Gaussian Splatting for Real-Time Radiance Field Rendering"

Bernhard Kerbl, Inria, Université Côte d'Azur; Georgios Kopanas, Inria, Université Côte d'Azur; Thomas Leimkuehler, Max-Planck-Institut für Informatik; George Drettakis, Inria, Université Côte d'Azur

"Differentiable Stripe Patterns for Inverse Design of Structured Surfaces"

Juan Sebastian Montes Maestre, Yinwei Du, Ronan Hinchet, Stelian Coros, Bernhard Thomaszewski, ETH Zürich

"Globally Consistent Normal Orientation for Point Clouds by Regularizing the Winding-Number Field"

Rui Xu, Shandong University; Zhiyang Dou, The University of Hong Kong; Ningna Wang, The University of Texas at Dallas; Shiqing Xin, Shandong University; Shuangmin Chen, Qingdao University of Science and Technology; Mingyan Jiang, Shandong University; Xiaohu Guo, The University of Texas at Dallas; Wenping Wang, Texas A&M University; Changhe Tu, Shandong University

"DOC: Differentiable Optimal Control for Retargeting Motions Onto Legged Robots"

Ruben Grandia, Disney Research Imagineering; Farbod Farshidian, ETH Zürich; Espen Knoop, Disney Research Imagineering; Christian Schumacher, Disney Research Imagineering; Marco Hutter, ETH Zürich; Moritz Bächer, Disney Research Imagineering

Honorable Mentions —

"GestureDiffuCLIP: Gesture Diffusion Model With CLIP Latents"

Tenglong Ao, Zeyi Zhang, Libin Liu, Peking University

"Word-as-image for Semantic Typography"

Shir Iluz, Tel Aviv University; Yael Vinker, Tel Aviv University; Amir Hertz, Tel Aviv University; Daniel Berio, Goldsmiths University of London; Daniel Cohen-Or, Tel Aviv University; Ariel Shamir, Reichman University

"Sag-Free Initialization for Strand-Based Hybrid Hair Simulation"

Jerry Hsu, University of Utah, LightSpeed Studios, Tencent America; Tongtong Wang, LightSpeed Studios, Tencent America; Zherong Pan, LightSpeed Studios, Tencent America; Xifeng Gao, LightSpeed Studios, Tencent America; Cem Yuksel, University of Utah, Roblox Research; Kui Wu, LightSpeed Studios, Tencent America

"Deployable Strip Structures"

Daoming Liu, King Abdullah University of Science and Technology (KAUST); Davide Pellis, ISTI-CNR; Yu-Chou Chiang, National Chung Hsing University; Florian Rist, King Abdullah University of Science and Technology (KAUST); Johannes Wallner, TU Graz; Helmut Pottmann, King Abdullah University of Science and Technology (KAUST)

"Towards Attention-Aware Rendering"

Brooke Krajancich, Stanford University; Petr Kellnhofer, TU Delft; Gordon Wetzstein, Stanford University

"Random-access Neural Compression of Material Textures"

Karthik Vaidyanathan, Marco Salvi, Bartlomiej Wronski, Tomas Akenine-Moller, Pontus Ebelin, Aaron Lefohn, NVIDIA

"Learning Physically Simulated Tennis Skills From Broadcast Videos"

Haotian Zhang, Stanford University; Ye Yuan, NVIDIA; Viktor Makoviychuk, NVIDIA; Yunrong Guo, NVIDIA; Sanja Fidler, NVIDIA, University of Toronto; Xue Bin Peng, NVIDIA, Simon Fraser University; Kayvon Fatahalian, Stanford University

"Min-Deviation-Flow in Bi-directed Graphs for T-Mesh Quantization"

Martin Heistermann, University of Bern; Jethro Warnett, University of Oxford; David Bommes, University of Bern

SIGGRAPH 2023 saw the launch of the annual Test-of-Time Awards to papers that have had a significant and lasting impact on computer graphics and interactive techniques over at least a decade.

Test-of-Time Awards —

"Functional Maps: A Flexible Representation of Maps Between Shapes" (2012)
Maks Ovsjanikov, Mirela Ben-Chen, Justin Solomon, Adrian Butscher, Leonidas Guibas

"Eulerian Video Magnification for Revealing Subtle Changes in the World" (2012)
Hao-Yu Wu, Michael Rubinstein, Eugene Shih, John Guttag, Frédo Durand, William Freeman

"HDR-VDP-2: A Calibrated Visual Metric for Visibility and Quality Predictions in All Luminance Conditions" (2011)
Rafal Mantiuk, Kil Joong Kim, Allan G. Rempel, Wolfgang Heidrich

"Optimizing Locomotion Controllers Using Biologically-based Actuators and Objectives" (2012)
Jack M. Wang, Samuel R. Hamner, Scott L. Delp, Vladlen Koltun

VR Theater

Best in Show — "Missing 10 Hours VR"
Fanni Fazakas, RUMEXR, Victoria University of Wellington; Noemi Szakonyi, Mate Vincze, Match-Frame Productions

*Vote tallied on-site via survey poll.

*Best in Show awards determined by a jury; Audience Choice awards determined by the live audience.

SIGGRAPH Asia 2023

SYDNEY - The SIGGRAPH Asia 2023 conference took place 12 -15 December 2023 at the iconic International Convention Centre Sydney (ICC Sydney). The event marked a tremendous success in shaping the future of animation, virtual reality, artificial intelligence, and related computer graphics and interactive techniques technologies. With 5,690 attendees hailing from more than 40 countries and featuring 30 exhibiting brands, the conference and exhibition exemplified the industry's vibrant dynamism and rapid growth.

Featured sessions included speakers Rob Bredow of Industrial Light & Magic, and Paul Debevec of Netflix, who offered unique perspectives, touching on themes ranging from the synergy of art and technology to the frontiers of virtual production. Forward-thinking panels delved into the latest trends in Character Animation, VFX, Digital Humans, and the future of computer animation tools. The Conference also took a compelling look into how a hybrid society is emerging via extended reality by exploring how with Digital Twin, artifacts, space, and humans can be replicated in a digital form. One of the highlights

was a real-time demonstration that demonstrated how digital twins, big data visualization, and extended reality can connect from Sydney to other cities via Super Speed Connectivity.

Computer Animation Festival Award Winners

Best in Show — "Moirai - Thread of Life"

Ina Conradi and Mark Chavez, directors; Conradi, producer (Nanyang Technological University, School of Art)

Best Student Project — "Thaba Ye"

Preetam Dhar, Daria Batueva, Hannah Judd, Mogau Kekana, Merel Hamers, and Leroy Le Roux, directors; Cécile Blondel, producer (Gobelins l'école de l'image)

Honorable Mentions —

"Quem Salva"

Laure Devin, Maxime Bourstin, Nathan Medam, Charles Hechinger, and Titouan Jaouen, directors; Philippe Meis, producer (Supinfocom Rubika)

"Loup y es-tu ?" -

Louise Laurent, Alizée Van De Valle, Emma Fessart, Jeanne Galland, Célina Lebon, and Annouck Françoise, directors/producers (Supinfocom Rubika)

Jury Special — Hair Universe

Jinuk Choi, director/producer (Kotory Studio)

Emerging Technologies Award Winners

Best Demonstration Award (Best in Show) — "Synced Drift: A Novel Sport Using a System that Harmonises Human Movement to Transcend Distance and Ability"

Ryoichi Ando, Giulia Barbareschi, Midori Kawaguchi, Kouta Minamizawa

Best Student Demo — "FIRE: Mid-Air Thermo-Tactile Display"

Yatharth Singhal, Haokun Wang, Jin Ryong Kim

People's Choice —"Visual-gestural Interface for Auslan Virtual Assistant"

Maria Zelenskaya, Scott Whittington, Julie Lyons, Adele Vogel, Jessica Korte

Real-Time Live! Award Winners

Best in Show — "Big Sand"

Sandy Coleman

People's Choice — "Big Sand"

Sandy Coleman

Technical Papers Award Winners

Best Paper — "PerfectDart: Automatic Dart Design for Garment Fitting"

Charles Malefette (Ecole Polytechnique), Anran Qi (University of Tokyo), Amal Dev PARAKKAT (LTCI - Telecom Paris, Institut Polytechnique de Paris), Marie-Paule Cani (LIX - Ecole Polytechnique, Institut Polytechnique de Paris), Takeo Igarashi (University of Tokyo).

Honorable Mention — "Bounded VNDF Sampling for Smith–GGX Reflections"

Kenta Eto (Advanced Micro Devices, Inc.), Yusuke Tokuyoshi (Advanced Micro Devices, Inc.)

XR Awards

XR Theater Best in Show — "Fresh Memories: The Look "

Ondrej Moravec

XR Theater Audience Awards— "Missing 10 Hours"

Fanni Fazakas

XR Demo Best in Show — "Transcale: Embodiment transition toward Multi-verse exploration "
Haruka Onoda, Sohei Wakisaka, Kouta Minamizawa

XR Demo Audience Awards— " PerfectFit: Custom-Fit Garment Design In Augmented Reality "

Akihiro Kiuchi, Anran Qi, Eve Mingxiao Li, Dávid Maruscsák, Christian Sandor, Takeo Igarashi

Special Projects and Non-Conference programs & Activities

Our organization currently encompasses 23 volunteer-led committees (Standing, Advisory Board, Ad Hoc, and Strategy) that support the organization's mission throughout the year. These committees offer plenty of resources, learning opportunities, and networking events to our members year-around. Here are a few highlights of the non-conference activities and programs led by ACM SIGGRAPH leadership:

Chapters

Our commitment to the growth of the worldwide chapters community continues. ACM SIGGRAPH Chapters Committee, provides technology, community connections, emotional encouragement and more for the hundreds of chapter events that happen all over the world all year-round. They also hosted webinars and chapter leader meetings to enrich the leaders' experiences. Currently, there are 42 active chapters, and the most impressive achievement in FY'23-24 was our chartering of 8 new chapters.

Digital Arts Committee (DAC)

ACM SIGGRAPH Digital Arts Committee fosters year-round engagement and dialogue within the digital, electronic, computational, and media arts. They facilitate dynamic scholarship and creative programming within the ACM SIGGRAPH organization. In FY'23-24, DAC organized a student competition (co-sponsored with ISEA2024) *Speculative Futures Digital Arts Student Competition*, organized and juried two online art exhibitions *Future of Reality: Post-Truths, Digital Twins, and Doppelgängers* and *Monuments to the Pluriverse,* and hosted 8 webinar sessions (SPARKS Series) throughout the year on the following topics:

- Sep 2023: SIGGRAPH 2023 Art Gallery Artist Talks
- Oct 2023: Creative Graphic Design using New Technology for the Future
- Dec 2023: Robotic Art: Social and Aesthetic Dimensions, Session I & II
- Jan 2024: Recap of Art Papers at SIGGRAPH Asia 2023 in Sydney
- Feb 2024: Pioneering Interactive Art and Artists from the 1960s to 2000
- Mar 2024: Queer Digital Art Now
- Apr 2024: Anticipating the Architecture(s) of The Future – Speculative Arts & Design Research: Theory & Practice
- Jun 2024: SIGGRAPH 2024 Sneak Preview

The DAC's juried online exhibitions and monthly SPARKS sessions have effectively fostered engagement and dialogue. And the introduction of the student competition and exhibition has created valuable opportunities for students.

Education Committee

The ACM SIGGRAPH Education Committee works diligently to support educators in computer graphics and interactive techniques. This encompasses technical, creative, applied, and interdisciplinary studies at all post-secondary levels that intersect curricular areas of computer science, engineering, art, design, and related disciplines. Their activities include the annual online/virtual Symposium on Innovation, Research & Experiences in Education (SOIREE), which provides non-conference activities and benefits for members of the SIGGRAPH educational community. The third annual ACM SIGGRAPH Education Committee SOIREE was held online on January 26, 2024. The Education Committee also hosted Faculty Submitted Student Work (FSSW), SpaceTime graphic design/poster student competition, providing a platform for faculty

members to share student assignments and student work in response to the assignments. In 2023, 21 different schools representing 62 assignments from 42 different faculty members were submitted and included 339 samples. This represents a 40% increase in the number of schools participating with a 28% increase in the number of student works submitted compared to 2022. A 70-minute show reel was assembled by the committee and shown at the educators program opening sessions at both SIGGRAPH 2023 in Los Angeles and SIGGRAPH Asia 2023 in Sydney. The Education Committee also managed the In Good Company initiative, which records and posts interviews with educators and industry representatives on topics of interest to the educational community.

<u>History Committee</u>

The ACM SIGGRAPH History Committee mission is to collect and preserve materials related to the history of ACM SIGGRAPH, its conferences, and its other activities and to make the materials available to scholars, ACM SIGGRAPH members, ACM SIGGRAPH stakeholders, and the public. Amongst many other activities, the History Committee provided two publications to celebrate the 50th anniversary of SIGGRAPH Conference last year:

- Mary C. Whitton (Ed.). 2023. Seminal Graphics Papers: Pushing the Boundaries, Volume 2 (1st. ed.). ACM Overlay Books, Vol. Volume 2. Association for Computing Machinery, New York, NY, USA. https://doi.org/10.1145/3596711

Note: Vol 1 was published at the 25th conference in 1998

- D. Kasik, M. Whitton and C. Johnson (Ed.), 2023. "The Big 50: Celebrating 50 ACM SIGGRAPH Conferences," IEEE Computer Graphics and Applications, vol. 43, no. 04, pp. 12-80. doi: 10.1109/MCG.2023.3266086

Finally, two new ACM SIGGRAPH initiatives, ad-hoc committees, are currently underway: the Design Committee, which aims to build a community of next-generation designers with ACM SIGGRAPH, and the Hybrid Society Committee, which focuses on the intersection of online presence and physical presence. These initiatives aim to expand our membership base and support the development of emerging research areas in Computer Graphics and Interactive Techniques.

Key Issues

In the coming years, ACM SIGGRAPH will face significant challenges that necessitate careful attention and adaptation. These challenges include expanding and diversifying our membership, attendees, and volunteers, and integrating DEI into organizational activities. Other challenges include rising costs due to increasing production expenses, changing attendee preferences and expectations, a decline in membership numbers, market dynamics that could impact conference sponsorships and exhibitors, economic conditions, and uncertainty regarding ACM Open Access and Digital Library revenue

stream. To address these issues and ensure ACM SIGGRAPH's long-term financial sustainability and success, the Executive Committee (EC) has initiated discussions and strategic plans which will be ongoing, including:

1. Prioritizing optimization and allocating resources effectively
2. Streamlining operations to reduce costs
3. Seeking growth in emerging topics, industries, and areas (expanding its reach and growing the membership and revenue streams)
4. Investing in volunteer development while rethinking volunteer recognition/perks
5. Maintaining transparency and accountability in all aspects of operations (e.g., clear communication regarding budgets, expenditures, and decision-making processes)

The scope of SIGHPC is high performance computing (HPC) in the broadest sense of the term - spanning the full range of high-performance technologies, systems, and applications. It embraces not only people who study, develop, teach, and support HPC, but also those engaged in applying HPC across a broad spectrum of scientific, engineering, and business domains.

Health and Viability

SIGHPC has an active and vibrant professional and student membership, four co-sponsored conferences (and many more events that are in-cooperation with the SIG), as well as a variety of fellowships, awards, and travel grants that are designed to foster a spirit of community among HPC practitioners and develop the profession. SIGHPC continues to maintain a strong financial position while still managing and growing programs for our community with a focus on educational and career building activities for members of groups historically underrepresented in computing and HPC.

Diversity, Equity, and Inclusion

SIGHPC focuses on practical programs to promote Diversity, Equity, and Inclusion (DEI) in the profession through our sponsored programs including fellowships, awards, travel grants, and sponsored programs for students at our conferences. Our contributions in these areas are highlighted in what follows.

Fellowships
The ACM SIGHPC Computational & Data Science Fellowship awarded its ninth class of fellows this year. Specifically focused on women and students from racial/ethnic backgrounds that have not traditionally participated in the computing field, the program is open to students pursuing degrees at institutions anywhere in the world. To date we have awarded a total of 81 fellowships to members of underrepresented groups in computational and data science, many with as long as 4 years of support. Awardees are given fellowships of $15,000 per year and recognized at the prestigious annual SC conference. The total awarded value of the program is $3.1M. Of the two students named as winners this year, both are women and are underrepresented minorities in their country of study. This year's fellows will be provided travel support to SC and will be recognized in the conference's awards ceremony.

Emerging Woman Leader in Technical Computing
The SIG also sponsors the SIGHPC Emerging Woman Leader in Technical Computing Award, an annual award open to any woman who has engaged in HPC and technical computing research, education, and/or practice for 5-15 years since receiving her

highest degree. This international award creates a new career milestone achievement, and also establishes a cohort of role models for students and professionals who are just getting started in our field. The awardee is recognized at the SC awards ceremony with a $2,000 cash prize, a plaque, and travel support to SC.

Travel Grants
Student travel and early career grants help build the HPC workforce pipeline, and ensure that new voices can participate in our largest conferences. SIGHPC offers travel grants to all four of its co-sponsored conferences. After launching early career travel grants in 2022, SIGHPC has seen enthusiastic participation from our conferences and travel grant awardees. This year SIGHPC provided travel grant funding for the SIGARCH HPDC conference to address a funding gap for travel support.

HPC Immersion
The SIG continued its effort to spark interest among undergraduates in computing and HPC through its HPC Immersion (HPCI) program, now in its fifth year. HPCI engages students in the SC conference and provides them with guides and mentors to support and engage them during the conference. The HPCI program targets undergraduate students from communities traditionally under-represented in HPC with little to no experience in HPC, often from smaller four-year institutions and community colleges. Students receive training on the basics of HPC leading up to the conference and each student participates in a Guided Interest Group (GIG), led by an SC Lead Student Volunteer on a technical topic. The GIG leads plan a schedule of sessions related to a particular topic (e.g., machine learning, visualization) and coordinate pre- and post-session discussions for the cohort of 20 HPC Immersion Students. Each HPC Immersion student is assigned a peer mentor (a lead student volunteer) and a mentor from the professional community. Participants are encouraged to fully participate in student programs and present their experience to their fellow students at the end of the conference.

CARES
SIGHPC CARES serves as a resource for those who experience discrimination and/or harassment in violation of ACM's policies governing SIG activities: policy against discrimination and harassment, policy on plagiarism, misrepresentation, and falsification; policy on coercion and abuse in the ACM publications process; and policy on roles and responsibilities in ACM publishing. CARES supports individuals by allowing them to work with established members of the SIGHPC community, who are approachable and willing to listen and help navigate the SIGHPC and ACM reporting and accountability process. After a successful pilot at SC21 in November of 2021, CARES has now been adopted as a permanent feature of the SC Conference. SIGHPC CARES had a presence at both the SC and PEARC conferences in ACM FY24 and we plan to continue expanding to our other conferences in the future.

Demographic Questions
When ACM released updated demographic questions for conferences and SIG activities, SIGHPC adopted the new questions for its conferences and SIG activities.

Awards

During this reporting period, two major SIG awards were conferred:
- SIGHPC Outstanding Doctoral Dissertation Award
- Emerging Woman Leader in Technical Computing (EWLTC) Award

The SIGHPC Outstanding Doctoral Dissertation Award 2023 was won by Dr. Keren Zhou. Dr. Zhou's dissertation tackled the difficult research problem of understanding the performance of application codes accelerated on graphical processing units (GPUs), through the design and development of innovative techniques for performance instrumentation, measurement, and analysis, particularly in the context of the latest GPU technologies in use on high-end HPC platforms. The award was presented at the SC23 conference in November.

The EWLTC Award is now awarded annually and in 2023, was awarded to Dr. Amanda Randles. Dr. Randles is the Alfred Winborne and Victoria Stover Mordecai Assistant Professor of Biomedical Sciences at Duke University and holds positions with the departments of Biomedical Engineering, Engineering and Materials Science, and Computer Science. She is also a member of the Duke Cancer Institute. She is recognized for her innovative work in developing new approaches to circulatory blood flow simulation at all scales of computing, as well as her dedicated mentorship and community service. The award was presented at the SC23 conference in November.

For FY25, three awards will be conferred: the SIGHPC Outstanding Doctoral Dissertation Award, Emerging Woman Leader in Technical Computing (EWLTC) Award, and the Educational Award For Outstanding Contribution to Computational Science Education of the SIGHPC Education chapter. The award selection process is still ongoing.

SIGHPC's conferences present other awards and recognition (such as the annual SC Test of Time Award, the Gordon Bell Award, and others) that are not included here.

Significant papers on new areas that were published in proceedings

The SIG sponsors several conferences that offer best paper recognition; this year's technical paper highlights are selected from those events which recognize current state of the art.

The best professional paper at SC23 (Denver, CA, USA) was [PanguLU: A Scalable Regular Two-Dimensional Block-Cyclic Sparse Direct Solver on Distributed Heterogeneous Systems](), and the best student paper at that event was [HEAR: Homomorphically Encrypted Allreduce](). SC23 also awarded the best reproducibility advancement to [HEAR: Homomorphically Encrypted Allreduce]().

PPOPP 2024 (Edinburgh, UK.) awarded the best paper distinction to [ConvStencil: Transform Stencil Computation to Matrix Multiplication on Tensor Cores]().

The best paper at PASC 2024 (Zurich, Switzerland) was [Synthesizing Particle-In-Cell Simulations through Learning and GPU Computing for Hybrid Particle Accelerator Beamlines](#).

The PEARC 2023 Conference (Portland, OR, USA) had three best papers from. [Professionalization of Research Computing and Data: An Expanded Agenda](#) was awarded in the Workforce Development category. [Airavata Metascheduler: A Reliable, Fault Tolerant, and Resource-Aware Job Scheduling Service](#) was awarded in the Applications & Software category. Finally, [Active Research Data Management with the Django Globus Portal Framework](#) was awarded in the Systems & Systems Software category.

The ACM Gordon Bell Prize is awarded each year to recognize outstanding achievement in high-performance computing; awarded by ACM, it is presented at the annual SC conference. The technical papers that accompany the finalists' submissions are important in the HPC community as demonstrations of what is possible and a record of state-of-the-art practice. The winner this year was:

> Large-Scale Materials Modeling at Quantum Accuracy: Ab Initio Simulations of Quasicrystals and Interacting Extended Defects in Metallic Alloys. (https://dl.acm.org/doi/10.1145/3581784.3627037)

The Gordon Bell committee created a new award, the ACMGordon Bell Prize for Climate Modelling. This prize was awarded for the first time at SC23. The winning paper was:

> The Simple Cloud-Resolving E3SM Atmosphere Model Running on the Frontier Exascale System. (https://dl.acm.org/doi/10.1145/3581784.3627044)

Conference Activity

During ACM FY24, all four of SIGHPC's four co-sponsored events were held in-person (most with opportunities for remote participation). In-person or hybrid events include: SC23, the International Conference for High Performance Computing, Networking, Storage, and Analysis (Nov 2023 in Denver, CO); PEARC23 (July 2023 in Portland, OR); PASC24 (June 2024 in Zurich, Switzerland); and PPOPP24 (February-March 2024 in Edinburgh, United Kingdom).

SIGHPC recently reached an agreement to Co-Sponsor both the HPDC and ICS Conferences with SIGARCH and will be a 50% sponsor of these events beginning in FY25.

SIGHPC provides students and early career travel grants to all sponsored conferences as well as sponsorship for travel grants to all ACM SRC participants at PASC and SC.

Programs

Our virtual chapters program provides a way for different sub-groups in our community to interact and share information. Virtual chapters are especially relevant in HPC because of the nature of our community-- because of their costs, HPC centers are not densely distributed throughout any single state or region. This results in a global HPC community that is highly distributed and in general not regionally connected, and so meetups and other geographically-oriented activities are not practical. Two chapters recently went into a probationary period, others are engaged and quite active. A new chapter with South and Latin American leadership was also formed this year.
- SIGHPC ASCAN: this chapter promotes study of accelerated scalable computing and analytics.
- SIGHPC Education: this chapter targets aspects of teaching HPC, developing educational or training materials, and curriculum development.
- SIGHPC SYSPROS: the Systems Professionals chapter supports the interests and needs of systems administrators, developers, engineers, and other professionals involved or interested in the operation and support of systems for high performance computing.
- SIGHPC Computing Continuum: Focusing on efforts from edge to cloud computing that are happening in Latin America. Membership is not restricted to Latin America but the chapter will provide a platform to converge on major ongoing efforts.

Additional programs include the HPC Immersion (HPCI) program discussed in the DEI section.

Key Issues

The SIG will continue to be challenged to increase value for non-US participants over the next several years, principally through relationships with workshops and conferences outside the US. There is some indication that this is improving, especially in Latin America, where interest in a new chapter is high.

HPC, along with all of the computer science-related disciplines, suffers from a lack of diversity in its workforce. The SIG will continue its efforts to support groups that are under-represented in computing -- such as women, black and African Americans, Native Americans, and Hispanic and Latino groups -- through its fellowship, travel support, and award programs. However, we must carefully evaluate the impact of those programs and continue to experiment with new ways to address this critical need.

Over the next year we are also looking for ways to engage students and early career members, possibly through mentoring programs, and to better engage our chapters in the broader SIGHPC community through joint workshops, promotions, and webinars.

SIGMETRICS FY'24 Annual Report
July 1, 2023 – June 30, 2024
Submitted by: Mor Harchol-Balter, Chair

ACM SIGMETRICS brings together researchers and practitioners in the area of performance evaluation of computer systems and networks. The SIG promotes research in performance analysis techniques as well as the advanced and innovative use of known methods and tools to understand and improve performance and quality of service, seeking a balance between theoretical and practical issues.

SIGMETRICS concluded a very active and exciting year, which featured several activities to meet the needs of its membership. Some of the highlights for the year were as follows.

SIG Awards:

- The SIGMETRICS Achievement Award was awarded to Dr. Marco Ajmone Marsan of the Politecnico di Torino and the IMDEA Networks Institute in recognition of his fundamental contributions to stochastic modeling and analysis techniques and for application of the techniques to obtain a wealth of pioneering results in the analysis of communication protocols and energy efficiency in computer systems and networks..
- The SIGMETRICS Rising Star Research Award was awarded to Dr. Christina Lee Yu of Cornell University for fundamental contributions at the interface of learning, control and information theory impacting a diverse set of applications.
- The SIGMETRICS Test of Time Award was presented to Nicolas Viennot, Edward Garcia, Jason Nieh, for their work "A Measurement Study of Google Play", published in the Proceedings of ACM SIGMETRICS 2014. This work presents PlayDrone, the first scalable crawler for the Google Play store, used to index and analyze over 1,100,000 Android applications daily, creating the largest index of its kind. The study uses PlayDrone to address four key issues: characterizing Google Play content and its evolution, examining library usage and its impact on portability, identifying duplicate content, and exposing vulnerabilities in OAuth and related authentication mechanisms that allow unauthorized access to user data and resources on platforms like Amazon Web Services and Facebook.

Conference and Workshops:

This year ACM SIGMETRICS was joint with IFIP Performance, and took place in Venice, Italy. The event saw strong participation from the community, with over 190

registered attendees, and a record of student participation from national institutions and overseas. The main conference papers were published as usual on the ACM digital library and, although no virtual presentation was held, the papers are still accompanied by free videos released on the ACM and SIG's youtube channels.

Research published in SIGMETRICS typically focuses on performance evaluation of computer systems and networks. Technical areas of interest to the community include, but are not limited to, network performance, load balancing, systems, pricing, queueing, workload optimization, caching, control and resource allocation, memory, forecasting, graph analysis, and learning.

SIGMETRICS continued to offer this year a soft-tracking model, whereby authors could specify at submission time a paper as falling in one of four thematic categories (learning, measurement & applied modeling, systems, and theory). The number of submissions was high this year, with 336 submissions across the three deadlines and a competitive acceptance rate of 15%. The SIGMETRICS conference has maintained an iCORE ranking of A*, which is the top ranking, given to the top 7.5% of all conferences.

The conference also included 5 workshops this year. Three of these were carried over from last year: International workshop on MAthematical performance Modeling and Analysis (MAMA); Teaching Performance Analysis of Computer Systems (TeaPACS); Learning-augmented Algorithms: Theory and Applications (LATA).   Two of these were brand new for SIGMETRICS, but did quite well: European Performance Engineering Workshop (EPEW); International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA).

SIGMETRICS also partners with SIGSOFT and SPEC as technical sponsors of the ICPE conference, and together with IEEE in IWQoS, as well as with SIGCOMM and other SIGs in cosponsoring IMC and SenSys.

SIGMETRICS conference papers:
This year included papers in the areas of: Queueing, measurement, Bloom filters, architecture, optimal control, software performance, sustainable computing, security attacks, online optimization, memory management, strategies and pricing, storage, networks, security of distributed systems, load balancing, and network infrastructure.   We want to call attention to a few particular papers that won awards at the conference:
- The 2024 ACM SIGMETRICS Best Paper Award was a tie. Two papers were chosen: (i) "Agents of Autonomy: A Systematic Study of Robotics on Modern Hardware" by Mohammad Bakhshalipour, Phillip B. Gibbons (Carnegie Mellon University), and (ii) "Strongly Tail-Optimal Scheduling in the Light-Tailed M/G/1" by George Yu, Ziv Scully (Cornell University).
- The Stephen S. Lavenberg and Kenneth C. Sevcik Best Student Paper Award was also a tie. Two papers were chosen: (i) "Fair Resource Allocation in Virtualized O-RAN Platforms" by Fatih Aslan, George Iosifidis (TU Delft), Jose A. Ayala-Romero, Andres Garcia-Saavedra (NEC Laboratories Europe) and Xavier

Costa-Perez (NEC Laboratories Europe, i2CAT Foundation and ICREA), and (ii) ["CarbonScaler: Leveraging Cloud Workload Elasticity for Optimizing Carbon-Efficiency"](#) by Walid A. Hanafy, Qianlin Liang (University of Massachusetts Amherst), Noman Bashir (Massachusetts Institute of Technology), David Irwin and and Prashant Shenoy (University of Massachusetts Amherst).

New initiatives implemented this year:
This year our SIG Treasurer implemented a huge data collection project, with the goal of increasing industry involvement and support for SIGMETRICS. The project constructed a 20-year history of all involvement of industry in the conference (keynote talks, serving on the TPC, serving as TPC chair, etc.). The project also collected a 20-year history of industrial support, tracking which companies supported SIGMETRICS, how much they paid, and who our point of contact was. This information is being provided to future conference General Chairs, to help them increase future industry participation and funding. In addition to the above data collection project, we have also implemented industry panels and a student job fair at the SIGMETRICS conference. Another direction that we have worked on this year is brainstorming ways to increase attendance at the conference and visibility of the conference. We have come up with several ideas, which we list under Key Issues (2) below.

Diversity, Equity, and Inclusion:

Several activities in the SIG have been taken to broaden participation to foster equality and be more inclusive in the categories of community members we recognize via awards or service roles:
- We have recently introduced a ACM SIGMETRICS Dissertation Award, which will recognize outstanding doctoral dissertations in the areas covered by the SIG.
- We have continued the new practice of issuing a Call for Hosting. SIG planning is now scheduled up to 2025.
- We have integrated into our processes the new ACM Violations Database to ensure alignment with ACM best practices in terms of professional behavior and ethics.
- SIGMETRICS has also recently modified the call for papers of its main conference to include DEI considerations, such as accessibility guidelines for the authors to be more inclusive in the language they use in the papers. Instructions were also provided to the session chairs to ensure good handling of the session presentations with respect to DEI.

Key issues for the next 2-3 years:

1. We would like to increase industry involvement in the SIGMETRICS conference. One way in which we plan to do this is to create an "industry track" of case-study papers that will be published as regular SIGMETRICS papers, but will undergo different review criteria. We are working on writing up guidelines for such "industry track" submissions.

2. Our attendance at the SIGMETRICS conference has remained just under 200. We would like to grow the conference. To do this, we have several initiatives planned:
    - o   We aim to slightly increase the acceptance rate (from 15% to 20%) to see if that increases attendance.
    - o   We are circulating conference posters to all TPC members. These posters are being hung up at the different universities, and should hopefully increase submissions and attendance.
    - o   We are trying out some new ideas, like a "Work in Progress" session, that will hopefully attract more students who don't have accepted papers in the conference.
    - o   We are trying out a Student Research Competition.
    - o   We are looking at growing the number of SIG Awards to increase conference visibility.

3. Our SIGMETRICS conference no longer holds in-person TPC meetings. Instead, there are 3 online TPC meetings each year, corresponding to the 3 submission deadlines. A consequence of this is that junior faculty are no longer afforded the opportunity to be mentored by senior faculty, as was the custom during the 2-day in-person TPC meeting. To make up for this, we are hoping to put together a 1-day TPC Mentoring Workshop. This workshop would be open to TPC members only and would include many mentoring events and chances to present one's research. The goal is to hold this workshop on the day before the SIGMETRICS conference starts. An added benefit is getting more TPC members to attend the SIGMETRICS conference. TPC members will be incentivized to attend the Mentoring Workshop by getting a discount on conference registration.

Other Issues
N/A.

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1. Comment on the ways in which the SIG is a healthy and viable organization

SIGMICRO is quite healthy in terms of its conferences (and their impact), finances, and membership. MICRO (https://www.microarch.org/), which is celebrating its 57th incarnation in 2024, is considered a premiere conference in computer architecture, microarchitecture and hardware/software interfaces, continuing its flagship role in the community. It is our flagship activity and its impact and participation keep growing, with paper submission counts continuously over 400 (497 in 2024, 15% higher than last year) and participation over 500 in recent incarnations. Accepted papers have also been growing to more than 80-90 in recent incarnations and a record number of 113 accepted papers in 2024.

The MICRO Test of Time Award (https://www.microarch.org/tot/) recognizes some of the highly-influential works that were published at MICRO and the works that have won the award attest to the impact MICRO has had in the microarchitecture and computer architecture research and products in the world.

Elections are healthy and held on time. Volunteers are also highly active participants and researchers in the community. Elections in 2023 created a healthy new set of energetic executive board members.

Our news and activities are frequently communicated to our membership and the world via our website, mailing list, and social media channels. We actively support student participation and health, especially via our recognition and support for the Computer Architecture Student Association (https://twitter.com/comparchsa) in its activities. Other support we provide is described below under answers to the remaining questions.

In addition, we note the following activities:

- We hold monthly SIGMICRO Executive Committee meetings.
- We have eliminated the membership fee for students and reduced it to only $5 for professional members, to enable better accessibility to a diverse community and include students and more and more diverse members as much as possible.
- We have created two brand new awards (SIGMICRO Early Career Award and SIGMICRO Dissertation Award). The award selection committees have been appointed. The inaugural recipients of these awards were recognized in MICRO 2023.
- We have supported student travel grants for the MICRO-56 conference in 2023 (in the amount of 25K USD).
- We continuously support a wide variety of diversity, equity, inclusion, and student and mentoring activities (as described in more detail below)

- We provide news and information on a more frequent basis via our website (https://www.sigmicro.org/), Twitter channel (https://twitter.com/acmsigmicro) and new LinkedIn channel (https://www.linkedin.com/company/74541644/).
- We communicate information about MICRO and the MICRO Test of Time Award further via their respective websites (https://www.microarch.org/ and https://www.microarch.org/tot/), managed by the SIGMICRO Information Director.
- We hold an annual SIGMICRO meeting to communicate with our membership in the Business Meeting associated with the MICRO conference. This meeting provides updates on SIGMICRO status and activities to the membership, gathers feedback, and enables in-person engagement and communication with our membership.
- We are actively participating in MICRO steering committee to ensure smooth and timely conference organization.

2. Describe your efforts related to Diversity, Equity, and Inclusion.

SIGMICRO has at least four major activities to support and foster diversity, equity and inclusion.

First, we strongly support student (especially underrepresented student) participation and mentoring activities in our flagship conference, MICRO. In particular, we help with travel grants and the organization of career workshops. For example, we have supported student travel grants for the MICRO-56 conference in 2023 (in the amount of $25,000 USD). In the MICRO-56 conference in 2023, we supported the organization of the PhD Forum, which was organized for the first time (https://microphdforum23.netlify.app/), and we will continue to support this forum in 2024.

Second, SIGMICRO sponsors and supports the Career Workshop for Inclusion and Diversity in Computer Architecture (https://www.colorado.edu/conference/cwwmca/), which will celebrate its 10th incarnation in 2024 at the MICRO Conference. The MICRO CWIDCA Workshop (formerly CWWMCA) brings together diverse members of the computer architecture community at different levels in academia, industry, research, government, and students to promote the recruitment, retention, and progression of women and underrepresented groups with research interests in computer architecture. The workshop highlights emerging and hot topics in computer architecture, but also provides opportunities for cross-disciplinary research, networking, and career advice and mentoring. The workshop contains a mix of technical presentations and panel sessions given by academic and industry leaders as well as informal activities to provide mentoring for students as they get started in their careers. SIGMICRO provided travel grant support for $15,000 for the CWIDCA workshop.

Third, we strongly support the activities of the Computer Architecture Student Association (https://twitter.com/comparchsa), providing them a platform at the SIGMICRO Annual Meeting at the MICRO Conference and otherwise helping with any requests they may have. CASA has started a Summer Reading Group in 2022, which is

an ongoing series of readings and discussions on advancing diversity, equity, and inclusion (DEI) in the community (and anyone is welcome to participate). CASA organizes and supports various events at the MICRO conference and provides many useful mentoring and networking opportunities to students in our community. As an example CASA organized a virtual Mental Health workshop and the JOBS workshop at MICRO in 2022.

Fourth, we strongly support the SIGARCH/SIGMICRO CARES (Committee to Aid REporting on discrimination and haraSsment policy violations; https://www.sigarch.org/benefit/cares/). From the CARES Annual Report: "Since its inception, CARES has played the role of serving as a resource to help persons who experience discrimination or harassment at SIGARCH/SIGMICRO events by serving as a sounding board for such persons and providing advice on the steps necessary to have the matter further investigated by ACM." CARES Members are present and active at the MICRO conference and they deliver an annual report both in writing as well as in presentation form in the SIGMICRO Annual Meeting at the MICRO Conference. The CARES committee members who rotated out were honored with a joint certificate from SIGMCRO and SIGARCH at the ISCA conference.

3. Provide a list of awards and recipients

We created, in 2022-2023, two brand new awards (SIGMICRO Early Career Award and SIGMICRO Dissertation Award). The inaugural recipients received their awards in MICRO 2023:

Prof. Jian Huang, University of Illinois at Urbana Champaign received the SIGMICRO Early Career Award, for "pioneering contributions to persistent memory, storage architectures, and systems." Dr. Kazem Taram from UC San Diego received the Dissertation Award for this dissertation that "deepens our understanding of how microarchitectural optimizations can leak information and proposes secure yet high-performance architectures that preserve those optimizations, easing the inherent security-performance tension. The selection process for 2024 is currently taking place following best practices and ACM Conflict of Interest rules. More information is available in the respective webpages for the awards:

SIGMICRO Early Career Award (https://www.sigmicro.org/awards/earlycareer.php)

SIGMICRO Dissertation Award (https://www.sigmicro.org/awards/dissertation.php)

SIGMICRO Distinguished Service Award (https://www.sigmicro.org/awards/dsa.php) is presented to an individual who has contributed important service to the processor microarchitecture and microsystems community while also serving as an active member of SIGMICRO who has contributed (or is contributing) significantly to SIGMICRO organization and/or SIGMICRO-sponsored conference committees. The 2021 recipient of the award was Dr. Pradip Bose from IBM Research. The 2022 recipient of the award was Prof. Wen-mei Hwu from the University of Illinois & NVIDIA. The 2023 recipient of

the award was Prof. Yan Solihin from UCF for "his enduring and broad contributions including his work as NSF Program Director, his leadership of the SIGMICRO History Project, co-founding SEED, and his many stints as general and program chair of leading conferences".

MICRO Test of Time Award (https://www.microarch.org/tot/) is a major award that SIGMICRO helps the MICRO Steering Committee in organizing. Many papers that revolutionized or greatly advanced computer design (published at the MICRO conference) received this award. The following two papers were awarded the eighth MICRO Test of Time Award in 2022. These papers were selected from among all the 145 eligible papers published in MICRO conferences that were held between 2001 and 2005 (inclusive).

Conference	Paper Title	Authors
MICRO 2002	Orion: A Power-Performance Simulator for Interconnection Networks	Hang-Sheng Wang, Xinping Zhu, Li-Shiuan Peh, Sharad Malik

Award Citation

For proposing a network power model, Orion, that enables quick assessment of power-performance tradeoffs in architectural-level interconnection network design. This paper was the first to address the need for studying architectural-level mechanisms to enhance the power efficiency of on-chip interconnection networks. As of the current writing, this paper has garnered over 1000 citations on Google Scholar.

4. List significant papers on new areas that were published in proceedings

Our sponsored conferences continue publishing cutting-edge papers on new areas as well as old areas. A list of their proceedings can be reached from under "Events" in the SIGMICRO page (https://www.sigmicro.org/). In particular, the MICRO-56 program is readily available here and includes many significant works, including a Best Paper Session: https://microarch.org/micro56/program/

MICRO has been growing in terms of diversity of topic areas as well as authorship. It has also been growing in the number of papers published, especially in 2024.

The following, copied from the Program Chairs' Message published in the proceedings of MICRO 2023 describes the growth in both the paper submissions and reviewing efforts "This year we received 434 paper submissions and put together a program committee of record-breaking 226 members, categorized into standard-load and light-load members. Regardless of the load, every PC member was invited to attend the

virtual PC meeting to represent reviewers' opinions in the paper discussion. In a few cases, we consulted experts outside of the program committee to provide additional reviews. All in all, the program committee produced 2168 reviews, and each paper received 4-8 reviews"

The following, copied from the Program Chairs' Message published in the proceedings of 2022, describes the significant technical activity at MICRO: "It is our great pleasure and honor to welcome you to the program of the 55th IEEE/ACM International Symposium on Microarchitecture (MICRO). This year's program reflects the strength, vibrancy and breadth of the MICRO community, with papers spanning the gamut of topics, from traditional, such as microarchitecture and memory hierarchy, to emerging areas including robotics and quantum computing."

The following quotes are from the CGO 2023 Program Chairs' message:

"On behalf of the entire Program Committee, it is our pleasure to present the papers selected for CGO 2023. This year we received a total of 55 submissions of which 20 were selected for the final program. As in previous years, the review process was double-blind, and each paper received at least four reviews. Authors were given the opportunity to respond to the reviewers' comments before final decisions were made. Online discussion was used to make as many decisions as possible, with the rest made during two virtual PC meetings. CGO continues to draw international submissions, with 55% of the submissions having at least one author from outside the U.S. CGO also maintained its tradition of drawing contributions from industry, with 30% of the submissions having at least one author from industry.

We are also happy to present a stimulating keynote talk from a leader in the field, Peng Wu from Meta, who will talk to us about bringing compiler technologies to the PyTorch machine learning framework. We thank Peng for agreeing to spend time sharing her thoughts with the CGO community."

CGO 2023 and 2024 final programs, including the Best Paper Award, can be found here:

https://conf.researchr.org/program/cgo-2023/program-cgo-2023/

https://conf.researchr.org/program/cgo-2024/program-cgo-2024/

The following quotes are from the CF 2022 Program Chairs' message:

"It was our great pleasure to chair the Program Committee of CF'23, the 20th ACM International Conference on Computing Frontiers. We are well aware of the significance of this 20th edition and honored to bring you a strong technical program with contributors from across the globe. Computing Frontiers is a unique conference, serving as a forum to promote innovative and audacious ideas that push the boundaries of computing. The core of the technical program consists of 24 contributed technical

papers. CF'23 received 69 full submissions that went through a rigorous double-blind review process. Each paper was reviewed by at least three reviewers. Most reviews were completed by members of the Program Committee. We also requested help from external reviewers when additional expertise was necessary. The reviewers had the option to request a revised submission before making a final decision. This gave the authors a chance to improve their submission and led to stronger technical content at the conference. There was intense online discussion among the PC members and external reviewers, followed by a virtual program committee meeting with more interactive discussions. Every decision was reached by consensus, resulting in 19 full papers and 5 short papers accepted to the conference's main track. This corresponds to a 35% (24/69) acceptance rate."

CF 2022 and 2023 final programs are accessible here:
https://www.computingfrontiers.org/2022/program.html

https://www.computingfrontiers.org/2023/program.html

5. Describe conference activity

MICRO conference (https://www.microarch.org/) is the flagship event sponsored by SIGMICRO. MICRO celebrated its 56th year in 2023. It was held in Toronto last year, and in Chicago the year before after two years of virtual conferences (2020/2021). It is growing in terms of attendance, submissions, and impact. This 56th incarnation also included Artifact Evaluation emphasizing rigorous and reproducible research practices that encourage open science (https://microarch.org/micro56/index.php). Both the conference program and artifact evaluation process have been deemed very successful.

MICRO-57 will be held in Austin, between November 2 and November 6, 2024.

SIGMICRO also sponsors (at 45%) a younger conference, CGO, which is the top conference in code optimization. CGO is considered prestigious and has been awarding its Test of Time Award. CGO also conducts an Artifact Evaluation process, which is quite healthy and respected.

We also sponsor (at 100%) a forward-looking conference, Computing Frontiers, which enables easier expression and publication of non-traditional ideas in computer architecture, which celebrated its 20th year in 2023 and included a celebratory session for this important anniversary. CF also conducts an Artifact Evaluation process.

We also sponsor ESWEEK at a much smaller percentage (10%).

All conferences we sponsor are quite healthy in terms of organization, papers, attendance, submissions, and impact.

Most recent incarnations of these conferences for this annual report year can be found here:

MICRO 2024: https://microarch.org/micro57/

CGO 2024: https://conf.researchr.org/home/cgo-2024

CF 2024: https://www.computingfrontiers.org/2024/

ESWEEK 2024: https://esweek.org/

6. Comment on special projects and non-conference programs that provided service to some part of your technical community

Please see our DEI efforts under question #2.

We focus on extending membership to students via the MICRO conference registration. The students and the community in general are encouraged to serve as volunteers. We support our younger members by enabling them to develop and implement new ideas like new workshops or educational materials or initiatives like the Computer Architecture Student Association.

7. A very brief summary of the key issues that SIG membership will have to deal with in the next 2-3 years.

We could always do better in terms of increasing and diversifying our membership. The size of our member base, although healthy, certainly does not reflect the attendance trends at MICRO and CGO (as well as other conferences we sponsor, like CF). Industry has experienced tremendous growth in AI; but will this trend continue? Some sectors have seen layoffs. Our industry membership faces some uncertainty.

We are working on this by getting more students signed up (e.g., free membership for students) and creating new awards (e.g., the two new awards) and mentoring / educational initiatives for students and members. The in-person MICRO conferences after COVID has enabled us to re-invigorate our membership through in-person interactions and presence. In MICRO 2024, we are piloting student membership enrollment with conference registration.

We also aim to extend and diversify our volunteer base by supporting volunteer positions in SIGMICRO. We already created the Awards Chair and Information Director positions. We are in the process of creating Regional Outreach Chair and Education Chair positions as well as some others.

The increased SIG overheads, increased conference expenses and somewhat reducing industry sponsorships need us to rethink our financial management. We are working closely with MICRO steering committee, to ensuring that the conference organization

committee is chosen well in advance to optimize conference expenses (e.g. those incurred from hotel and food) and have more planning time. In addition, we are strategizing about how to get more hardware and compiler startups engaged our conferences and sponsor them.

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1. Comment on the ways in which the SIG is a healthy and viable organization

We met at the Middle Tennessee State University, Murfreesboro TN, for our annual conference and business meeting from 29 May to 3 June 2024. There were 57 registrants, including 2 doctoral students who participated in the doctoral consortium. We were pleased with the conference participation. We retain a core group of active and contributing members.

In 2023, The DATA BASE for the Advances in Information Systems (our SIG publication)
processed 133 submissions which included 59 new submissions, 34 resubmissions, and 40 revise and resubmit decisions. The new submissions were from 17 different countries across the globe. A total of 21 manuscripts were accepted for publication, and 170 different reviewers assisted with the editorial process.

2. Describe your efforts related to Diversity, Equity, and Inclusion.

The participants at this year's conference were from Brazil, Canada, Croatia, Germany, Hong Kong, India, Singapore, United Kingdom, and the United States. Doctoral student in the conference consortium were from the UK and USA. We also opened this year's conference to undergraduates from the host university, Middle Tennessee State University.

The executive leadership team consists of individuals from Singapore, Bolivia, and the US.

Three papers presented at the conference focused on DEI topics.

Additionally, our gender diversity is strong as two of the three elected officials of SIGMIS are women.

3. Awards Given

SIGMIS Lifetime Achievement Award:
This year the SIGMIS Lifetime Achievement award was presented to **Dr. Mary Sumner.** Mary is Emerita Professor of Computer Management and Information Systems and has served as Associate Dean, School of Business, Southern Illinois University Edwardsville. Mary has been a loyal member of the ACM SIGMIS CPR research community since 1989. She has addressed questions and issues related to the

management and motivation of information technology professionals and has learned from being a part of the CPR community. Several of her publications include a jobs analysis of information technology professionals and the application of the unfolding model of voluntary turnover to IT professionals

The award was presented at our conference in June. The announcement has been posted to our website (https://sigmis.org/awards-and-grants/sigmis-lifetime-achievement-award/).

SIGMIS Early Career Award:
This year the SIGMIS Early Career Award was presented to **Dr. Sam Zaza**, an Associate Professor at the Middle Tennessee State University. Sam obtained her Ph.D. in Management Information Systems at the College of Business of Florida State University, USA. Her main research interests lie in Diversity, equity, and Inclusion, IT career and nature of work, and methodological approaches. Sam has published her work in various journals such as MIS Quarterly, Information & Organization, IT & People, Communications of the Association for Information Systems, The DATA Base for Advances in Information Systems, AIS Transactions on Replication Research, among other proceedings in regional and international conferences.

SIGMIS CPR Conference Awards:
- **2024 Magid Igbaria Outstanding Conference Paper of the Year Award Recipient.**

  Fred Niederman: Stepping through the open door: Elaborating on Bailey and Barley's observations on the relationship between technology, Work, and organizations.

- **Best Work in Progress Award**

  Gideon Mekonnen Jonathan and Iris Reychav: Workforce Agility and Digital Transformation in the Public Sector

- **Best Poster Award**

  Kristina Kusanke, Jennifer Kendziorra, Sam Zaza and Till J. Winkler: Transforming the IT Landscape: Ecosystem-Based Approaches to Career Transitions

- **Appreciation Award**

  Kristie Abston

- **Leadership Excellence Award**

  Cindy Riemenschneider and Indira Guzman

The DATABASE for Advances in Information Systems

Annual awards, Vol. 53

> **Best Paper**: Christine Rzepka, Benedikt Berger, Anton Koslow, and Thomas Hess. 2023. Voice Assistant, Buy Coffee Capsules!: Understanding the Determinants of Consumers' Intention to Use Voice Commerce. SIGMIS Database 54, 3 (August 2023), 137–159. https://doi.org/10.1145/3614178.3614185.

> **Best Senior Editor**: Sam Zaza, Middle Tennessee State University

> **Best Reviewer**: Yao Shi, University of North Carolina Wilmington

> **Runner-up to best reviewer**: Sebastian Schotteler, Friedrich-Alexander-Universität

The editors-in-chief would like to thank all our senior editors, reviewers, and authors – without whom we could not produce the quality and innovation that our readership has come to expect. It is with much gratitude that we look forward to another year of *The DATABASE for Advances in Information Systems.*

4. List significant papers on new areas that were published in proceedings

- Mike Gallivan. What Every Information Systems Researcher Should Know about Actor-Network Theory and its Potential Value to Their Work

- Timon Sengewald and Agnes Tremmel. Teaching AI Literacy for Innovation.

- Lily Beth Woods, Sam Zaza, Lucy Matthews and Diane Edmondson. Understanding IT Professionals Uniqueness: A Comparison Case Study of the Burnout Process with Sales Professionals

Proceedings are forthcoming on ACM Digital Library.

5. Describe conference activity

The 2024 conference was hosted by the Middle Tennessee State University in Murfreesboro, TN. The theme of this year's conference was "Trust and Legitimacy in Emerging Technologies: Organizational & Societal Implications for People, Places and Power." The conference received a total of 49 submissions (Full research papers: 23; Research-in-progress papers: 8; Posters: 13; Panels: 5). Of these, 39 submissions were accepted for the program (Full research papers: 14; Research-in-progress papers: 5; Posters: 16; Panels: 4), a 79.6% acceptance rate. There were 104 reviews conducted, and 77 unique authors represented in the program.

The doctoral consortium consisted of 3 research-in-progress papers being presented by students with 6 faculty mentors participating. We also had sponsorship from Prospect Press, Department of Information Systems & Analytics (Jones College of Business, Middle State Tennessee University, Murfreesboro, and The Data Base for Advances in Information Systems Journal.

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6. A very brief summary of the key issues that SIG membership will have to deal with in the next 2-3 years.

Finances
The funding model for SIGMIS-CPR may require additional resources through organizational sponsorships or possibly through other creative solutions. Considering the 2022 increase in the payment to the ACM offices for overhead, personnel, conference support, etc. and the modest revenue from the digital library, the current surplus of funds will not be sustainable. Over the last six years, the SIG implemented new initiatives and has wisely allocated funds to those initiatives increasing visibility, awards, and the impact factor for our newsletter.

We currently have limited funds available for continued investment and this is becoming a concern for the SIG leadership. SIGMIS has embarked on increasing memberships, encouraging publishing of papers in *The DATABASE for Advances in Information Systems*, and encouraging the use of publications from the conference proceedings and the newsletter in PhD programs to increase readership and downloads. Using a university facility for our annual conferences should decrease the expenses for the conference and allow the conference to bring in more revenue to the SIG.

The DATABASE for Advances in Information Systems
Our publication, *The DATABASE for Advances in Information Systems*, continues a concerted marketing campaign of research conference visibility focused on impact and intellectual innovation. We have distributed four issues regularly for many years, and continued to do the same in 2023. Nancy Deng started her term as the Editor in Chief (EIC) in September 2022.

Starting from February 2024 (Volume 55, Issue 1), *The DATABASE for Advances in Information Systems* published its first issue that was delivered electronically. Doing so resulted in savings from printing hardcopies and postage. The move to electronic delivery of is aligned with ACM's sustainability initiatives. The ACM and SIGMIS/CPR members can access the publication for free through the ACM Digital Library.

Social Media and Communications:
SIGMIS has a Facebook page (https://www.facebook.com/acmsigmis), a LinkedIn profile (https://www.linkedin.com/groups/5148399), and a Twitter account (https://twitter.com/acmsigmis).

Upcoming SIGMIS Conferences:
We have begun the planning for the 2025 conference as a face-to-face conference in Balor University, Waco TX. Cindy Riemenschneider will serve as one of the conference co-chairs for 2025.

SIGMIS is currently accepting conference proposals for conferences 2026 and beyond.

Collaborations:
SIGMIS continues to be in-cooperation program with other groups seeking our support relative to their conferences. It turns out there are a much larger number than expected of requests in this area and we want to redesign our approach. It takes some effort to evaluate each of these in detail and decide whether our support is warranted as well as how to generate more benefit to our members. It will be advantageous if we can exploit these connections for mutual advertisements of these conferences to our members and our CPR conference to their members.

SIGMIS was in cooperation with the following 11 conferences:
1. International Conference on Computer-Human Interaction Research and Application
2. International Conference on Cloud Computing and Service Science
3. International Conference on Computer Supported Education
4. International Conference on Data Science, Technology and Applications
5. International Conference on Evaluation of Novel Approaches to Software Engineering
6. International Conference on Finance, Economics, Management, and IT Business
7. International Conference on Health Informatics
8. International Conference on e-Business
9. International Conference on Enterprise Information Systems
10. International Conference on Information and knowledge Systems
11. International Conference on Information Systems
12. Brazilian Symposium on Information Systems

We continue seeking out collaborations with AIS special interest groups particularly regarding leadership and diversity/inclusion. The strategy is to make focused events and activities of interest to ACM SIGMIS members available before or during all major MIS conferences – ICIS, HICSS, AMCIS, ECIS, and PACIS – as well as our own standalone conference. This is slower going than expected but I anticipate will continue to grow over the next few years.

Strategic Focus:
We welcome for both the conference and publication a wide range of MIS topical areas including ethics, all aspects of work, and IS entrepreneurship. IS personnel issues continue to be a primary focus of our conference and newsletter, especially considering the prevalence of telework, the covid issues, and considerations of what IS work will be in the future.

Based on the direction of the executive committee, two new committees are being formed in 2023. These include a Research Portfolio Committee and a Communication Committee.

Research Portfolio Committee – This is a new committee. The purpose of this committee is to advocate, coordinate, and administer the various research and research awards of the SIG. Specifically, the objectives of this committee are:
1.   To conduct an active advocacy program to promote and support MIS research.
2.   To provide advice and support in the planning of ACM SIGMIS CPR
3.   To administer the annual ACM SIGMIS Research Grant
4.   To administer the annual awards sponsored by ACM SIGMIS.

Damien Joseph is chairing this committee.

Communication Committee - This is a new committee. This committee aims to raise awareness and visibility of the ACM SIGMIS activities among the information systems community internationally in a consistent way. Specifically, the objectives of this committee are:
1.   To develop a strategic communication plan and structure
2.   To promote ACM SIGMIS activities through frequent and regular communication via digital channels, including social media.

Indira Guzman is chairing this committee.

ELECTIONS:

No elections were held as the officers are continuing to serve through June 30, 2024.

SIGMM Annual Report
July 1, 2023 to June 30, 2024
Prepared by SIGMM Chair Alberto Del Bimbo With Phoebe Chen and Miriam Redi

SIGMM MISSION

SIGMM provides an international interdisciplinary forum for researchers, engineers, and practitioners in all aspects of multimedia computing, communication, storage, and application.

SIGMM SPONSORED CONFERENCES

In 2023-24 SIGMM sponsored 5 conferences fully. Globally, they received satisfactory attendance, some of them with record number attendees. There was high attention to maintain high scientific quality and fairness in the review process. Under the leadership of Miriam Redi and Xavier Alameda Pineda it has been prepared a document for the Steering Committees of SIGMM Conferences that will serve as a guide of good practices for the appointed chairs of future conferences.
Summaries of fully sponsored conferences inn 2023-24 are:

o **ACM Multimedia**
ACMMM'23, Ottawa, Canada, October 29 – November 3, 2023
General Chairs: Abdulmotaleb Elsaddik, Tao Mei, Rita Cucchiara
Program Coordinator: Shervin Shirmohammadi
Program Chairs: Marco Bertini, Diana Patricia Tobón Vallejo, Pradeep Atrey, M. Shamim Hossain
Participants: 1295
Acceptance rate: 24.6% (main track)

o **ACMMM Asia**
ACMMMAsia'23 Tainan, Taiwan, December 6 - 8, 2023
General Chairs: Wen-Huang Cheng, Wei-Ta Chu
Program Chairs: Min-Chun Hu, Jiaying Liu, Munchurl Kim, Wei Zhang,
Participants: 185
Acceptance rate: 37% (regular papers)

o **ACM MMSys**
MMSyS'24, Bari, Italy · April 15 - 18, 2024
General Chairs: Luca de Cicco, Ali C Begen
Program Chairs: Maria Martini, Christian
Timmerer Number of Participants: 122 (on-site)
Acceptance Rate: 39% (main track)

o   **ACM Workshop on Information Hiding and Multimedia Security**,
IH&MMSec 2024, Baiona, Spain · June 24 - 26, 2024
General Chairs: Fernando Pérez González

Program Chairs: Pedro Comesaña Alfaro, Christian Krätzer, H. Vicky
Zhao Participants: 54 (on-site)
Acceptance rate: 35% (main track)

o **ACM MHV Mile High Video**
MHV '23, Denver CO USA, May 7 - 10, 2023
General Chairs: Alex Giladi, Ali C. Begen, Elena Alshina. Program Co-chairs: Christian
Timmerer, Dan Grois Participants: 230 (on-site)

SIGNIFICANT PAPERS
The SIGMM conferences awarded the most qualified and significant papers that were
presented at the conference.

SIGNIFICANT PAPERS AT ACMMM'23
The SIGMM flagship conference, ACM Multimedia 2023 presented the following
awards for papers presented at the conference:
  o *Best Paper Award*
Kexin Li, Zongxin Yang, Lei Chen, Yi Yang, Jun Xiao "CATR: Combinatorial-
Dependence Audio-Queried Transformer for Audio-Visual Video Segmentation"
  o *Honorable Mention Award*
Yue Feng, Zhengye Zhang, Rong Quan, Limin Wang, Jie Qin "RefineTAD: Learning
Proposal- free Refinement for Temporal Action Detection"
  o *Best Student Paper Award*
Zixin Wang, Yadan Luo, Zhi Chen, Sen Wang, Zi Huang "Cal-SFDA: Source-Free
Domain- adaptive Semantic Segmentation with Differentiable Expected Calibration
Error"
  o *Open-Source Award*
Aaron Keesing, Yun Sing Koh, Vithya Yogarajan, Michael Witbrock "Emotion
Recognition ToolKit (ERTK): Standardising Tools For Emotion Recognition Research"

SIGNIFICANT PAPERS AT MMASIA 2023
  o *Best paper award:*
Chen, Hong, et al. "Global-Local GraphFormer: Towards Better Understanding
of User Intentions in Sequential Recommendation."

SIGNIFICANT PAPERS AT MMSYS 2024
  o *Best paper award:*
Jin, Shuowei, et al. "OASIS: Collaborative Neural-Enhanced Mobile Video Streaming."

SIGNIFICANT PAPERS AT MHV 2024
  o *Best paper award:*
Vignesh V. Menon, Adam Wieckowski, Jens Brandenburg, Benjamin Bross, Thomas
Schierl, and Detlev Marpe. "Gain of Grain: A Film Grain Handling Toolchain for VVC-
based Open Implementations."

SIGNIFICANT PAPERS AT IH&MMSEC
- ***Best paper award:***

Uhlenbrock, Lea, et al. "Did You Note My Palette? Unveiling Synthetic Images Through Color Statistics."

2023 SIGMM AWARDS

In 2023 SIGMM gave out four awards at ACM Multimedia 2023:

- **SIGMM Award *for Outstanding Technical Contributions to Multimedia Computing, Communications and Applications***

This award is presented every year to a researcher who has made significant and lasting contributions to multimedia computing, communication, and applications. The award recognizes members of the community for long-term technical accomplishments or those who have made a notable impact through a significant technical innovation. The selection committee focuses on candidates' contributions as judged by innovative ideas, influence in the community, and/or the technical/social impact resulting from their work.

The SIGMM Technical Achievement Award Committee was Phoebe Chen (Chair), Jiebo Luo (non- voting), John R. Smith, Mubarak Shah, Alberto Del Bimbo, Miriam Redi
The recipient was Prof. Wenwu Zhu *in recognition of his outstanding, pioneering, and continued research contributions in the areas of multimedia information analysis, and for outstanding and continued service to the multimedia community*.

- **SIGMM *Rising Star* Award**

ACM SIGMM presents a "Rising Star" Award annually, recognizing a young researcher - an individual either no older than 35 or within 7 years of PhD - who has made outstanding research contributions to the field of multimedia computing, communication, and applications during this early part of his or her career.

The SIGMM Rising Star Award Committee was: Phoebe Chen (Chair), Alan Smeaton, Jiebo Luo, John R. Smith, Alberto Del Bimbo, Miriam Redi.
The recipient was Chang Xu (for his significant contributions in efficient and generative deep representation learning of multimedia data).

- **SIGMMAward for *Outstanding PhD Thesis in Multimedia Computing, Communications and Applications***

This award is presented at most once per year to a researcher whose PhD thesis has the potential of very high impact in multimedia computing, communication, and applications, or gives direct evidence of such impact.

The SIGMM Award for Outstanding PhD Thesis Committee was Phoebe Chen (Chair)**,** Alan Smeaton, Jiebo Luo, Alberto Del Bimbo, Miriam Redi, John R. Smith
The recipient was Silvia Rossi for a PhD thesis entitled "Understanding user interactivity for the next- generation immersive communication: design, optimisation, and behavioural analysis" at the University College London.

o **SIGMM *Test of Time Paper* Award**

The SIGMM Test of Time Paper Award Committee was Ralf Steinmetz, Mohan Kankanhalli, Tao Mei, Laura Toni, Marco Bertini.

The Overall Winner and Winner was in the Category "Multimedia Analysis, Retrieval, Query": Damian Borth, Rongrong Ji, Tao Chen, Thomas Breuel, and Shih-Fu Chang. Large-scale visual sentiment ontology and detectors using adjective noun pairs. In Proceedings of the 21st ACM International Conference on Multimedia, MM '13, page 223–232, New York, NY, USA, 2013. ACM.

Honorable Mentions were given to
- In the category of "MM Interfaces & Applications"

Florian Eyben, Felix Weninger, Florian Gross, and Bjoern Schuller. Recent developments in opensmile, the munich open-source multimedia feature extractor. In Proceedings of the 21st ACM International Conference on Multimedia, MM '13, page 835–838, New York, NY, USA, 2013. ACM.

- In the category of "MM Systems & Networking"

Stefan Lederer, Christopher Mueller, and Christian Timmerer. Dynamic adaptive streaming over http dataset. In Proceedings of the 3rd Multimedia Systems Conference, MMSys '12, page 89– 94, New York, NY, USA, 2012. ACM.

- In the category of "MM Security and Privacy"

Vojtech Holub and Jessica Fridrich. Digital image steganography using universal distortion. In Proceedings of the First ACM Workshop on Information Hiding and Multimedia Security, IH&MMSec '13, page 59–68, New York, NY, USA, 2013. ACM.

2023 ACM TOMM Nicholas Georganas Best Paper Award

ACMTOMM the reference Multimedia journal of ACM presented at ACMMM'23, SIGMM the:

2023 *ACM Transactions on Multimedia Computing, Communications and Applications (TOMM) Nicolas D. Georganas Best Paper* Award to the paper:
Smart Director: An Event- Driven Directing System for Live Broadcasting, by Y. Pan, Y. Chen, Q. Bao, N. Zhang, T. Yao, J. Liu, T. Mei ACM TOMM Volume 17, Issue 4, Novembre 2021, Article No.119

SIGNIFICANT INITIATIVES TO IMPROVE SIGMM ROLE AND BROADEN PARTICIPATION

o **STUDENT TRAVEL GRANTS**

In 2023-24 SIGMM continued its effort in supporting attendance for students offering student travel awards for SIGMM student members with particular attention to underrepresented and marginalized countries. Up to 2020 each conference had to have its own budget and allocation for student travel. To provide a more insightful a fair allocation, since that date SIGMM has centralized student travel awards, meaning that SIGMM conferences don't need to have student travel chairs, and don't have to make

any consideration for student travel costs in the conference budget. The share per conference is proportional to number of attendees in the previous edition. Students are allowed claim flights, local travel, accommodation, meals, but not conference registration. Students travelling from within the same continent can be reimbursed up to USD 1,000 while students travelling intercontinental can get up to USD 2,000. These rates are fixed. We require the confirmation that the student actually attended the conference. After the conference, students are expected to provide a short report on their experience to the editors of SIGMM Records.

Students apply through the application form at the SIGMM website. A special committee analyzes the applications and notify the successful applicants for each event. Each applicant must be a member of SIGMM and there's a link on the web page on how to join. A reduced cost of USD 15 is applied to incentivate students to become ACM members. For year 2023-24 SIGMM the budget allocation for travel support was 80.000 US$.

- o **FUNDING OF SPECIAL INITIATIVES**

In 2023-24 SIGMM had a call for proposals for funding of new special initiatives of interest for our community. These are special projects that SIGMM members propose that in their intention should offer opportunities to broaden the SIGMM community, promote marginalized countries, strengthen relationships or provide new facilities. The following initiatives were funded:

Special projects and events

- o Spring school on Social XR Mar 2023, Amsterdam
  € 15,000 (budget FY23) Requested: € 20,000
  - • Travel support for students and early-stage researchers
  - • Mentoring event for students and early-stage researchers
- o RAIMM: Robotics AI and MultiMedia Winter School   Jan-Mar 2024, Grenoble
  € 15,000 (budget FY24) Requested: € 15,000
  - • Expose young researchers interested to qualified scientists on emotional and social signals, systems and middleware, multi-modal fusion and the relationship between vision and language.
  - • Foster discussion between experts in in robotics, artificial intelligence and multimedia Conferences
- o MMSys 23 initiatives June 7-10, 2023 Vancouver (request by Katrien deMoor)
  € 10,000 (budget FY23) Requested € 25,000
  - • Travel support for (non-student) minorities and less-privileged attendees
  - • Luncheon event and EDIJ workshop
- o CBMI'23 Int. Conf. on Content-Based Multimedia Indexing [in cooperation conference] Sept 2023, Orleans (request by Aladine Chetouani)
  € 3,868 (budget FY24) Requested
  € 3,868 Best student paper award
  Cultural program "Music Meets Science" event
- o Medieval workshop Jan 24 Amsterdam (request by Martha Larsson)
  € 11,000   (budget FY24) Requested € 11,250

We continued the 1-year feasibility study for streaming media extensible reusable open streaming evaluation and benchmarking platform funded in the previous year (request by Ali Begen) A new call for proposals for funding of new special initiatives was launched in 2024.

- ○ **OPENNESS AT ACMMM**

We continued the experiment of implementing the openness strategic initiative. SIGMM started using Open Review first time with ACMMM 2022 as an experiment to improve the overall quality and reputation of our flagship conference and align it to the most qualified conferences in the area. The Open Review system (https://openreview.net/), is increasingly used by many top conferences including big competitors of ACMMM like ICML and CVPR...

After its successful application in ACMMM 2022, we run also ACMMM 2023 using Open Review, implemented new technical facilities to ease its adoption for the ACMMM organizers, and create a support team. We believe that this system has interesting benefits with respect to the past that help to improve both quality and reputation: a) the review process is exposed to the public and their comments, in full transparency; b) reviewers are more committed to making serious reviews and Area Chairs to making motivated decisions. With Open Review we have implemented a double-blind review policy. The reviews of the papers accepted were made public only if both authors and reviewers agree (their agreement was given before the start of the review process). Reviews are maintained anonymously. About 74% of people who submitted at ACMMM23 have been favorable with public reviews.

- ○ **SIGMM RETREAT**

in coincidence with ACM Multimedia in Ottawa we decided to have a *SIGMM retreat.* The main goal of the retreat was strategic. In the past few years, the scenario has changed a lot. Multimedia is ubiquitous. Artificial Intelligence has quickly become central to our research. Multimodal processing is increasingly available also thanks to large foundational models. New media are progressively becoming popular such as 3D, event data... adding opportunities and complexity for processing and transmission. More and more applications emerge. While this confirms the relevance of our field in the ICT research scenario it also poses interesting challenges. On the one hand, there is a need to reevaluate the representation and coverage of multimedia research topics in our SIGMM-sponsored conferences. On the other hand, we need to address the growing competition in the conference arena as conferences traditionally focused on other research fields are rapidly incorporating multimedia into their programs. Among them, there are some of the top conferences like CVPR and ICCV in computer vision, CHI in human-computer interaction, SIGCOMM in system and networking....

We invited at the SIGMM retreat the SIGMM EC Members, the Members of the Steering Committee and the Chairs of ACM Multimedia, the Chairs of the Steering Committees of the other SIGMM- sponsored conferences, the ACM TOMM EiC, the past SIGMM Chairs, the big personalities of our community and a few young emerging people. At the retreat we discussed the coverage of our conferences, the new areas that we want to include, how to differentiate our flagship conference from the other conferences while

maintaining high ranking and reputation, and how to improve its attractiveness in the future.

○ **SIGMM STRIKE TEAMS**

In the SIGMMM Retreat we identified a few issues that appeared to be strategic for the future of our flagship conference and more in general for our community. We all also recognized the importance of following words and desires with actions. To this end, it was decided to create "s*trike teams*" on the most strategic themes, composed of few experienced colleagues who volunteer to define realistic strategies at the SIGMM level on these issues, determine concrete actions, and hence help to implement them in the next ACMMM editions. The following Strike Teams were formed, starting from January 1st, 2024:

- **Strike Team on ACMMM Format**

Team Members: Arnold Smeulders (Univ. of Amsterdam), Alan Smeaton (Dublin City University), Tat Seng Chua (National University of Singapore), Ralf Steinmetz (Univ. Darmstadt), Changwen Chen (Hong Kong Polytechnic Univ.), Nicu Sebe (Univ. of Trento), Marcel Worring (Univ. of Amsterdam), Jianfei Cai (Monash Univ.), Cathal Gurrin (Dublin City Univ.). Coordinator: Arnold Smeulders

The team provided recommendations on distinct items related to ACMMM conference, namely identity, budget and memory.

- **SIGMM Strike Team on Open Review**

Team members: Xavier Alameda Pineda (Univ. Grenoble-Alpes), Marco Bertini (Univ. Firenze). Coordinator: Xavier Alameda Pineda

The team continued the support to ACMMM Conference organizers for the use of Open Review in the ACMMM reviewing process, helping to implement new functions or improve the existing ones and supporting smooth transfer of the best practices. The recommendations addressed distinct items to complete the migration and stabilize use of Open Review in the future ACMMM editions.

- **SIGMM Strike Team on Harmonization and Spread**

Team members: Miriam Redi (Wikimedia Foundation), Sivia Rossi (CWI), Irene Viola (CWI), Mylene Farias (Texas State Univ. and Univ. Brasilia), Ichiro Ide (Nagoya Univ), Pablo Cesar (CWI and TU Delft). Coordinator: Miriam Redi

The team provided recommendations to give SIGMM Records and Social Media a more central role in SIGMM, integrate SIGMM Records and Social Media in the whole process of the ACMMM organization since its initial planning.

- **SIGMM Strike Team on Industry Engagement**

Team members: Touradj Ebrahimi (EPFL), Ali Begen (Ozyegin Univ), Balu Adsumilli (Google), Yong Rui (Lenovo) and ChangSheng Xu (Chinese Academy of Sciences) Coordinator: Touradj Ebrahimi

The team provided recommendations to improve the presence of industry at ACMMM and other SIGMM Conferences/Workshops launching new in-cooperation initiatives and establishing stable bi-directional links.

On April 10th, 2024, during the SIGMM Advisory Board meeting, the Strike Team Leaders, Touradj Ebrahimi, Arnold Smeulders, Miriam Redi and Xavier Alameda Pineda

(represented by Marco Bertini) reported their recommendations that were summarized in a report. The recommendations are intended as guidelines and behavioral advices for our ongoing and future activity. SIGMM members in charge of SIGMM activities, SIGMM Conference leaders and particularly the organizers of the next ACMMM editions, were invited to adhere to these recommendations for their concerns, implement the items marked as mandatory and report to the SIGMM Advisory Board after the event.

OTHER ACTIVITIES

Other activities have been implemented:

O   **ACM SIGMM BYLAWS**
The ACMMM Steering Committee is actively working on drafting the ACMMM Steering Committee Bylaws to provide clear guidelines to future organizers of the ACMMM Conference in the perspective of alignment of ACMMM to the highest standards of quality.

O   **SOCIAL MEDIA**
Under the leadership of Pablo Cesar and Silvia Rossi, SIGMM continued the effort in social media activity encouraging social media interaction at our events where we invite conference attendees to post on social media about papers, demos, talks, etc. that they think are most thought provoking and forward looking at the event. SIGMM successfully continues publication of SIGMM Records including recent developments, announce interesting releases, insights on open -source software and open data, timely updates on the developments in the domain of publicly available multimedia datasets as enabling tools for reproducible research in numerous related areas, opinion-based articles on multidisciplinary aspects of multimedia and interviews, insights, visions, and views from outstanding researchers.

O   **WORKSHOPS AND MEETINGS**
SIGMM continued the effort to physically co-locate workshops and TPC meetings with conferences, thus saving travel costs and carbon footprint for the community.

SIGMM FINANCIALS
SIGMM financials are in good shape. The fiscal year closed with a surplus of over $450,000 wrt a budget of $94,000.

The SIGMM flagship conference ACMMM'23 successfully closed the balance with a positive surplus of $421,334.81 (Conference Income: $1,130,850, Conference Expenses w/ Overhead: $709,515.19 and Overhead: $97,864.16). It was a very successful effort provided by the organizer Prof. Abed El Saddik, Univ. of Ottawa.
The MHV conference, acquired under the SIGMM umbrella in 2022, has finally been compliant with the ACM SIGMM standards and produced spositive financial results (Conference Income: $240,978.65, Conference Expenses w/ Overhead: $215,835.54, Overhead: $29,770.42, Surplus: $25,143.11), confirming that we made the right choice continuing its support this conference in the past years, despite the

initial losses. This conference provides an important bridge between the Multimedia community and industry presence. SIGMM is actively working to align this conference to ACM SIGMM standards.

ISSUES FOR SIGMM IN THE NEXT 2-3 YEARS

We believe that SIGMM activity has returned to full normality with effective dissemination of scientific results, training and development of early career researchers, recognition of career progression and achievements. We believe that the Multimedia scenario is rapidly changing and requires quick adaptation of our conferences to the new contest, to maintain the status of our flagship conference ACMMM and the attractivity of the other conferences. This will be done with the implementation of strategic initiatives like Open Review that will grant quality in the review process. More strategic insights about the scope and coverage of our conferences have been resumed in the SIGMM Strike Teams final report. A special summit for invitation only is planned at ACMMM24, in Melbourne to discuss on the impacts and perspectives of Multimodal AI on Multimedia research and its positioning in the AI research scenario.

The purpose of ACM SIGMOBILE is to promote research and development by bringing together researchers and practitioners and fostering interest in the mobility of systems, users, data, and computing. SIGMOBILE will address the above spectrum of topics, sharing one common theme - mobility. The group's technical scope reflects the emerging symbiosis of portable computers and wireless networks, addressing the convergence of mobility, computing and information organization, its access, services, management and applications.

In the past years, mobile computing has developed into a fast moving, topical, and exciting area of computer science and engineering. Supporting the mobile computing and wireless networking research community, SIGMOBILE sponsors multiple successful conferences and workshops (e.g., MobiCom, MobiSys, MobiHoc, SenSys, UbiComp, PerDis, SEC, and HotMobile) that are well attended by its members, and generating high-quality and widely cited publications. These are valuable services for SIGMOBILE's members and the community, resulting in a strong Special Interest Group.

SIGMOBILE's Executive Committee (EC) in this period comprised of:
● Chair: Prof. Lili Qiu (Microsoft Research Asia/University of Texas at Austin, USA)
● Vice Chair: Prof. Falko Dressler (Technische Universität Berlin, Germany)
● Treasurer: Prof. Yingying Chen (Rutgers University, New Brunswick, USA)
● Secretary: Prof. Mo Li (Nanyang Technological University, Singapore)
● Past Chair: Prof. Marco Gruteser (Google / Rutgers University, New Brunswick, USA)

Diversity, Equity, and Inclusion

SIGMOBILE operates a program to broaden participation that involves several key activities: workshops designed for underrepresented groups, informal lunch meetings and mentoring, and student travel grants. We also seized the opportunity that presented itself with virtual conferences to reach a much broader audience. We chose to offer free registration for most of our conferences and covered the costs of the conference largely through sponsorship funds. This removed barriers for participation and we observed significantly larger registrations counts as well as registrations from a broader set of geographic regions.

The SIGMOBILE student travel grant program usually co-sponsors student travel costs to SIGMOBILE conferences. Conference organizers are asked to explicitly consider the goal of broadening participation when selecting travel grant awardees. SIGMOBILE travel grant that enabled the students to also attend the main conference and further network with the community. Generally, the goal of ASSET is to empower students from developing countries and regional universities with technical writing, speaking, and presentation skills and also allow them to experience a top-tier research conference. SIGMOBILE also sponsored activities from partner organizations focused on broadening participation, such as the CRA-W conference.

Awards

SIGMOBILE has a number of awards that it bestows on community members. In addition to the Outstanding Contributions Award (OCA) for career-long achievements, the Rockstar award for early career achievements, the Distinguished Service Award for service to the community, the Doctoral Dissertation Award for best PhD work in the field, the Test of Time award for papers that had a significant influence in the community, and various best paper awards at the leading

conferences. In addition, SIGMOBILE also recognizes some of the best work in the current year, as identified by a selection committee, as the Research Highlights of SIGMOBILE. Some of the notable award winners are mentioned below.

Outstanding Contributions Award: Fouad Tobagi for his seminal development of Carrier Sense Multiple Access (CSMA) as a widely used fundamental mechanism for efficient wireless transmission.

Distinguished Service Award: Eyal de Lara.

Rockstar Award: Prof. Swarun Kumar (CMU), in recognition of his outstanding contributions to the design of novel techniques to extend the range of low-power networks and the development of the area of programmable targeted wireless energy delivery.

Dissertation Award: Dr. Sujay Narayana, TU Delft, Space Internet of Things (Space-IoT) for contributions in efficient and miniaturized Space-IoT systems.

Runner up: Dr. Justin Chan, University of Washington, Intelligent Earable Systems for Equitable Healthcare for advancing applicability of earable computing to scalable healthcare.

The SIGMOBILE Test of Time award was selected by a committee chaired by Prof. Sung-Ju Lee (KAIST). The committee comprising Sung-Ju Lee (KAIST, Chair), Romit Roy Choudhury (University of Illinois), Y. Charlie Hu (Purdue University), Yunxin Liu (Tsinghua University), Luca Mottola (Politecnico di Milano), Ashutosh Sabharwal (Rice University) and Xia Zhou (Columbia University).

Brian D. Noble, M. Satyanarayanan, Dushyanth Narayanan, James Eric Tilton, Jason Flinn, and Kevin R. Walker. "Agile Application-aware Adaptation for Mobility," ACM SOSP, 1997.

Jie Xiong and Kyle Jamieson. "ArrayTrack: A Fine-Grained Indoor Location System," USENIX NSDI, 2013.

Significant Papers (Research Highlight Papers) The SIGMOBILE research highlights committee chaired by Prof. Lin Zhong selected the following papers as papers that combine a broad appeal with significant results.

[Wireless earbuds for low-cost hearing screening](#), MobiSys 2023.

[Plug-and-play Physical Computing with Jacdac.](#), Ubicomp 2023.

[RetroSphere: Self-Contained Passive 3D Controller Tracking for Augmented Reality.](#), Ubicomp 2023.

Conference Activity

SIGMOBILE conferences all returned to in-person.

The 21th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys 2023) was held in Helsinki, Finland, during June 18-22, 2023 organized by General Chairs Dr. Petteri Nurmi and Dr. Pan Hui as well as the technical program chairs Ardalan Amiri Sani and Dr. Yunxi Liu.

The International Joint Conference on Pervasive and Ubiquitous Computing (Ubicomp) was held in Cancun, Mexico during Oct. 8-12, 2023. It was organized by general chairs Dr. Monica Tentori, Dr. Nadir Weibel, and Dr. Krisstof Van Laerhoven, as well as technical program chairs Dr. Edison Thomaz, Dr. Silvia Santini, and Dr. Judy Kay.

The 29th Annual International Conference on Mobile Computing and Networking (MobiCom 2023) was held in Madrid, Spain during Oct. 2-6, 2023 organized by general chairs Dr. Joerg

Widmer and Dr. Xavier Costa-Perez, Vice Co-Chairs Dr. Diego Perino and Dr. Domenico Glustiniano as well as technical program chairs Dr. Haitham Hassanieh and Dr. Landon Cox.

The International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (MobiHoc 2023) was held in Washington DC during Oct. 23-26, 2023 organized by general chairs Suresh Subramaniam and Jie Wu as well as Technical Program Chairs Carla Fabiana Chiasserini and Bo Ji.

The 20th ACM Conference on Embedded Networked Sensor Systems (SenSys 2023) was held in Istanbul, Turkey, during Nov 13-25, 2023 organized by general chair Rasit Eskicioglu, as well as technical program chairs Polly Huang and Neal Patwari.

The 23nd International Workshop on Mobile Computing Systems and Applications (ACM HotMobile 2023) was held in Orange County, CA during Feb. 22-23, 2023 organized by general chair Ardalan Amiri Sani as well as technical program chair Jeremy Gummison.

Pandemic has posed significant challenges to conference organizers. As the pandemic was over, we have seen conferences have returned to in-person. Meanwhile, we also recognize that in-person attendance is still challenging for many people, especially those residing in regions with travel restrictions as well as those with limited financial resources. We have solicitated feedback from the conference organizers and attendees and come up with guidelines for SIGMOBILE future conference organization to best support our community for the years to come. We have the following requirements: (1) Video recording and sharing of conference presentation; (2) Authors are strongly encouraged to present in person; for special situation, they can seek an approval from organizers for remote attendance. We also have the following recommendations: (1) Online streaming of part or whole program. (2) Diversified conference registration. (3) Conference organizers decide in-person or online TPC meeting based on various factors including cost.

Special Projects and Programs

1) Distinguished Lecture Series

SIGMOBILE launched a distinguished lecture series to offer more learning and research sharing opportunities during pandemic. Till now, we have organized the following distinguished lectures:

- Dina Katabi: Monitoring People and Their Vital Signs, Feb. 18, 2022

- Daniel Ramage: Cross-Device Federated Learning and Federated Analytics at Google, April 29, 2022

- Shyam Gollakota: Creating Intelligent Acoustic Systems for Healthcare, Earables, and Voice Assistants, Sept. 23, 2022

- Olivier Sellers, Reliable LoRaWAN Dommunication under Downlink Traffic Limitations, Nov. 3, 2022

- Matt Welsh, Large Language Models and The End of Programming, Feb. 16, 2023

- Ashutosh Sabharwal, Measuring Human Behavior to Improve Health, Aug. 31, 2023

- Mani Srivastava, Performant, Efficient, and Trustworthy CPS-IOT Systems – Challenges and Opportunities from Neurosymbolic Architectures and Foundation Models.

2) Community grants

To help support the next generation of mobile computing researchers and tighten community connections during the continued pandemic, SIGMOBILE has made available student community grants. For details, please consult the solicitation. Through rigorous review process, we have funded the following projects for one-year:

1) "Research and Implementation of Distributed Wi-Fi Phased Array using Low-Cost COTS Hardware" by Yu Duan, Daiyang Zhang and Zhiping Jiang, Xidian University, China

2) "A public repository of network traffic traces based on different wireless and mobile technologies for metaverse applications" by Washik Al Azad and Ihsan Ali, University of Nebraska at Omaha, USA

3) "SplitSmart: An Open Dataset for Enabling Research in Energy-efficient Ductless-Split Air Conditioners" by Keshav Kaushik, BITS Pilani, India

4) "Building an Open-Sourced Earable Computing Platform" by Tao Chen, University of Pittsburgh, USA

3) GetMobile

SIGMOBILE continues to invest in GetMobile, SIGMOBILE's significantly transformed quarterly publication, which is a revamped version of the ACM SIGMOBILE Mobile Computing and Communications Review (MC2R). Each issue of GetMobile consists of a set of regular sections curated by a committed group of editors and has won a lot of praise from the broad community for improved quality of content and articles. GetMobile added several great young editors over the past few issues. The magazine's content remains excellent thanks to the editors' effort under the leadership of Landon Cox and **the incredible staff of Donna Paris and JoAnn McHardy.**

4) Youtube

Use of SIGMOBILE's YouTube channel has risen sharply and become even more impactful with the shift to virtual conferences. With speaker approval, recordings from our major conferences and workshops are archived on this channel. This content is publicly available and anyone can now watch the talks from our conferences at their convenience. There are 2.17K subscribers, 1.1 K videos, and 341,880 views. Many of our viewers are from countries that are traditionally underrepresented at our conferences, including Asia and Latin America. This channel thereby allows us to reach many more constituents than our conferences and workshops currently do.

5) Artifact Evaluation

Through multiple discussions between SIGMOBILE EC and artifact evaluation committee, SIGMOBILE has come up with ACM SIGMOBILE Research Papers Artifact Evaluation Guidelines and posted at SIGMOBILE website. This document presents a set of guidelines for evaluating paper artifacts at conferences sponsored by ACM SIGMOBILE.

Summary

SIGMOBILE is a well-supported organization. It remains both financially and technically strong. It has continued to support the Mobile computing and wireless networking community to produce high-impact research, organize valuable conferences and workshops, provide enrichment activities, connect members across the world, and offer financial support. This would not be possible without the strong support of many volunteers. We'd like to take this opportunity to thank all of them for their dedication and support!

SIGMOD Annual Report
July 1, 2023 through June 30, 2024
Submitted by: Divyakant Agrawal, Chair

Mission Statement.

ACM SIGMOD is organized and is operated exclusively for educational, scientific, and technical purposes in its specialty, which is data management. We live in a data-driven society where decisions and science are increasingly driven by the insights gathered from analysis of relevant data, this societal transformation places us squarely in the center of technology disruptions.

State of ACM SIGMOD

ACM SIGMOD remains a vibrant special interest group that brings together academics, professionals, researchers, and students who are all interested in different aspects of data. For its members, ACM SIGMOD publishes a quarterly newsletter viz. ACM SIGMOD Record and organizes an annual conference ACM SIGMOD International Conference on Management of Data which is typically held in the month of June. The conference is jointly held with another conference on Principles of Database Systems as well as several pre-conference and post-conference activities that include highly focused workshops on emerging research areas, advanced technology tutorials, and specialized plenary sessions. ACM SIGMOD 2024 was held last year in Santiago, Chile. The overall conference participation was about 700 registrations.
Overall ACM SIGMOD remains healthy and vibrant and in spite of the challenges due to the pandemic, we are making slow and steady progress towards normalization.

Diversity, Equity, and Inclusion

ACM SIGMOD in collaboration with VLDB has chosen to establish independent organizations to oversee the issues of diversity, equity, and inclusion. These organizations are:

- DBcares: The mission of DBCares is to create an inclusive and diverse Database community with zero tolerance for abuse, discrimination, or harassment.
- Diversity and Inclusion in Database Conferences: Make diversity and inclusion a first class citizen in database conferences.

DBCares was co-started by VLDB Endowment and Sigmod Executive Committees in October 2018. Both these organizations operate autonomously and advise on DEI issues to the SIGMOD Executive Committee. Furthermore, Diversity and Inclusion in Database Conferences group actively engages with SIGMOD conference organizers

and plans D&I activities during the conferences such as Conference Keynotes on D&I, D&I panels, and travel sponsorship to students from disadvantaged groups. Effective this year, these two initiatives have been integrated under the broader umbrella of DEI in Databases.

Awards and Award Recipients

2024 ACM SIGMOD Jim Gray Doctoral Dissertation Award.

***Winner*:**
- Daniel Kang (Advisor: Peter Bailis, Matei Zaharia), UIUC, *Efficient and accurate systems for querying unstructured data*

***Runner-Ups*:**

- Wei Dong (Advisor: Ke Yi), Carnegie Mellon University, Query Evaluation under Differential Privacy

- Jialin Ding (Advisor: Tim Kraska), Massachusetts Institute of Technology, Instance-Optimized Database Indexes and Storage Layouts
- Yisu Remy Wang (Advisor: Dan Suciu), University of California at Los Angeles, Relational Programming

2024 ACM SIGMOD Systems Award:

To recognize the development of a software or hardware system whose technical contributions have had significant impact on the theory or practice of large-scale data management systems.

- **Apache Singa: A Distributed Deep Learning System:** *"For the development of a distributed, efficient, scalable, and easy-to-use deep learning platform for large scale data analytics"*

- **Contributors:** Zhaojing Luo, Beng Chin Ooi, Wei Wang, Meihui Zhang, Qingchao Cai, Shaofeng Cai, Gang Chen, Tien Tuan Anh Dinh, Jinyang Gao, Qian Lin, Shicong Lin, Kee Yuan Ngiam, Gene Yan Ooi, Moaz Reyad, Kian-Lee Tan, Anthony K. H. Tung, Sheng Wang, Yuncheng Wu, Zhongle Xie, Naili Xing, Rulin Xing, Wanqi Xue, Sai Ho Yeung, James Yip, Lingze Zeng, Zhaoqi Zhang, Kaiping Zheng, Lei Zhu, and Ji Wang.

2024 ACM SIGMOD Contributions Award

For outstanding and sustained services to and promotion of the database field through activities such as education, conference organization, journals, standards, and research funding.

- The SIGMOD 2024 Contributions Award goes to Sihem Amer-Yahia (CNRS, Univ. Grenoble Alpes) for her contributions towards diversity, equity, and inclusion in the professional database research community.

  Sihem Amer-Yahia is a 2020 Silver Medal CNRS Research Director and Deputy Director of the Lab of Informatics of Grenoble in France. She works on exploratory data analysis and algorithmic upskilling. Sihem was Principal Scientist at QCRI, Senior Scientist at Yahoo! Research and Member of Technical Staff at AT&T Labs. She served as PC chair for SIGMOD 2023 and as the coordinator of the Diversity, Equity and Inclusion initiative for the database community from 2021 to 2023. Sihem received the 2024 IEEE TCDE Impact Award for contributions to laying the interdisciplinary data engineering foundations of social computing and crowdsourcing.

2024 ACM SIGMOD Edgar F Codd Innovations Award
For innovative and highly significant contributions of enduring value to the development, understanding, or use of database systems and databases.

- The SIGMOD 2024 Edgar F Codd Innovations Award goes to Samuel Madden (MIT) for his wide ranging contributions to multiple aspects of data management, including column-oriented database systems, high performance transaction processing, and systems for mobile and sensor data.

  Samuel Madden is a College of Computing Distinguished Professor of Computing at MIT. His research projects include learned database systems, the C-Store column-oriented database system, and the CarTel mobile sensor network system. Madden heads the Data Systems Group at MIT and the Data Science and AI Lab (DSAIL), an industry supported collaboration focused on developing systems that use AI and machine learning. Madden was named one of Technology Review's Top 35 Under 35 in 2005 and an ACM Fellow in 2020, and is the recipient of several awards, including an NSF CAREER award, a Sloan Foundation Fellowship, and "test of time" awards from VLDB, SIGMOD, SIGMOBILE, and SenSys. His work has had significant industrial impact, particularly through startups, including as a co-founder of Vertica Inc., and as the co-founder and Chief Scientist at Cambridge Mobile Telematics, which develops technology used by millions of people to make roads safer and drivers better.

2024 ACM SIGMOD Test-of-Time Award

For the paper from the SIGMOD proceedings 10 years prior that has had the most impact over the intervening decade.

- **"PrivBayes: Private Data Release via Bayesian Networks,"** Jun Zhang, Graham Cormode, Cecilia M. Procopiuc, Divesh Srivastava, and Xiaokui Xiao

New areas at SIGMOD Conference

Effective SIGMOD'2022, we have created a new track on Data Science targeting the entire data life cycle of real applications. This data life cycle encompasses databases/data management/data systems/data engineering often leveraging statistical, Machine Learning and Artificial Intelligence methods and using massive and heterogeneous collections of potentially messy datasets. Data science papers study phenomena at scales and granularities never before possible. Such papers are expected to focus on data-intensive components of data science pipelines; and solve problems in areas of interest to the community (e.g., data curation, optimization, performance, storage, systems). We solicit submissions that describe deployed solutions to data science pipelines as well as submissions that describe fundamental experiences and insights from evaluating real-world data science problems.

Effective SIGMOD'2023, we have moved the paper publication process from the traditional conference proceedings format to the ACM Journal format leveraging the newly created family of journals called Proceedings of the ACM. Starting with SIGMOD'2023, all SIGMOD papers will be published in the Proceedings of the ACM on Management of Data (PACMMOD).

SIGMOD Conference Activity

Our annual conference ACM SIGMOD'2024 was held in fully in-person mode at Santiago, Chile in June 2023. The historical significance of SIGMOD'2024 is that this is the first time the SIGMOD conference was held in South America.

We are also glad to report that the fiscal health of ACM SIGMOD remains robust primarily because of very strong corporate sponsorship over the past few years. We are increasingly finding ways to bring the value of ACM SIGMOD to its members (both regular and student members) as well as our corporate sponsors.

Special Projects and Non-conference Programs

ACM SIGMOD has approved funding for an annual budget to the Diversity and Inclusion in Database Conferences group for diversity and inclusion initiatives.
Key Challenges

- The membership data indicates that there has been sharp declines in the number of SIGMOD members. Although some of this decline can be attributed to the pandemic, we feel that this is an area that needs to be addressed. We will work with the ACM and other SIGs to discuss ways to increase our membership.
- As an organization we have to address the Diversity, Equity, and Inclusion issues at different levels. We would like to initiate special projects in this context but the challenges are first to ensure we have a fiscal viability and second the projects have to be contextualized in a local setting.

SIGOPS Annual Report
July 2023 – June 2024
Submitted by: Haibo Chen, Chair

SIGOPS addresses a broad spectrum of issues associated with operating systems research and development. Although many of the members are drawn from industry, academic and government professionals are also represented in the membership.

Overview
This was the first year for Haibo Chen (Shanghai Jiao Tong University) as Chair, Ding Yuan(University of Toronto) as vice-chair, and KyoungSoo (KAIST) as Secretary-Treasurer.

SIGOPS has three active chapters, EuroSys, SIGOPS de France (ASF), and ChinaSys, which are all continuing very well.

SIGOPS publishes a newsletter, *Operating Systems Review (OSR)*, which focuses on specific research topics or research institutions, manages an electronic mailing list, curates an on-line SIGOPS blog, and maintains a web site: http://www.sigops.org/.

The current co-editors of Operating System Review are Christopher J. Rossbach (The University of Texas, Austin), and Kishore Pusukuri (UC Riverside). They have just finished the latest issue of OSR covering special topics on "Shared Logs" and "Challenges and Opportunities of Efficient and Performant Storage Systems (CHEOPS'24)" (Volume 58, Number 1, June 2024).

Baris Kasikci (University of Washington), Dong Du (Shanghai Jiao Tong University), Tianyin Xu (UIUC), Akshitha Sriraman (University of Michigan) serve as the new Chief Editors of SIGOPS Blog (https://www.sigops.org/blog/). The blog publishes a number of good blogs covering career, community, research, services, which generate sufficient interests among readers.

We had a rotation of our CARES committee. After years of great service, Dilma Da Silva has passed the role of chairs to Ada Gavrilovska (Co-Chair), Michio Honda (Co-Chair).

SIGOPS encourages participation in conferences and career building activities for young members of the community. For example, SIGOPS has continued to offer travel grant support to many of its sponsored or co-sponsored conferences, and has supported low or free registration fees for ACM/SIGOPS student members at several of its sponsored or co-sponsored conferences. Further, SIGOPS also supports free registration for retired and unemployed members who used to be active in our community.

Awards

The SIGOPS Dennis M. Ritchie Doctoral Dissertation Award 2023 committee was run by Nickolai Zeldovich (MIT, Chair), Vijay Chidambaram (UT Austin), Robbert van Renesse (Cornell). The award went to Rishabh Iyer's "Latency interfaces for systems code" (EPFL), advised by George Candea and Katerina Argyraki. Chang Lou (Johns Hopkins University) is the runner up.

The Mark Weiser Award 2023 was awarded to Matei Zaharia (Stanford), for innovation and impact in large-scale data processing. The committee consisted of Eddie Kohler (Harvard, Chair), Remzi Arpaci-Dusseau (WISC), Angela Demke Brown (University of Toronto).

SIGOPS Hall of Fame Awards that honor the most influential papers that appeared in SIGOPS conferences at least ten years in the past went to "Xen and the Art of Virtualization", which was published at SOSP 2003 by Paul Barham, Boris Dragovic, Keir Fraser, Steven Hand, Tim Harris, Alex Ho, Rolf Neugebauer, Ian Pratt, Andrew Warfield.

At the EuroSys branch, Rishabh Iyer (EPFL) was the recipient of the EuroSys Roger Needham Ph.D. Award 2024; Kaveh Razavi (ETH Zurich) was the recipient of the EuroSys Jochen Liedtke Young Researcher Award, and Gustavo Alonso (ETH) was the recipient of the EuroSys Lifetime Achievement Award 2023; Dulloor Subramanya Rao, Sanjay Kumar, Anil S. Keshavamurthy, Philip Lantz, Dheeraj Reddy, Rajesh Sankaran, Jeff Jackson were awarded the Test of Time Award for their EuroSys 2014 paper System software for persistent memory.

At the ChinaSys branch, Pengfei Li, Qingang Wang, and Xiangyu Zou won the ChinaSys Distinguished Dissertation Award 2022, Jilong Xue, Eric Xu and Mingzhe Zhang won the ChinaSys Rising Star Award 2023.

Conferences
-    The first annual SOSP, SOSP 2023 has been held in person at Koblenz, Germany. Peter Druschel, Antoine Kaufmann, and Jonathan Mace (Max Planck Institute for Software Systems) served as the General co-Chairs; Margo Seltzer (University of British Columbia) and Jason Flinn (Facebook) served as the Program co-Chairs. The conference was a great success, attracting many systems people to reunite at the first post-pandemic in-person conference.

-    SIGOPS continued the tradition to sponsor a diversity-themed workshop at SOSP 2023. Last year's workshop was led by SOSP DEI chairs, Irene Zhang (Microsoft) and Natacha Crooks (UC, Berkeley). This is also the first time that we set up the "DEI chair" role at SOSP. Irene Zhang (MSR), Daniel Berger (MSR), Dan Ports (MSR) conducted a climate survey before the conference and Dan reported the climate survey results during the SIGOPS business meeting.

- The SIGOPS Asia-Pacific Workshop on Systems (APSys) was held in August 2023 at Seoul, South Korea. This is the first in-person APSys since the COVID, so the community was really excited. APSys 2023 was chaired by Yiying Zhang (UCSD) and Byung-Gon Chun (Seoul National University). Dongkun Shin and Beomseok Name from SungKyunKwan University, South Korea, served as the General Chair.

- HotStorage was previously sponsored by the USENIX organization. Starting from 2021, it has been sponsored by ACM SIGOPS. HotStorage 2021 and HotStorage 2022 have both been held successfully virtually. At 2023, it has been held successfully in Boston. Yiying Zhang (UCSD) and Vasily Tarasov (IBM Research) served as the Program co-Chairs; Ali Anwar (University of Minnesota) and Ningfang Mi (Northeastern University) served as the General co-Chairs.

- A few other SIGOPS-sponsored or -co-sponsored conferences have successfully been held in person or in a hybrid mode in the past 12 months: SoCC (co-sponsored with SIGMOD) 2023 in Santa Cruz; ASPLOS 2024 in San Diego, USA (co-sponsored with SIGARCH and SIGPLAN); PODC (co-sponsored with SIGACT) 2024 in Nantes, France; etc. SYSTOR 2024 will be delayed to September and held in virtual in Haifa, Israel (fully sponsored by SIGOPS) due to the current circumstance.

- In-cooperation events included USENIX venues FAST 2024, NSDI 2024, and OSDI 2024.

- The EuroSys chapter continues to organize the highly successful annual EuroSys conference. Most recently, EuroSys 2024 was held in-person in Athens, Greece.
- ChinaSys chapter has continued to organize successful local workshops and schools, including the ChinaSys workshop in December 2023 (Lanzhou, China) and June 2024 (Hangzhou, China).

- The ASF branch has continued to run its very successful Winter School on Distributed Systems & Networks. The 8th edition of this winter school was run in February this year (https://sites.google.com/site/rsdwinterschool/home), and the 9th edition is already scheduled for February 2025 in the village of Pleynet, Sept Laux.

Some of the Recent Initiatives
- We will continue initiatives like artifact evaluation and student mentoring at our conferences.
- A conference survey was conducted at SOSP 2023, led by the CARES co-chairs Ada Gavrilovska (Co-Chair), Michio Honda (Co-Chair). We plan to run another survey at SOSP 2024.
- With the support of a lot of our colleagues, we have got ACM Transactions on

Computer Systems (TOCS) revival, with Sam Noh and Robbert van Renesse as the new Editor-in-Chiefs.
- We have reformed the steering committee of SOSP, with Lidong Zhou elected as the new chair according to the rotation rule.

Key topics to address in the coming year:
- Maintaining the high quality of SIGOPS's flagship conference, SOSP. As SOSP 2024 is the first time to annual, it is important to work with the community to maintain its high quality by still attracting good submissions, good program committee, and more as well as diversified attendees. Meanwhile, we need to select the location for SOSP 2025 with the SOSP SC from now on so as to leave sufficient time for the organizers.
- Broadening participation and promoting inclusion. SIGOPS has worked on this through various Diversity Workshops, travel grant programs, and other initiatives. However, sustained effort is needed. Particularly, we would like to encourage participation from under-presented regions, and explore opportunities to form chapters in such regions.
- Reinforcing the connections affected by the pandemic. Now the pandemic has ended and our conferences have gone back to in-person mode. It is time to recover and reinforce the in-person communications through conferences, workshops and summer schools.
- Booming the SIGOPS blogs and social media, which are good ways to publicize important achievements of our members, generate high impact of good research, and bridge the gap between industry and academia. We have assembled a strong editorial boards for blogs and social media to achieve this goal.

SIGPLAN FY 2024 Annual Report
July 2023 – June 2024
Submitted by: Andrew Myers, SIGPLAN Chair (largely written by Jeff Foster, outgoing chair)

SIGPLAN has four annual flagship conferences:
 - Int. Conf. on Functional Programming (ICFP),
 - Conf. on Programming Language Design and Implementation (PLDI),
 - Symp. on Principles of Programming Languages (POPL), and
 - Conf. on Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH).
Additionally, SIGPLAN sponsors or co-sponsors eight other conferences and runs four instances of the Programming Languages Mentoring Workshop at our flagship conferences. Attendance at our conferences is now in the same ballpark as pre-pandemic levels.

1. Awards
SIGPLAN announced the following awards:
- SIGPLAN Robin Milner Young Researcher Award: Armando Solar-Lezama (MIT)
- SIGPLAN Programming Languages Achievement Award: Keshav Pingali (UT Austin)
- SIGPLAN Software Award: The Rust Programming Language
- SIGPLAN Distinguished Service Award: Emery Berger (UMass Amherst)
- SIGPLAN John C. Reynolds Doctoral Dissertation Award: Benjamin Bichsel, ETH Zurich, "High-Level Quantum Programming"
- SIGPLAN Most Influential Paper awards to papers presented 10 years earlier:
- ICFP 2013: Ohad Kammar, Sam Lindley, and Nicolas Oury, "Handlers in Action"
- OOPSLA 2013: Leo Meyerovich and Ariel Rabkin, "Empirical analysis of programming language adoption"
- POPL 2014:Ramana Kumar, Magnus Myreen, Michael Norrish, and Scott Owens, "CakeML: A Verified Implementation of ML"
- PLDI 2014: Steven Arzt, Siegfried Rasthofer, Christian Fritz, Eric Bodden, Alexandre Bartel, Jacques Klein, Yves Le Traon, Damien Octeau, and Patrick McDaniel, "FlowDroid: Precise Context, Flow, Field, Object-sensitive and Lifecycle-aware Taint Analysis for Android Apps"

2. Significant Programs
SIGPLAN is committed to gold open access for papers in conferences that have joined Proceedings of the ACM on Programming Languages (PACMPL). SIGPLAN has an agreement with Scott Delman that SIGPLAN pays the per-paper fee of $400 for gold open access, unless authors pay themselves or are covered by ACM Open. This

program will continue over the next year at least but may be phased out as ACM transitions to ACM Open. POPL, ICFP, OOPSLA, and PLDI are all part of PACMPL. SIGPLAN provides more than $80k annually in travel grants through the SIGPLAN Professional Activities Committee (PAC). Most of these grants support student travel. Additionally, SIGPLAN provides $80k annually to support the four Programming Languages Mentoring Workshops (PLMW). This money goes to cover the travel costs of students. SIGPLAN also provides funding to support summer schools. The amount varies from year to year, but recently has been between $20k and $30k.

The SIGPLAN Information Director sends a monthly newsletter via email to every SIGPLAN member. The newsletter contains information about upcoming SIGPLAN conferences and other activities that may be of interest to SIGPLAN members. Additionally, SIGPLAN has a presence on Facebook and Twitter.
The SIGPLAN blog is going well. The current editors are Adrian Sampson and Aws Albarghouthi. Postings include summaries of distinguished papers from SIGPLAN conferences and topics of broad interest to the community.

In FY 2022, SIGPLAN hired Neringa Young as Conference Manager. Neringa provides major support for our flagship conferences and PLMW events. Neringa meets regularly with our flagship conference and PLMW chairs, and for the last several years met with the SIGPLAN chair roughly every two weeks.

3. Innovative Programs
Following a recent tradition, PLDI 2024 had a "TOPLAS & SIGPLAN papers" track, which invited authors of papers at other flagship SIGPLAN events to present their papers at those conferences. The goal is to create more opportunities to share information across the community and give speakers an opportunity to speak at an in-person event, especially if they could not do so at the conference their paper was accepted at. So far, POPL and SPLASH have sometimes had a similar track, but ICFP and POPL has not yet developed such a track.

In the past year, we continued SIGPLAN-M, a subcommittee of SIGPLAN,
https://www.sigplan.org/LongTermMentoring/

SIGPLAN-M organizes an international long-term mentoring program for programming languages researchers. The goal of the program is to address two mentoring needs in the programming languages community. First, for aspiring or junior researchers, it is difficult (but necessary) to form long-term connections in the programming languages community, and to access the perspectives of researchers from other institutions. Second, for senior researchers, it is difficult to access mentorship of any kind. The

program has been a tremendous success and is highly valued by the community. Indeed, Talia Ringer won the 2023 SIGPLAN Distinguished Service Award in part for her development of SIGPLAN-M.

Because SIGPLAN has several flagship conferences, each with their own steering committee, sometimes lessons learned by one conference are not shared with other conferences. To address this issue, we started holding semi-regular SIGPLAN SC Summit Meetings, with representatives from the four flagship conferences. At these meetings, we share information and discuss SIGPLAN policies relevant to conferences. SIGPLAN records and streams AV from our flagship conferences. In the last several years, this work has been done by student volunteers. To help recognize the critical importance of this work to our community, SIGPLAN recently named this group the SIGPLAN-AV team, and we have been emphasizing their work to conference organizers and attendees.

SIGPLAN pioneered the introduction of artifact evaluation into our publication process. Currently all of our flagship conferences have artifact evaluation committees. However, the processes those committees follow vary a little from conference to conference and year to year, and are not written down in depth. SIGPLAN recently formed a committee to draft SIGPLAN-wide artifact evaluation policies to help ensure consistency across our conferences.

4. Broadening Participation
SIGPLAN has a Programming Languages Mentoring Workshop (PLMW) co-located with every flagship conference, for a total of four PLMWs annually. Each PLMW has 30–40 attendees, which are a mix of undergraduate and graduate students. The goal of each workshop is to increase participants interested in pursuing more education in computer science in general and programming languages in particular. CRA (CERP) surveys the participants, both right after each workshop and one year later. CRA sends SIGPLAN reports with the outcomes. SIGPLAN uses those reports to understand the impact of PLMW and to raise funds from the National Science Foundation and industry.
The four flagship conferences use a variant of double-blind peer review to ensure fairness, particularly to under-represented groups.

SIGPLAN has created a pool of travel funding for members of historically marginalized groups. An example of such a group is the faculty and students at Historically Black Colleges and Universities.

Several of the PLMW organizers are developing a "PL Scholars Network" that will fund faculty and students from smaller colleges and universities to participate in PLMW and

the associated main conference. The goal is to broaden the pipeline of people coming into the field.

SIGPLAN has a CARES committee, which is a sounding board for anyone who experiences a violation of an ACM policy, such as harassment, discrimination, or plagiarism.

5. Key Issues

SIGPLAN's flagship conferences continue to have mixed financial results, though things are trending in a positive direction. Our conference manager is very aware of the issues and is working hard to avoid losses going forward. SIGPLAN maintains a very large fund balance, so there is no concern in the short term.

Recently, our conference registration rates have been going up noticeably, as costs have also risen significantly (and to make up for rates that were not set high enough before). To help keep costs lower, SIGPLAN recently approved reducing the conference contingency rate from 15% to 5%. SIGPLAN has enough fund balance to comfortably cover the risk even with this lower contingency.

Due to the changes a couple of years ago in the overhead computation, SIGAda became non-viable. To enable continued support of members of that community, SIGAda merged into SIGPLAN in 2024 to become the High-Integrity Language Technologies (HILT) technical committee. In a sense, SIGAda has come full circle, as it was originally a technical committee within SIGPLAN before being spun off into a separate SIG. Members of SIGAda had their membership transferred to SIGPLAN, and anyone who was a member of both SIGs was given the option to extend their SIGPLAN membership another year at no cost or get a refund. Efforts to merge the SIGAda website into the SIGPLAN website are under way.

SIGSAC Annual Report
July 2023 to June 2024
Submitted by: XiaoFeng Wang, Chair

1. Comment on the ways in which the SIG is a healthy and viable organization
In the past year, SIGSAC has successfully organized high-impact conferences (see below), made multiple awards to celebrate excellence and continued to support the SIGSAC community. We also proposed a new SIGSAC Outstanding Early Career Researcher Award and got approved. This year, we formed a committee led by Ninghui Li of Purdue to select the winner of the new awards, in addition to other awards.

2. Describe your efforts related to Diversity, Equity, and Inclusion.
SIGSAC continued to sponsor women's networking reception at major conferences such as CCS.

SIGSAC continued to sponsor the iMentor workshop, which aims at attracting, mentoring, and career advising early-stage graduate students from underrepresented communities who want to pursue a career in computer security.

3. Provide a list of awards and recipients

SIGSAC Outstanding Innovation Award: Gene Tsudik

SIGSAC Outstanding Contributions Award: Paul van Oorschot

SIGSAC Doctoral Dissertation Award Winner: Alex Lombardi

SIGSAC Doctoral Dissertation Award Runners-Up:

Xuewei Feng

Samuel Steffen

4. List significant papers on new areas that were published in proceedings

- **Alert Alchemy: SOC Workflows and Decisions in the Management of NIDS Rules**
    - o   Mathew Vermeer, Natalia Kadenko, Michel Van Eeten, Carlos Gañán, and Simon Parkin

- **Amplification by Shuffling without Shuffling**
    - o   Borja Balle, James Bell, and Adria Gascon

- **Batchman and Robin: Batched and Non-batched Branching for Interactive ZK**

  - Yibin Yang, David Heath, Carmit Hazay, Vladimir Kolesnikov, and Muthuramakrishnan Venkitasubramaniam

- **Capacity: Cryptographically-Enforced In-process Capabilities for Modern ARM Architectures**

  - Kha Dinh Duy, Kyuwon Cho, Taehyun Noh, and Hojoon Lee

- **CoCo: Efficient Browser Extension Vulnerability Detection via Coverage-guided, Concurrent Abstract Interpretation**

  - Jianjia Yu, Song Li, Junmin Zhu, and Yinzhi Cao

- **FutORAMa: A Concretely Efficient Hierarchical Oblivious RAM**

  - Gilad Asharov, Ilan Komargodski, and Yehuda Michelson

- **HE3DB: An Efficient and Elastic Encrypted Database Via Arithmetic-And-Logic Fully Homomorphic Encryption**

  - Song Bian, Zhou Zhang, Haowen Pan, Ran Mao, Zian Zhao, Yier Jin, and Zhenyu Guan

- **How Hard is Takeover in DPoS Blockchains? Understanding the Security of Coin-based Voting Governance**

  - Chao Li, Balaji Palanisamy, Runhua Xu, Li Duan, Jiqiang Liu, and Wei Wang

- **Large Language Models for Code: Security Hardening and Adversarial Testing**

  - Jingxuan He and Martin Vechev

- **PANIC: PAN-assisted Intra-process Memory Isolation on ARM**

  - Jiali Xu, Mengyao Xie, Chenggang Wu, Yinqian Zhang, Qijing Li, Xuan Huang, Yuanming Lai, Yan Kang, Wei Wang, Qiang Wei, and Zhe Wang

- **Security Verification of Low-Trust Architectures**

  - Qinhan Tan, Yonathan Fisseha, Shibo Chen, Lauren Biernacki, Jean-Baptiste Jeannin, Sharad Malik, and Todd Austin

- **Silence is not Golden: Disrupting the Load Balancing of Authoritative DNS Servers**

  - Fenglu Zhang, Baojun Liu, Eihal Alowaisheq, Jianjun Chen, Chaoyi Lu, Linjian Song, Yong Ma, Ying Liu, Haixin Duan, and Min Yang

- **Specification and Verification of Side-channel Security for Open-source Processors via Leakage Contracts**

    o Zilong Wang, Gideon Mohr, Klaus Von Gleissenthall, Jan Reineke, and Marco Guarnieri

- **SpecVerilog: Adapting Information Flow Control for Secure Speculation**

    o Drew Zagieboylo, Charles Sherk, Gookwon Edward Suh, and Andrew Myers

- **Stealing the Decoding Algorithms of Language Models**

    o Ali Naseh, Kalpesh Krishna, Mohit Iyyer, and Amir Houmansadr

- **Uncle Maker: (Time)Stamping Out The Competition in Ethereum**

    o Aviv Yaish, Gilad Stern, and Aviv Zohar

All published at ACM SIGSAC CCS 2023

5. Describe conference activity

In the past year, SIGSAC has sponsored the following conferences:

CCS: ACM Conference on Computer and Communications Security, 1993 onwards

SACMAT: ACM Symposium on Access Control Models and Technologies, 1995 onwards

ASIACCS: ACM Symposium on Information, Computer and Communications Security, 2006 onwards

WiSec: ACM Conference on Security and Privacy in Wireless and Mobile Networks, 2008 onwards

CODASPY: ACM Conference on Data and Application Security and Privacy, 2011 onwards

6. Comment on special projects and non-conference programs that provided service to some part of your technical community

7. A very brief summary of the key issues that SIG membership will have to deal with in the next 2-3 years.

Major SIGSAC conferences are becoming increasingly successful in general. Particularly, CCS'23 has over 1,200 on-site attendees and AsiaCCS'24, for the first time, has over 400 attendees. A challenge is how to ensure the quality of the conferences during their expansion. Already there are concerns about review ethics (collusion ring, exposure of reviewers' identities), which have also been reported by other CS conferences. The SIGSAC EC and CCS SC are exploring avenues to mitigate the threats, such as using openreview to automatically assign papers. Another challenge is that the quick growth of large conferences may affect smaller conferences: increasingly people become reluctant to submit papers to small conferences given the relatively higher chances to get their papers accepted by the leading venues. I am happy to learn from other SIG groups how they address these challenges.

SIGSIM Annual Report
July 2023 – June 2024
Submitted by: Andreas Tolk, SIGSIM Chair

1. **Comment on the ways in which the SIG is a healthy and viable organization.**

SIGSIM continues to be active with research community involvement and healthy with good fiscal reserves and planning. Multiple conferences continue to be operated under the aegis, co-sponsorship, or in-cooperation with SIGSIM. Office bearers are elected by members once every two years. Member meetings are continuing to enhance member engagement. We returned to one annual face-to-face meeting during the Winter Simulation Conference, where many of our members are present. This main meeting is broadcast via Zoom. The summer meeting remains purely virtual.

Web presence has been aided by timely updates. The new website is gaining more attraction thanks to a new webmaster. While some senior researchers in the SIGSIM community are on their path to retirement, the challenge of infusing new, early career participants is continuing to be given consideration. Multiple early career researchers have been nominated and/or elected to different committees of SIGSIM conferences. SIGSIM provides travel grants for PhD students to participate in our main conference events, the ACM SIGSIM Principles of Advanced Discrete Simulation (PADS) conference, as well as the INFORMS-SIM, IISE, SCS, ACM SIGSIM Winter Simulation Conference (WSC)
As the ACM Digital Library is a main source of income, there is some concern about the Open Access policies. So far, SIGSIM remains viable, financially stable, and active.

2. **Describe your efforts related to Diversity, Equity, and Inclusion.**

SIGSIM board and PADS Steering Group compositions reflecting our DEI commitment. In addition to our commitment to merit, we also use DEI criteria for our student travel grants for the participation in our conferences. Furthermore, we support active outreach to Africa via the Journal of Simulation as well as India, to ensure easier access of students to conferences and publications.

3. **Provide a list of awards and recipients:**
   a. The SIGSIM Distinguished Contributions Award was announced at the 2023 Winter Simulation Conference to Prof. Wentong Cai of Nanyang Technological University (NTU), Singapore.
   b. WSC PhD Colloquium Award was given to Marcel Müller from the Otto von Guericke University Magdeburg, Germany, for the paper "Solving Deadlock Situations in Intralogistics with Reinforcement Learning."
   c. PADS Best Paper Award was given to Srikanth Yoginath, Pratishtha Shukla, Sudip Seal and James Nutaro from the Oak Ridge National Laboratory for their paper "SpecSims: A Scalable Speculative Tree-based Simulation Cloning Framework For Finite Memory Machines."

d. PADS PhD Colloquium Award was given to Matthew Dearing from the University of Illinois at Chicago for his paper "Deep Learning Surrogate Models for Network Simulation."

4. List significant papers on new areas that were published in proceedings:

No paper was recognized in this category this year. This is partly due to a new model that accept paper submissions for PADS to be submitted to the Transactions on Modeling and Computer Simulation (TOMACS) that are, if accepted, published in the journal and not in the proceedings.

5. Describe conference activity.
   a. 38th PADS'24: Fully sponsored by SIGSIM, held as an in-person conference in Atlanta, GA, USA, June 2023
   b. MSWiM'23: Fully sponsored by SIGSIM, held as an in-person conference in Montreal, Canada, November 2023
   c. WSC'23: Partially sponsored by SIGSIM, held as an in-person conference in San Antonio, TX, December 2023

   Terminations:
   After IEEE withdrew their financial support for DS-RT and the conference organizers did not agree to be integrated into the SIGSIM PADS conference, we terminated the financial support as well.

   Co-operations:
   The Annual Modeling and Simulation Conference (ANNSIM) 2024 was conducted as a cooperative event by the Society for Modeling and Simulation International (SCS) at the American University in Washington, DC, in May 2024.

6. Comment on special projects and non-conference programs that provided service to some part of your technical community.
   a. SIGSIM PADS joined the ACM Reproducibility Initiative in 2019 by successfully creating reproducibility committees to evaluate papers. This effort has been continued again this year in PADS'24 with five of the 13 authors choosing their manuscripts to be evaluated under this initiative to be awarded their relevant ACM badges.
   b. SIGSIM signed a gift agreement with the NCSU Computer Simulation Archive (CSA) to support them over the next three years. 2023 was the first year, we are now in the second year. NCSU CSA contributes significantly to archiving SIGSIM relevant accomplishments.
   c. SIGSIM sponsored the NASA Simulation Exploration Experience (SEE), an international student-driven event on distributed simulation for space simulation.

7. A summary of the key issues that SIG membership will have to deal with in the next 2-3 years.

The new steering group structure for SIGSIM PADS has been set in place. This structure ensures continuity by long-term commitments of members while encouraging fresh ideas and member participation, as a new steering group member is selected every year.

SIGSIM started to consolidate all SIG related volunteer positions and document their role in a central web-based repository, making the new website a one-stop access for members as well as officers and volunteers. This is an ongoing process.

The decision by ACM to apply the open access model for all journals and proceedings will impact the income structure as well as the participation in conferences. While the new open access model is likely continuing to provide funding from the ACM Digital Library, we will have to observe how this is going to effect our conferences.

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SIGSOFT FY'24 Annual Report
July 2023 – June 2024
Submitted by: Thomas Zimmermann, Chair

The ACM Special Interest Group on Software Engineering (SIGSOFT) seeks to improve our ability to engineer software by stimulating interaction among practitioners, researchers, and educators; by fostering the professional development of software engineers; and by representing software engineers to professional, legal, and political entities.

This report provides a summary of key SIGSOFT activities over the past fiscal year. The software engineering community had a strong technical year with many significant contributions. SIGSOFT remains healthy both in terms of membership and finances. SIGSOFT sponsors 10+ conferences each year with several thousand attendees. To support its community SIGSOFT has invested in special projects, non-conference programs, as well as diversity, equity, and inclusion efforts.

Efforts related to Diversity, Equity, and Inclusion

Several events or programs are focused on broadened participation either geographically, or among under-represented members of our community.

- SIGSOFT has dedicated **Liaisons for Diversity, Equity, and Inclusion** (DEI) who lead the DEI efforts for SIGSOFT and its conferences, but also connect and lead in the broader ACM community around Diversity, Equity, and Inclusion. The current liaisons are Jo Atlee, Kelly Blincoe and Alexander Serebrenik.

- As part of SIGSOFT's ongoing commitment to foster global educational opportunities and inclusivity, we launched in 2023 a **financial support program for summer/winter schools** focused on all aspects of software engineering across the world. The 2024 call for schools received 18 applications, of which we supported 13, with amounts of up to US$ 10K. This program was coordinated by Marsha Chechik.

- The **CARES committee** is a resource comprising of well-known and respected people in the software engineering community who are approachable and willing to listen to and help people who experience or witness discrimination, harassment, or other ethical policy violations, either at SIGSOFT events or related to ACM publications. The current CARES chairs are Jo Atlee, Kelly Blincoe, Federica Sarro and Alexander Serebrenik

- SIGSOFT supports a **Student Mentorship Workshop (SMEW)** at the ICSE 2024 conference. This support was coordinated by Lin Tan.

- SIGSOFT supports efforts to bring students from Africa to its conferences. This effort was initiated and led by Yixue Xhao. For more details, please see the report on this initiative.[1] One student from Senegal successfully attended ICSE, we hope that this number can grow significantly in the past.

- SIGSOFT also financially supports the CRA-WP Graduate Cohort Workshops.

These efforts are in addition to ongoing exiting efforts related to diversity, equity, and inclusion.

- The major SIGSOFT conferences have EDI chairs, and there are guidelines on the kinds of activities the chairs can initiate and run. Most conferences also have a Code of Conduct and a Conference Diversity and Inclusion Plan.

- SIGSOFT has a larger community of people who are regularly thinking about EDI subjects: EDI conference chairs, participants of diversity panels, conference participants (when subscribing to Code of Conduct or selecting pronouns), etc.

- SIGSOFT has a dedicated travel support and conference attendance program called CAPS for members of underrepresented groups, students, or anyone who cannot afford the registration fees of a conference.

- To broaden the reach and membership, SIGSOFT has established national chapters in India (iSoft) and China (cSoft). Each chapter has a liaison member on the SIGSOFT EC.

Awards and Recipients

The SIGSOFT awards program continues to recognize the many achievements of the software engineering community.

- The ACM SIGSOFT **Outstanding Research Award** was presented to **Tsong Yueh Chen** (Swinburne University of Technology) *"for contributions to software testing through the invention and development of metamorphic testing."*

- The ACM SIGSOFT **Distinguished Service Award** was presented to **Massimiliano Di Penta** (University of Sannio) *"for outstanding service to the software engineering community, including serving as program co-chair for all premier software engineering conferences and several other events."*

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[1] From Zero to One: Lessons Learned on Bringing African Students to International Conferences. https://medium.com/@yixue-zhao/from-zero-to-one-lessons-learned-on-bringing-african-students-to-international-conferences-74623059c4d4

- The ACM SIGSOFT **Influential Educator Award** was presented to **Martin Robillard** (McGill University) *"for significant contributions to hands-on software design education, including a textbook and a learner-focused software modeling tool."*

- The ACM SIGSOFT **Early Career Researcher Award** was presented to **Kevin Moran** (University of Central Florida) *"for outstanding contributions to improving the quality of mobile applications, through software testing, deep learning, and user interface development."*

- The ACM SIGSOFT **Outstanding Dissertation Award** was presented to **Bianca Trinkenreich** (now at Oregon State University) for her Ph.D. thesis *"Understanding and Supporting Women's Participation in Open Source Software"* (Northern Arizona University, advised by Igor Steinmacher and Marco Aurelio Gerosa).

- The ACM SIGBED/SIGSOFT Frank Anger Memorial Award was presented to **Max Camillo Eisele** (Saarland University and Bosch). Max Eisele is currently carrying out his PhD in the realm of security testing and fuzzing at Bosch Research, Germany.

- The ACM SIGSOFT **Impact Paper Award** recognizes a paper with exceptional impact on research or practice that was published in a SIGSOFT conference at least 11 years earlier. This year, the award went to the paper "**Learning from Examples to Improve Code Completion Systems"** (published at ESEC/FSE 2009) by **Marcel Bruch** (JetBrains), **Martin Monperrus** (KTH Royal Institute of Technology), and **Mira Mezini** (TU Darmstadt) *"for pioneering the use of machine learning to assist developers in generating code snippets, paving the way for today's intelligent code assistance tools."*

In total, the selection committees considered 50 nominations (10 for outstanding research, 5 for distinguished service, 4 for influential educator, 10 for impact paper, 11 for early career, 9 for outstanding dissertation, and 1 for Frank Anger memorial), which is close to 30% more than last year. The decisions were made through a combination of online discussions and virtual meetings. Huge thanks to the SIGSOFT Award Committee Chairs (Walid Maalej, Massimiliano Di Penta, and Myra B. Cohen) and Deputy Chairs (Filippo Lanubile and Gordon Fraser), as well as the members of the respective committees, and all nominators. The SIGSOFT Awards Program is coordinated by David Lo.

In addition to the Impact Paper Award, many SIGSOFT conferences also have **Most Influential Paper Awards**, also known as "test of time awards", which are given to papers that have appeared at a particular conference.

- At ICSE the SIGSOFT co-sponsored conference with the longest track record of awarding Most Influential Papers, the award went to the ICSE 2014 paper "**Coverage is not strongly correlated with test suite effectiveness**", by **Laura Inozemtseva** and **Reid Holmes.**

- The ESEC/FSE conference (now called the FSE conference) recognized the ESEC/FSE 2013 paper **"Dynodroid: an input generation system for Android apps"** by **Arvind Machiry, Rohan Tahiliani**, and **Mayur Naik.**

Many of SIGSOFT's sponsored meetings also presented **Distinguished Paper Awards**. SIGSOFT allows up to 10% of the accepted papers to be selected for this award. The list of recognized papers is available at http://sigsoft.org/awards/distinguishedPaperAward.html

Significant Papers on New Areas

Software plays a prominent role in different application domains as well as other research areas in computer science, such as big data, human-computer interaction, mobile computing, artificial intelligence and machine learning, distributed systems, and security. Everything depends on software today and will continue in the future, even with the rise of large language models (LLMs). Over the past year, we have seen the rapid rise of these models in software systems. AI is also more frequently used to automate software engineering activities.

As examples for the breadth of the software engineering field, we highlight below distinguished papers from the ESEC/FSE 2023 and ICSE 2024, two of the main general software engineering conferences sponsored by SIGSOFT. The papers have been grouped and summarized into themes using ChatGPT. It will be exciting to see AI techniques accelerate science in the future.

Empirical studies of software development explored the impact of various interventions and external factors, such as interruptions, neurological influences, gender-based methodologies, and educational approaches, on software engineering practices and outcomes.

- Breaking the Flow: A Study of Interruptions During Software Engineering Activities. Yimeng Ma, Yu Huang, Kevin Leach (ICSE 2024)

- Causal Relationships and Programming Outcomes: A Transcranial Magnetic Stimulation Experiment. Hammad Ahmad, Madeline Endres, Kaia Newman, Priscila Santiesteban, Emma Shedden, Westley Weimer (ICSE 2024)

- GenderMag Improves Discoverability in the Field, Especially for Women. Emerson Murphy-Hill, Alberto Elizondo, Ambar Murillo, Marian Harbach, Bogdan Vasilescu, Delphine Carlson, Florian Dessloch (ICSE 2024)

- A Longitudinal Study of Student Contributions to OSS vs. OSS4SG with a Lightweight Intervention. Z. Fang, M. Endres, T. Zimmermann, D. Ford, W. Weimer, K. Leach, Y. Huang (ESEC/FSE 2023)

Papers on **advanced analysis techniques** focused on automating and optimizing software development processes, including proof generation, SMT solving, local variable extraction, timing analysis, satisfiability checking, and property-based testing.

- Baldur: Whole-Proof Generation and Repair with Large Language Models. E. First, M. Rabe, T. Ringer, Y. Brun (ESEC/FSE 2023)

- Speeding up SMT Solving via Compiler Optimization. B. Mikek, Q. Zhang (ESEC/FSE 2023)

- An Automated Approach to Extracting Local Variables. X. Chi, H. Liu, G. Li, W. Wang, Y. Xia, Y. Jiang, Y. Zhang, W. Ji (ESEC/FSE 2023)

- A Highly Scalable, Hybrid, Cross-Platform Timing Analysis Framework Providing Accurate Differential Throughput Estimation via Instruction-Level Tracing. M. Hsu, F. Hetzelt, D. Gens, M. Maitland, M. Franz (ESEC/FSE 2023)

- Analyzing and Debugging Normative Requirements via Satisfiability Checking. Nick Feng, Lina Marsso, Sinem Getir Yaman, Yesugen Baatartogtokh, Reem Ayad, Victória Oldemburgo de Mello, Beverley Townsend, Isobel Standen, Ioannis Stefanakos, Calum Imrie, Genaína Nunes Rodrigues, Ana Cavalcanti, Radu Calinescu, Marsha Chechik. (ICSE 2024)

- Property-based testing in practice. Harrison Goldstein, Joseph W. Cutler, Daniel Dickstein, Benjamin C. Pierce, Andrew Head. (ICSE 2024)

Papers on **security in software systems** focused on enhancing the security and robustness of software systems through techniques such as API fuzzing, static vulnerability detection, monitoring data usage, and explainability-guided testing frameworks.

- EDEFuzz: A Web API Fuzzer for Excessive Data Exposures. Lianglu Pan, Shaanan Cohney, Toby Murray, Thuan Pham (ICSE 2024)

- Semantic-Enhanced Static Vulnerability Detection in Baseband Firmware. Yiming Liu, Cen Zhang, Feng Li, Yeting Li, Jianhua Zhou, Jian Wang, Lanlan Zhan, Yang Liu, Wei Huo (ICSE 2024)

- Attention! Your Copied Data is Under Monitoring: A Systematic Study of Clipboard Usage in Android Apps. Yongliang Chen, Ruoqin Tang, Chaoshun Zuo, Xiaokuan Zhang, Lei Xue, Xiapu Luo, Qingchuan Zhao (ICSE 2024)

- Mate! Are You Really Aware? An Explainability-Guided Testing Framework for Robustness of Malware Detectors. R. Sun, M. Xue, G. Tyson, T. Dong, S. Li, S. Wang, H. Zhu, S. Camtepe, S. Nepal (ESEC/FSE 2023)

Several distinguished papers were on **smart contracts**. A smart contract is a self-executing program on a blockchain that automatically enforces and executes agreed-upon terms when specific conditions are met. Distinguished papers on smart contracts focused on transaction race conditions, accounting errors, and protection against oracle deviations

- TransRacer: Function Dependence-Guided Transaction Race Detection for Smart Contracts. C. Ma, W. Song, J. Huang (ESEC/FSE 2023)

- Towards Finding Accounting Errors in Smart Contracts. Brian Zhang (ICSE 2024)

- Safeguarding DeFi Smart Contracts against Oracle Deviations. Xun Deng, Sidi Mohamed Beillahi, Cyrus Minwalla, Han Du, Andreas Veneris, Fan Long (ICSE 2024)

Papers on **code search and recommendation** included papers on enhanced code suggestions, translation of complex idioms, and API recommendation through knowledge graph embedding.

- Code Search is All You Need? Improving Code Suggestions with Code Search. Junkai Chen, Xing Hu, Zhenhao Li, Cuiyun Gao, Xin Xia, David Lo (ICSE 2024)

- Hard to Read and Understand Pythonic Idioms? DeIdiom and Explain Them in Non-Idiomatic Equivalent Code. Zejun Zhang, Zhenchang Xing, Dehai Zhao, Qinghua Lu, Xiwei (Sherry) Xu, Liming Zhu (ICSE 2024)

- Recommending Analogical APIs via Knowledge Graph Embedding. M. Liu, Y. Yang, Y. Lou, X. Peng, Z. Zhou, X. Du, T. Yang (ESEC/FSE 2023)

And finally, many papers were dedicated to **software engineering and AI**. This is a rapidly growing area in the software community. These papers explore advancements in optimizing and diversifying machine learning pipelines, neural network generation, AI system robustness, and modular training methods, as well as improving compiler representations through pre-training.

- Can Machine Learning Pipelines Be Better Configured? Y. Wang, Y. Wang, T. Zhang, Y. Yu, S. Cheung, H. Yu, Z. Zhu (ESEC/FSE 2023)

- NeuRI: Diversifying DNN Generation via Inductive Rule Inference. J. Liu, J. Peng, Y. Wang, L. Zhang (ESEC/FSE 2023)

- Benchmarking Robustness of AI-enabled Multi-sensor Fusion Systems: Challenges and Opportunities. X. Gao, Z. Wang, Y. Feng, L. Ma, Z. Chen, B. Xu (ESEC/FSE 2023)

- LExecutor: Learning-Guided Execution. B. Souza, M. Pradel (ESEC/FSE 2023)

- Modularizing while Training: A New Paradigm for Modularizing DNN Models. Binhang Qi, Hailong Sun, Hongyu Zhang, Ruobing Zhao, Xiang Gao (ICSE 2024)

- FAIR: Flow Type-Aware Pre-Training of Compiler Intermediate Representations. Changan Niu, Chuanyi Li, Vincent Ng, David Lo, Bin Luo (ICSE 2024)

Conference Activity

Over the past year SIGSOFT sponsored and co-sponsored 10+ conferences related to software engineering. Conferences returned to an in-person format and occasionally offered hybrid formats as well. The following is a list of some of the SIGSOFT sponsored conferences. The SIGSOFT conference program is overseen by the SIGSOFT Vice Chair, Marsha Chechik.

- ASE: Automated Software Engineering Conference

- CAIN: International Conference on AI Engineering – Software Engineering for AI

- DEBS: International Conference on Distributed and Event-based Systems

- ESEC/FSE: Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering: held annually.

- ESEM: International Symposium on Empirical Software Engineering and Management

- ICPE: International Conference on Performance Engineering

- ICPC: International Conference on Program Comprehension

- ICSE: International Conference on Software Engineering

- ISSTA: International Symposium on Software Testing & Analysis

- MoDELS: International Conference on Model-Driven Engineering Languages and Systems

- MSR: International Conference on Mining Software Repositories

- SEAMS: International Symposium on Software Engineering for Adaptive and Self-Managing Systems

- SPLC: International Software Product Line Conference

Given the rapid growth of AI and software engineering, SIGSOFT now co-sponsors conferences dedicated to this intersection.

- CAIN 2024: International Conference on AI Engineering – Software Engineering for AI

- FORGE 2024: Special Event on AI Foundation Models and Software Engineering

- AIware 2024: International Conference on AI-powered Software – Software for all and by all

SIGSOFT launched the **Proceeding of the ACM on Software Engineering (PACMSE),** with FSE 2024 as the inaugural conference. PACMSE is a gold open access journal. For the first two years of PACMSE, SIGSOFT will cover the open access fees when authors can't. Huge thanks to Luciano Baresi for driving the PACMSE initiative for FSE.

Through the **Conference Aid Program for Students (CAPS),** SIGSOFT provided travel support to conferences for dozens of graduate and undergraduate student-members as well as support to defray the costs of childcare for all members of our community (faculty qualify as well). The support is available for anyone who fits into one or more of the following categories:

- participants who identify as being a member of an underrepresented racial or ethnic group(s) in the place they work,

- participants based in low income and lower middle-income countries as identified by the World Bank List of Economies,

- undergraduate students,

- SIGSOFT members (both student and professional), or

- members of the SE community who cannot afford the registration fee.

The CAPS program is coordinated by Nan Niu. Detailed statistics about the CAPS program including open CAPS applications can be found here:

⇨ https://acmsigsoft.github.io/caps/capsmain/

SIGSOFT continued the **Conference Surplus Reinvestment**, which was launched in FY19. The surplus reinvestment for Year N of a conference is 25% of the Conference Net from Year N-2 and 25% of the Conference Net from Year N-3.

Special Projects and Non-Conference Programs

SIGSOFT has several existing programs to aid and expand our membership.

SEWORLD is a mailing list provided as a service to the Software Engineering community. It is intended primarily for the dissemination of time-sensitive information relevant to the field of software engineering research such as call for papers/participation and position announcements. The mailing list is moderated by Jinqiu Yang and Elena Sherman.

The **Software Engineering Notes** (https://sigsoft.org/SEN/) is distributed exclusively in electronic form. The newsletter is published quarterly and provides an update to the community about ongoing efforts as well as other reports. The current Editor-in-Chief is Jacopo Soldani.

In 2022, SIGSOFT launched the **SIGSOFT Blog** (https://sigsoft.medium.com/) under the leadership of Cristian Cadar as an additional way to enhance the communication between the SIGSOFT Executive Committee and the software engineering community, and to create a sense of community within SIGSOFT, and publicize software engineering and SIGSOFT activities to the outside world. SIGSOFT also has **Webinar series** managed by Venera Arnaoudova and Shane McIntosh, where people can present to the SIGSOFT community.

The software engineering community has many community-driven vehicles to **promote open science** such as dedicated tracks for replications and negative results at conferences, policies for open science current draft is at: https://github.com/acmsigsoft/open-science-policies, and the ROSE festival https://github.com/researchart/rose, and pre-registered studies (EMSE journal in partnership with several SIGSOFT conferences, ACM TOSEM).

Since March 2023, SIGSOFT had a **Mastodon server** exclusively for SIGSOFT members (social.sigsoft.org). This server is maintained by Martin Robillard.

The **web presence** https://sigsoft.org/ is maintained through GitHub Pages and is designed for multiple people to contribute via pull requests and at the same time preserves a history of changes that are made to the webpage. The webpage is maintained by Raula Gaikovina Kula who also serves as SIGSOFT's Information Director.

Key Issues in the Next 2-3 Years

While SIGSOFT is stable and strong, there are several challenges that SIGSOFT and the broader software engineering community will continue to face.

- ACM is expected to transition to **a gold open access model** within the next few years. This may have an impact on conference attendance and publication revenue for SIGSOFT that needs to be carefully understood. Many SIGSOFT conferences are co-sponsored and alternate publication with IEEE, which is on a different path to open access than ACM.

- Despite a large growth in the number of software engineers and attendance at SIGSOFT conferences, SIGSOFT's **membership numbers** have not been growing. Providing more benefits to SIGSOFT members, increased visibility of SIGSOFT at conferences, and a focus on practitioners and regions beyond the United States will be important steps; however, it is also important to revisit what it means to be a SIGSOFT member. Many people are part of the SIGSOFT community by attending, publishing, volunteering for SIGSOFT and are not yet member of SIGSOFT.

SIGSPATIAL Annual Report
July 2023-June 2024
Submitted by: John Krumm, Chair

1. Comment on the ways in which the SIG is a healthy and viable organization

The core mission of SIGSPATIAL is to promote academic and industrial research that addresses issues related to the acquisition, management, and processing of spatial data and knowledge generation, with a focus on conceptual, design, algorithmic, geometric, visual, and systems implementations aspects.

Historically, the scope of SIGSPATIAL initially included geographic information systems (GIS), along with data storage, query processing, indexing and data mining. However, in recent years our scope diversified with interest from a variety of researchers and practitioners whose data sets have spatial information as the key enabling component for their systems, e.g., epidemiology, spatial pathology, traffic systems, cell phone location, location-based social networks, ride sharing apps, IoT platforms, etc.

The categories of problems, as well as the plethora of novel solutions, address issues of high societal relevance in various application domains, arising due to the increasing availability of GPS data in ever-increasing numbers of mobile devices and smartphones. The use of navigation, routing and online mapping systems offered from companies such as ESRI, HERE, Microsoft (Bing Maps) and Google (Google Maps and Google Earth) in settings ranging from tourism, traffic management, emergency/disaster remediation, and agriculture only further accentuate the importance of the topics that define the main thrusts of the SIGSPATIAL conference and workshops. And, of course, spatial data analysis is key to studying pandemics such as COVID-19.
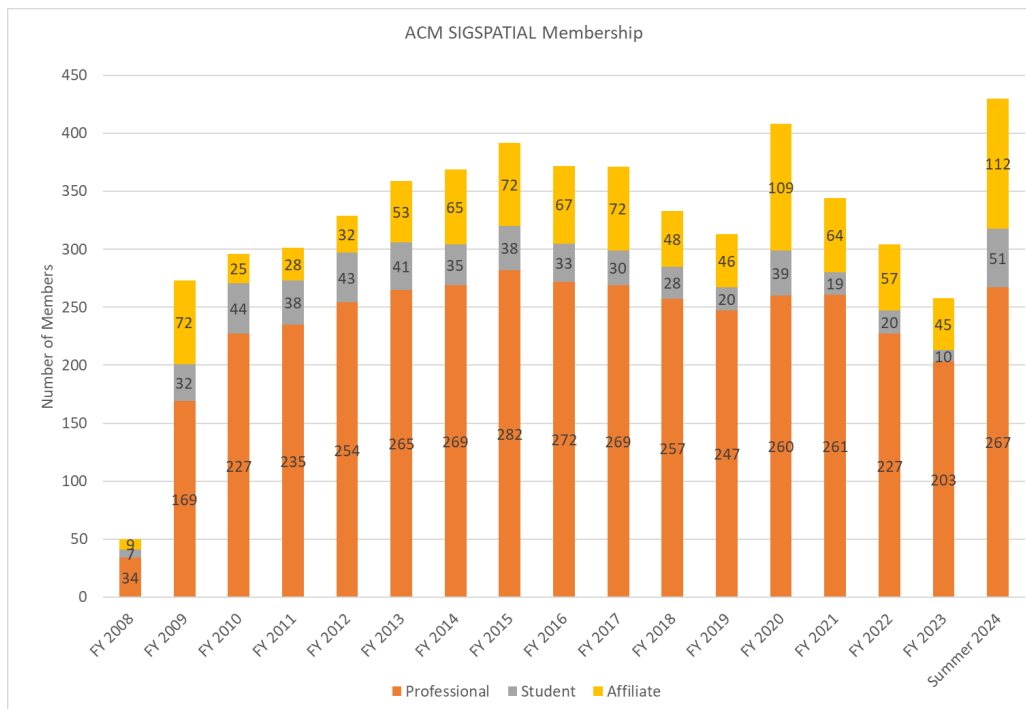
SIGSPATIAL continues to offer an annual conference, focusing on high-quality research papers, along with systems, industrial, and vision papers. It also includes a set of diverse workshops, the numbers of which have been steadily growing (e.g., there were 17 workshops collocated with the SIGSPATIAL 2023 conference). These are differentiated from other venues in the area by focusing on the computational and system aspects of the field rather than on the available commercial products.

A key aim of the SIGSPATIAL leadership is keeping the flagship conference – the ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL) – affordable and thus accessible. This way we believe it can continue to be of good value to its attendees and be competitive not only in quality but also price wise with related conferences. The early registration fees for ACM SIGSPATIAL 2022 were only $650 for ACM members; $800 for non-ACM members; $400 for ACM student members; and $500 for students who are not students. And, for only an additional $200 more ($150 for students), the community can also attend any of the workshops that are collocated with the conference.

Achieving low fees has been made possible by active solicitation of sponsor contributions and a great deal of vigilance and active involvement of the Organizing Committee, from venue selection to many other logistics of the event. This, in turn,

enables a reduced financial burden in terms of contractual obligations when planning the conference. In addition, it also enables a healthy build-up of our financial reserves.

Our SIG membership remains strong. Below is a chart showing our total membership and breakdown into membership categories for fiscal years 2008 to 2024.

We offered free affiliate memberships to everyone who registered for our 2023 conference, which accounts for the large increase in that category. We also saw significant organic growth in both our student and professional membership.

Last year SIGSPATIAL funded about 50 student travel grants and about 70 the previous year. Most of them were for US$ 1000 each and funded from our SIG's budget. We had hoped this would help membership, but it is hard to know if the travel grants are responsible for our jump in student membership. Last year we offered free affiliate membership in SIGSPATIAL for anyone who registers for our conference. These memberships will be funded from our budget. We are hopeful this will turn around our decreasing membership numbers.

2. Describe your efforts related to Diversity, Equity, and Inclusion.

We have put significant effort over the past few years into promoting DEI among our leadership at all levels. One of four members of our previous SIG Executive Committee (July 2020 through June 2023) was a woman and two of four members of our current Executive Committee are women. We have tried, although unfortunately not always successfully, to have women on our conference leadership committees (general chairs and program chairs). For our 2024 conference, one of the general co-chairs is female.

We have actively recruited women and other members of underrepresented groups to serve in other roles for our conference.

We have also prioritized DEI in awarding student travel funds to our conference. This includes both the funds we get from NSF for student travel for US-based students as well as SIGSPATIAL funds for both US-based and international students.

We held the first female networking event at the SIGSPATIAL 2022 conference, with 28 female researchers involved. The second version was held at the 2023 conference with 20 women participating. Most attendees are current Ph.D. students in spatial science and computer science-related fields. During this gathering, participants shared their experiences as female researchers from various computer science and geospatial communities. The main discussion topics are about how to build a career, manage time as a mom and Ph.D. student, and wisely handle difficult situations as minorities. From the discussion, participants felt more involved in the spatial community as female researchers. Jina Kim and Min Namgung organized Spatial Women, abbreviated SpatialW, to stay connected with the attendees of the networking events (see https://spatialwomen.github.io/). SpatialW aims to actively network with female researchers in computer science and spatial science, work with conference organizers to hold networking and educational events at various conferences, and offer career development mentoring and invited talks from senior researchers in related fields in academia and industry.

This year we established our first DEI committee as part of SIGSPATIAL. It is led by Professor Yao-Yi Chiang of the University of Minnesota, and the other members are Jina Kim (University of Minnesota) and Heba Aly (Amazon). The committee was charged with creating at least one DEI initiative at every SIGSPATIAL conference. Their website is here: https://spatialdei.github.io/index.html. The SIGSPATIAL executive committee meets with the new DEI committee every few months for a progress report and guidance. The SIGSPATIAL DEI committee this year has established a conference DEI committee this year.

3. Provide a list of awards and recipients

We now have two prominent and well-recognized awards in our portfolio: a 10-Year Impact Award and a Best Paper Award.

10-Year Impact Award: This annual award is given to a regular paper published at our main conference 10 years ago whose value and prescience have become apparent over a long period of time. It is chosen by a committee from our research community. In 2023, the award was given to the following paper from the 2013 conference:

"Crowd Sensing of Traffic Anomalies based on Human Mobility and Social Media" by Bei Pan (University of Southern California),
Yu Zheng (Microsoft Research), David Wilkie (University of North Carolina), and Cyrus Shahabi (University of Southern California).

Best Paper Award: This annual award is given to one of the full papers of the main conference that demonstrates a significant new research finding in the areas related to SIGSPATIAL. The winner of this award for 2023 was:

"Spatial Knowledge-Infused Hierarchical Learning: An Application in Flood Mapping on Earth Imagery" by Zelin Xu (University of Florida), Tingsong Xiao (University of Florida), Wenchong He (University of Florida), Yu Wang (University of Florida), and Zhe Jiang (University of Florida)

For the first time, we also presented our new "Lifetime Impact Award", given to Hanan Samet (University of Maryland).

Until this year, our awards process was robust but ad hoc. This year we established a new "Recognition Committee" to take over many of the awards as well as other recognition activities. This committee is chaired by Amr Magdy (University of California, Riverside) with Siva Ravada (Oracle) and Flora Salim (University of New South Wales) as members.

4. List significant papers on new areas that were published in proceedings

At our 2023 conference, we introduced a new research track called "Data and Resources" that concentrates on geospatial data and other available resources for our research community. The best paper award from this track went to a paper called "Massive Trajectory Data Based on Patterns of Life". This paper discussed the generation of synthetic GPS trajectories to compensate for the fact that it is difficult to obtain access to real GPS trajectories due to concerns of privacy and cost.

Among the papers with the highest review scores, we had

- "PathletRL: Trajectory Pathlet Dictionary Construction using Reinforcement Learning". This paper used reinforcement learning to construct a small set of basic building blocks that can represent a wide range of trajectories, known as a trajectory pathlet dictionary.
- "Scalable Evaluation of Local K-Function for Radius-Accurate Hotspot Detection in Spatial Networks". The topic of this paper was efficiently computing the locations of hotspots on a map.
- "UniCellular: An Accurate and Ubiquitous Floor Identification System using Single Cell Tower Information". This paper discusses how to infer which floor of a building a person is on based on cell tower signals.

In general, our conference is seeing the continued use of deep neural networks as one of the main innovations in our research community.

Eight new co-located workshops were held at the ACM SIGSPATIAL 2023 conference:

- 1st ACM SIGSPATIAL International Workshop on Sustainable Mobility (SuMob 2023). This workshop concerned computational methods - among others also

towards improving mobility – aimed at lifting the conventional discussion on the impacts of mobility improvements to their actual impact on the complex system of access in a city. It explicitly asked for research contributions studying greenwashing, adversarial consequences of efficiency improvements, and the complex system of access in the city as a whole.

- 1st ACM SIGSPATIAL International Workshop on the Human Mobility Prediction Challenge (HuMob-Challenge 2023). This was is a competition aiming at testing state-of-the-art computational models for the prediction of human mobility patterns, using an open source, urban scale (100K individuals), longitudinal (90 days) trajectory dataset.
- 1st ACM SIGSPATIAL International Workshop on Geo-Privacy and Data Utility for Smart Societies (GeoPrivacy 2023). This workshop brought together researchers and practitioners from diverse fields to delve into the multifaceted dimensions of geospatial data, unravel its potential implications and identify innovative solutions for enabling smart and safe societies.
- 1st ACM SIGSPATIAL International Workshop on AI-driven Spatio-temporal Data Analysis for Wildlife Conservation (GeoWildLife 2023). This workshop was dedicated to bridging the gap between AI-enabled spatio-temporal data analytics and wildlife conservation.
- 1st ACM SIGSPATIAL International Workshop on Advances in Urban-AI (UrbanAI 2023). The focus was to bring together researchers and practitioners to discuss advancements and future directions in urban AI. Urban AI is an emerging field that combines AI, spatial computing, and urban science to address complex challenges faced by cities.
- 1st ACM SIGSPATIAL International Workshop on Reproducibility in tracking data analysis and mobility research (ReproTrack 2023). This workshop's goal was to bring the community together in a workshop on reproducibility in tracking data analysis and mobility research to discuss and advance reproducibility and transparency in movement data analysis.
- 1st ACM SIGSPATIAL International Workshop on Geocomputational Analysis of Socio-Economic Data (GeoSocial 2023). This workshop was dedicated to bridging the gap between geocomputational methods and socio-economic data analysis. The workshop aimed to bring together a diverse community of researchers, practitioners, and students from various disciplines to exchange ideas, share knowledge, and foster collaboration in the burgeoning field of geocomputational analysis.
- 1st ACM SIGSPATIAL International Workshop on Methods for Enriched Mobility Data: Emerging issues and Ethical perspectives 2023 (EMODE23). The focus was on novel aspects and issues for managing and analysing enriched mobility data. The scope of the workshop was to bring together researchers in the SIGSPATIAL community as well as researchers in related disciplines that can be synergistic and complementary to advance the state-of-the-art techniques.

5. Describe conference activity

ACM SIGSPATIAL 2023 was the 31st event of an annual series of symposia and workshops with the mission to bring together researchers, developers, users, and practitioners carrying out research and development in novel systems based on geo-spatial data and knowledge. 2023 was the 16th year that the conference was held under the auspices of the ACM Special Interest Group on Spatial Information – SIGSPATIAL. In 2023, the flagship conference was held in Hamburg, Germany from November 13 through November 16. This was the first time we had a fully in-person conference outside of the U.S.

During the one-day workshops and the three-day single track conference, ACM SIGSPATIAL 2023 attracted 322 attendees. This was a very healthy turnout considering we were online for 2021 and 2022 due to the pandemic. While the 2023 attendance was below the 397 that attended the last time the conference was in person, in Chicago in 2019, we are very happy with the number of people that attended especially considering we were still in the late stages of the pandemic. In 2023, 35 attendees were from industry and 287 were from academia. While this still represents a healthy participation by industry, it is relatively lower than pre-pandemic. The reason for this fall-off is not clear but perhaps companies were slower than academia in participating in conferences in person.

Papers were submitted and accepted in different categories. We received a total of 189 research and systems/industrial submissions, compared to 192 in 2022. Out of the 189 submissions, 38 were accepted as full 10-page papers, resulting in an acceptance rate of 20%. The remaining papers in the proceedings correspond to demos and posters, which had 4 pages

Continuing tradition, ACM SIGSPATIAL 2023 had a GISCup programming contest. In 2023, this focused on the use of semantic segmentation for extraction of building footprint from a LiDAR point cloud, which is a central problem for the creation of 3D maps. Seven teams competed and five of them passed the baseline, which was based on the Microsoft U.S. Buildings Footprint dataset. The three top teams were invited to present a short paper at the main conference and received awards. In addition, the authors of the winning teams received travel grants donated by W. Randolph Franklin. AT&T provided sponsorship for the SIGSPATIAL Cup and the awards for the winners.

The 2023 conference again held a Student Research Competition (SRC) that provides a forum for undergraduate and graduate students to share their research results and exchange ideas with other students, judges, and conference attendees. This year, fourteen papers (including ten graduate student papers and four undergraduate student papers) were selected for presentation during the conference and were further assessed for advancement to the next round of the competition, the ACM Grand Finals. A notable new addition to the SRC this year is dedicating a one-hour session in the main conference program for the winners, both graduate and undergraduate students, to share their work with the main conference audience. This session has notably improved the visibility of the students' work and recognition. <2024-07-31 Asked Mario, Peer, and Ahmed to send me update by August 10>

Our reviewers put in a significant amount of effort in reviewing the papers and our hope is that the reviews were beneficial even to those authors whose papers were not accepted. In 2023, the technical program of the conference was decided in a two-stage process.

(1) Each submitted paper was first reviewed by at least three members of a carefully chosen program committee (PC) consisting of experts in the relevant fields. Our PC had a total of 90 invited members from academia and industry, plus an additional 22 members who were designated as the Vice PC Chairs. In addition, 14 senior members of the community reviewed submissions to the Vision Track, and 14 other colleagues reviewed papers submitted to the new Data and Resources Track. The assignment of papers to reviewers followed a bidding stage, during which PC members expressed their preferences to review a particular submission. In addition to three reviewers from the PC, each paper was also assigned a designated Vice PC Chair member who read the reviews, discussed the merits of the submission with the reviewers, steered the rebuttal phase,,wrote a meta-review, and suggested an accept/reject recommendation.

(2) Each submitted paper was first reviewed by at least three members of a carefully chosen program committee (PC) consisting of experts in the relevant fields. Our PC had a total of 90 invited members from academia and industry, plus an additional 22 members who were designated as the Vice PC Chairs. In addition, 14 senior members of the community reviewed submissions to the Vision Track, and 14 other colleagues reviewed papers submitted to the new Data and Resources Track. The assignment of papers to reviewers followed a bidding stage, during which PC members expressed their preferences to review a particular submission. In addition to three reviewers from the PC, each paper was also assigned a designated Vice PC Chair member who read the reviews, discussed the merits of the submission with the reviewers, steered the rebuttal phase,,wrote a meta-review, and suggested an accept/reject recommendation.

In addition, 14 senior members of the community reviewed submissions to the Vision and Data & Resources Tracks.

The ACM SIGSPATIAL 2023 conference had two distinguished speakers: Prof. Dr. Arne Biastoch of the GEOMAR Helmholtz Centre for Ocean Research at the Christian-Albrechts University Kiel spoke on "Ocean and Climate, and the need for Marine Data Science." Prof. Dr. Carlo Ratti of the Massachusetts Institute of Technology (MIT) addressed the conference on "Senseable Cities".

The 2023 conference was preceded by the following 17 co-located workshops, which is the largest number of workshops at our conference so far:

- 6th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery (GeoAI 2023)
- 7th ACM SIGSPATIAL International Workshop on Location-based Recommendations, Geosocial Networks and Geoadvertising (LocalRec 2023)

- 1st ACM SIGSPATIAL International Workshop on Sustainable Mobility (SuMob 2023)
- 7th ACM SIGSPATIAL International Workshop on Geospatial Humanities (GeoHumanities 2023)
- 1st ACM SIGSPATIAL International Workshop on the Human Mobility Prediction Challenge (HuMob-Challenge 2023)
- 1st ACM SIGSPATIAL International Workshop on Geo-Privacy and Data Utility for Smart Societies (GeoPrivacy 2023)
- 8th ACM SIGSPATIAL International Workshop on Security Response using GIS 2023 (EM-GIS 2023)
- 1st ACM SIGSPATIAL International Workshop on AI-driven Spatio-temporal Data Analysis for Wildlife Conservation (GeoWildLife 2023)
- 1st ACM SIGSPATIAL International Workshop on Advances in Urban-AI (UrbanAI 2023)
- 1st ACM SIGSPATIAL International Workshop on Reproducibility in tracking data analysis and mobility research (ReproTrack 2023)
- 11th ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data (BigSpatial 2023)
- 2nd ACM SIGSPATIAL International Workshop on Spatial Big Data and AI for Industrial Applications (GeoIndustry 2023)
- 1st ACM SIGSPATIAL International Workshop on Geocomputational Analysis of Socio-Economic Data (GeoSocial 2023)
- 4th ACM SIGSPATIAL International Workshop on Spatial Computing for Epidemiology (SpatialEpi 2023) | 6th ACM SIGSPATIAL International Workshop on GeoSpatial Simulation (GeoSim 2023)
- 1st ACM SIGSPATIAL International Workshop on Methods for Enriched Mobility Data: Emerging issues and Ethical perspectives 2023 (EMODE23)
- 16th ACM SIGSPATIAL International Workshop on Computational Transportation Science (IWCTS 2023)
- 2nd ACM SIGSPATIAL International Workshop on Searching and Mining Large Collections of Geospatial Data (GeoSearch)

With a large number of very generous corporate sponsors, we are pleased to be in a secure financial position. The list of sponsors for SIGSPATIAL 2023 included: Apple (Platinum Sponsors); and ESRI, and Oracle (Bronze Sponsors). Many of these sponsors have supported the conference for multiple years. In addition, long-time SIGSPATIAL participant and contributor W. Randolph Franklin made his second private sponsorship.

6. Comment on special projects and non-conference programs that provided service to some part of your technical community

In addition to the conference proceedings, SIGSPATIAL publishes the ACM Transactions on Spatial Algorithms and Systems (ACM TSAS) and the SIGSPATIAL Special Newsletter.

The ACM Transactions on Spatial Algorithms and Systems (ACM TSAS) is now in its 9th Volume. The current editorial board of ACM TSAS includes Walid G. Aref (Purdue University) as Editor-in-Chief, three Senior Associate Editors: Pankaj Agarwal (Duke University, USA), Dinesh Manocha (University of Maryland College Park, USA), and Mohamed Mokbel (University of Minnesota, USA) as well as 24 Associate Editors.

To strengthen the synergy between TSAS and SIGSPATIAL, we continue to publish in TSAS special issues of extended versions of the best-paper award nominees from the previous year's SIGSPATIAL conference. We have three ongoing special issues related to One on visionary papers from pioneers in the field of spatial algorithms and systems, the second on Machine Learning and Location Data, and the third is on Parallel and Distributed Processing of Spatial Data: Algorithms and Systems. The Vision Special Issue is led by Guest Editors, Leila De Floriani (University of Maryland, USA), Mohamed Mokbel (University of Minnesota, USA), Cyrus Shahabi ((University of Southern California, USA), and Walid Aref (Purdue University, USA), while the Machine Learning and Location Data Special Issue is led by Flora Salim (University of New South Wales, Australia), Renhe Jiang (University of Tokyo, Japan, and Mohamed Mokbel (University of Minnesota, USA). The Special Issue on Parallel and Distributed Processing of Spatial Data: Algorithms and Systems is led by Yufei Tao (Chinese University of Hong Kong, Hong Kong) and Ahmed Eldawy (University of California, Riverside, USA).

We are striving to increase the visibility of ACM TSAS. Currently, we are getting a steady stream of submissions to the journal. We have managed to double the number of papers published per issue from around 3 papers per issue in 2018 to around 7-8 papers per issue in 2021-2023 due to the increase in the number of quality papers being submitted. Also, the number of paper submissions in 2023 is 107 submissions; a record high since the start of ACM TSAS. To serve the community better in keeping them up-to-date with emerging and hot topics, we have initiated an ongoing special issue track on survey papers in the field since 2022. We are consistently getting around 2-3 papers a year that survey hot topics in the area.

Walid Aref's second and final term as Editor-in-Chief for ACM TSAS is coming to an end as of August 2024. ACM has initiated a process to elect a new Editor-in-Chief. It is expected that ACM announced the new Editor-in-Chief before August 2024.

We continued to maintain the SIGSPATIAL Special Newsletter. This newsletter is supposed to have three issues per year (March, July, and November) typically publishing communications around the ACM SIGSPATIAL like papers from the student research competition, project and meeting reports as well as conference and workshop reports. In the year 2023, the SIGSPATIAL Special Newsletter, however, has not received the required attention from our community partly due to fewer meetings and due to many special issues from the aforementioned novel publications. We aim at recovering the SIGSPATIAL Special Newsletter to publish conference reports and additional communications. With increasing post-pandemic activities, we are convinced that the concept of this newsletter as an additional publication venue is valid.

7. **A very brief summary of the key issues that SIG membership will have to deal with in the next 2-3 years**

We are most concerned about our long term declining membership in our SIG. Although we saw a significant increase in membership over the last year, we attribute this mostly to offering free affiliate membership to everyone who registered for our conference.

We are also finding it more difficult to attract large sponsorships for our conference. While we can find a handful of sponsors at the Bronze level (US$ 5000), we have not been as successful getting larger sponsorship amounts.

SIGUCCS Annual Report
June 2023 – July 2024
Submitted by: Lisa Brown, Chair

Comment on the ways in which the SIG is a healthy and viable organization

The 2024 conference did not draw the anticipated numbers and was basically the same size as the 2023 conference. This was disappointing and concerns us in terms of the viability.

We do have a location and plans for a 2025 conference. And we are engaging high-energy community members to help drive the future of the organization.

Describe your efforts related to Diversity, Equity, and Inclusion.

We strive to have volunteers and members in leadership positions that represent diverse populations.

We recently updated our website to have a more inclusive language. Virtual platforms have been enhanced to include accessible tools.

We incorporated a DEI book choice, Belonging by Kathryn Jacob, Sue Snerman, and Mark Edwards, into our Book Club in early 2024.

Several presentations related to DEI were highly attended at the conference:

- The Hidden Impact of Unspoken Norms
- Designing for Healing: Technology Success Advocacy in Customer Service
- Second Time in the Second City: Reworking Documents for Elevated Accessibility
- Becoming Change Aware

Our members have indicated that they have learned from these activities and shared what they have learned with their campus communities.

Provide a list of awards and recipients

In 2023, we were honored to grant both the Hall of Fame and Penny Crane awards, along with Communication awards. These awards were recognized at our 2024 conference.

Beth Rugg was awarded with the Penny Crane Award for Distinguished Service.

Hall of Fame awards were granted to the following people:

- Max Cohen
- Melissa Doernte
- Karl Owens
- Beth Lynn Nolen

We awarded communication awards in 5 categories.

List of Communication awards available at: https://siguccs.org/wp/participate/siguccs-awards/communication-awards/communication-award-recipients-2023/

List significant papers on new areas that were published in proceedings

Our members published the following papers for the conference:

Cara Maat. 2024. Becoming Change Aware: How curiosity and empathy can help you lead through change. In Proceedings of the 2024 ACM SIGUCCS Annual Conference (SIGUCCS '24). Association for Computing Machinery, New York, NY, USA, 6–8. https://doi.org/10.1145/3599732.3641331

Reagan M. Chesnut. 2024. Designing for Healing: Technology Success Advocacy in Customer Service. In Proceedings of the 2024 ACM SIGUCCS Annual Conference (SIGUCCS '24). Association for Computing Machinery, New York, NY, USA, 11–13. https://doi.org/10.1145/3599732.3641318

Takashi Yamanoue. 2024. Experience of Classes with the Portable Cloud Computing System and a Raspberry Pi Cluster. In Proceedings of the 2024 ACM SIGUCCS Annual Conference (SIGUCCS '24). Association for Computing Machinery, New York, NY, USA, 14–19. https://doi.org/10.1145/3599732.3641317

Karl Owens. 2024. Mastering Customer Requests - Triage Guide to Efficient Resolution. In Proceedings of the 2024 ACM SIGUCCS Annual Conference (SIGUCCS '24). Association for Computing Machinery, New York, NY, USA, 21–24. https://doi.org/10.1145/3599732.3641340

Sam Solheim, Maddie Backhaus, Liam Cunha, Jordan Martin, and Sujan Niroula. 2024. Revolutionizing Scheduling: Building Efficiency from Code to Calendar. In Proceedings of the 2024 ACM SIGUCCS Annual Conference (SIGUCCS '24). Association for Computing Machinery, New York, NY, USA, 26–32. https://doi.org/10.1145/3599732.3641341

Owen G. McGrath. 2024. Some Considerations for Designing and Supporting XR Experiences in Classroom Settings. In Proceedings of the 2024 ACM SIGUCCS Annual Conference (SIGUCCS '24). Association for Computing Machinery, New York, NY, USA, 34–38. https://doi.org/10.1145/3599732.3641321

Dusan Ducic and Kayla van Dinther. 2024. Technology Renewal Program at Ithaca College. In Proceedings of the 2024 ACM SIGUCCS Annual Conference (SIGUCCS '24). Association for Computing Machinery, New York, NY, USA, 39–40. https://doi.org/10.1145/3599732.3641323

Describe conference activity

The 2024 conference was held from April 6 - April 10, 2024 in Chicago, IL. For this conference we used the morning for full group sessions and the afternoons for breakout sessions.

The mornings consisted of a general session and two keynote speakers (one ACM Distinguished Speaker). We also used two of the mornings to hold our lightning talks - there were seven of these short presentations. The third morning we used the time to do some interactive exercises that helped people think more creatively and also get to know each other.

Monday evening we hosted a viewing of the NCAA Final Basketball game and most attendees were present. This offered another opportunity to get to know one another and share ideas. Tuesday evening was used to host our poster session and reception. Five posters were presented.

Afternoons hosted our breakout sessions which consisted of sixteen presentations or panel sessions. Each afternoon also hosted a topic from our SIGUCCS Academy - a focused set of sessions to dive deeper into a topic, presented by experts in their fields. Each day offered a different topic.

- **Effective Service Management**
- **Strategic Communication in Technology Support**
- **Knowledge Management**

We ended the conference with an hour long listening session.

Comment on special projects and non-conference programs that provided service to some part of your technical community

Beyond the in-person conference, the SIG continues to engage the community virtually in a number of ways.

Book Club - Professional Development

Book club meetings are held every other month and are attended by anywhere from 8-15 persons. Books for the 2022-2023 year include:

- September 2023 - T*he Power of Writing It Down: A Simple Habit to Unlock Your Brain and Reimagine Your Life* Allison Fallon
- November 2023 - *Mind over Monsters: Supporting Youth Mental Health with Compassionate Challenge* Sarah Rose Cavanagh
- January 2024 - *How to Make Work Not Suck: Honest Advice for People with Jobs Carina Maggar*
- March 2024 - *I Didn't Do the Thing Today: Letting Go of Productivity Guilt* Madeleine Dore
- May 2024 - *Belonging: The Key to Transforming and Maintaining Diversity, Inclusion and Equality at Work* Susan Unerman
- July 2024 - *Hidden Potential* Adam Grant

Additional books for September and November 2024 are *already* selected.

- September 2024 - *The Art of Gathering: How We Meet and Why It Matters* Priya Parker
- November 2024 - *The Science of Storytelling* Will Stor

Affinity Groups

Following the conference in 2023, we changed the focus of our virtual events to be more topic based. Each month hosted a group based on the following interests.

- Educational Technology
- Professional Development
- User Services

A very brief summary of the key issues that SIG membership will have to deal with in the next 2-3 years.

- Membership has remained steady. The greatest benefit to being a member is reduced conference registration.
- Marketing our organization outside of those already familiar is not easy. .Recruiting new members into the organization or even to the conference is difficult.
- Volunteers for board positions and conference positions are recruited from those that attend. Low conference attendance means less exposure to new volunteers.
- Our members are IT support staff who have been severely affected by the pandemic with increased demands on technology for remote and virtual work and instruction and changing campus technology needs.
- Higher education salaries have not been keeping up with the external companies and opportunities for remote work external to higher education has increased. Many higher education IT staff have left our industry to higher paying jobs outside of higher education - thus our membership pool is smaller.
- Travel budget/restrictions are still in place at many universities. Since so many conferences were offered virtually, institutions have cut back on the ability for staff to travel for conferences. In our line of work, getting away from the office is critical to being able to participate fully.
- Finding conference locations based on the political climate is more difficult with the bans on travel to states with discriminatory practices (for example, California state schools have currently banned travel to 22 states). Additionally, making sure that our attendees feel supported and safe traveling to the selected conference location is of concern.
- Inflation has increased costs for hosting making it more difficult to find locations that are affordable for a small SIG.

SIGWEB Annual Report
June 2023 – July 2024
Submitted By: Eelco Herder, Chair

Mission Statement

SIGWEB, the ACM Special Interest Group on Hypertext and the Web, is a community of scholars, researchers, and professionals who study and use the concepts and technologies of linked information that were originally conceived as hypertext and are most famously realized on the Web. The SIGWEB community's interests range widely and include hypertext in all its forms, social networks, knowledge management, document engineering, digital libraries, and the Web as both an information tool and a social force. SIGWEB encourages innovative research, open discussion of new ideas and the development of methodologies and standards through conferences and a variety of communication resources for its members and the world.

SIGWEB Conferences and SIG Vitality

SIGWEB organizes a wide range of events. Our 100% events – Hypertext, DocEng and Web Science – have been stable for many years. The Web Conference (formerly WWW), which became a SIGWEB conference two years ago, had a successful edition in Singapore. In addition, SIGWEB co-sponsors the CIKM, JCDL, WSDM, and UMAP series and works with several other conference series "in cooperation".

As observed last year already, our core and in-coop conferences have largely returned to in-person mode again. It appears that the different communities found the hybrid conference model cumbersome to implement and concluded that the drawbacks are larger than the advantages. Still, several conferences organized dedicated parts (particularly the workshops) in hybrid format, allowing for wider participation. Further, we observed that missing presentations due to no-shows (as common before covid) are typically replaced by video presentations, either live or recorded.

In the past year, the SIGWEB Board made an effort to attend most of our core conferences and organized various Town Halls. This was facilitated by the spread of our board members among Asia, Europe and North America. In addition, we organized two online meetings with all board members and conference liaisons, during which we shared our experiences and concerns. This, in combination with increased effort to share conference publicity via SIGWEB channels, has led to larger visibility and appreciation of SIGWEB coordination and awareness of related SIGWEB conferences.

Financially, SIGWEB is in an excellent position to develop and experiment with new initiatives to help promote a vibrant scientific community within our domain. We have excellent conferences, we have existing partnerships with other SIGs and we have an extensive network of in-coop conferences that help ensure our vitality.

Diversity, Equity and Inclusion Efforts

SIGWEB conferences increasingly adopt the practice of having Inclusion and Accessibility Chairs, who are responsible for overseeing any conference practices that may have negative consequences or cause barriers for certain community members. In addition, as required by ACM, all SIGWEB core conferences inform their participants regarding the ACM Code of Conduct.

In the past few years, SIGWEB supported several Fair Access Initiatives with dedicated SIGWEB funds for the benefit of researchers from underrepresented regions. However, our impression is that last year was not particularly successful in this respect. In order to make it easier for conference organizers to implement travel grants, we started creating a standardized procedure and standardized funds for student travel grants as well as fair access travel grants. We believe that this investment - in money as well as in time - is strongly needed in order to further diversify and enrich our research communities.

In addition, SIGWEB is planning to dedicate funds for local initiatives that benefit the community, such as guest lectures and research exchanges. As a pilot event, SIGWEB financially supports the newly created Summer School at Hypertext 2024, which brings together students from more technology-oriented fields with students from humanities.

SIGWEB recognizes that for traveling to conferences may be problematic due to different reasons. The current rate of inflation has led to significantly higher registration rates, an issue that cannot be compensated with travel grants alone. Therefore, registration rates have become a specific point of attention when approving conference budget. Independently of this, conference organizers have recognized the need to be more frugal themselves, for instance by providing less copious lunches. SIGWEB recognizes and appreciates this 'new frugality', which does not only contribute to equity and inclusion, but also reduces the ecological footprint.

A further challenge for diversity, equity and inclusion are travel and visa restrictions that are the result of the various political and societal developments in the world. We believe that this is a challenge that should be addressed on SGB and ACM level, and we are happy to contribute to this discussion during the SGB meetings and the newly instantiated SGB virtual coffee hours.

SIGWEB Awards

At TheWebConf 2024, the following awards were presented:

- *Best Paper Award:* Mechanism Design for Large Language Models. Paul Dütting, Vahab Mirrokni, Renato Paes Leme, Haifeng Xu, Song Zuo.

- *Best Student Paper Award:* Stable-Sketch: A Versatile Sketch for Accurate, Fast, Web-Scale Data Stream Processing. Weihe Li and Paul Patras.

- *2024 Seoul Test of Time Award:* Topic-Sensitive PageRank. Taher H Haveliwala, WWW2002 Honolulu, Hawaii USA

At ACM UMAP 2024, the following awards were presented:

- *Best Full Paper Award:* Explaining the Unexplainable: The Impact of Misleading Explanations on Trust in Unreliable Predictions for Hardly Assessable Tasks. Mersedeh Sadeghi, Daniel Pöttgen, Patrick Ebel, Andreas Vogelsang

- *James Chen Best Student Paper Award:* User Perceptions of Diversity in Recommender Systems. Patrik Dokoupil, Ludovico Boratto, Ladislav Peska

- *Best Short Paper Award:* Integrating sentiment features in factorization machines: Experiments on music recommender systems. Javier Wang, Alejandro Bellogin, Iván Cantador

At ACM JCDL 2023, the following awards were presented:

- *Best Paper:* Christof Bless, Ildar Baimuratov and Oliver Karras, SciKGTeX - A LaTeX Package to Semantically Annotate Contributions in Scientific Publications.

- *Best Student Paper:* Lesley Frew, Michael Nelson and Michele Weigle, Making Changes in Webpages Discoverable: A Change-Text Search Interface for Web Archives.

At Web Science 2024, the following awards were presented:

- *Best Full Paper:* Abdulaziz Almuzaini, David Pennock, and Vivek Singh.Accuracy and Fairness for Web-Based Content Analysis under Temporal Shifts and Delayed Labeling.

- *Best Short Paper*: Lucio La Cava, Domenico Mandaglio, and Andrea Tagarelli. Polarization in Decentralized Online Social Networks.

- *Annual Test of Time Award*: Albert Solé Ribalta (UOC), Manlio De Domenico, Sergio Gomez, and Alex Arenas. Centrality rankings in multiplex networks.

At DocEng 2023, the following awards were presented:

- *Best Paper Award:* "Muti-task CTC for Joint Handwriting Recognition and Character Bounding Box Prediction". Curtis Wigington.

- *Best Student Paper award:* "Privacy Lost and Found: An Investigation at Scale of Web Privacy Policy Availability." Mukund Srinath, C. Lee Giles, Shomir Wilson, Soundarya Nurani Sundareswara and Pranav Venkit.

At ACM Hypertext 2023, the following awards were presented:

- *Douglas Engelbart Best Paper Award:* Mark W. R. Anderson and David E. Millard. 2023. Seven Hypertexts.
- *Ted Nelson Newcomer Best Paper Award:* Giuseppe Carrino, Angelo Di Iorio, and Gioele Barabucci. 2023. Comparison of news commonality and churn in international news outlets with TARO.

Recent Highlights

- IThe Web Conference (formerly WWW), the most important event for researchers in the area of the Web, is now added to the list of SIGWEB-sponsored conferences. The first three editions (2022 in Lyon, France, 2023 in Austin, Texas, 2024 in Singapore) were successfully organized.
- An increasing number of SIGWEB conferences (Hypertext, DocEng, UMAP, Web Science) piloted different versions of the Fair Access initiative to bring attendees from underrepresented regions to SIGWEB events.
- Social media coverage of SIGWEB activities has been expanded. Particularly the video collection on our YouTube channel has grown quickly in the past year.

Volunteer Involvement

SIGWEB realizes that involving volunteers in SIG activities is a non-trivial task. Many of our members have been with the community for many years and have become accustomed to operating within a 'well-oiled' environment. At the SIG business meetings held at each of our fully-supported conferences, it is clear that motivating our members to take leadership roles is both an opportunity and a challenge.

SIGWEB regularly provides funding for student (and possibly senior) travel. SIGWEB directly contributes to the student travel programs for our 100% supported conferences (Hypertext, DocEng, Web Science) and the UMAP conference, which is co-sponsored with SIGCHI.

Over the past few years, SIGWEB officers invested a considerable amount of time to revive and improve SIGWEB's reach to its members and the broader community through publicity channels and Social Media.

To keep stronger ties with our conference series, SIGWEB instituted the mechanism of conference liaisons. For each of our sponsored or co-sponsored conference series, we worked with its steering committee or similar body to nominate one representative, usually a member of the series SC to serve as the series liaison. The liaisons join SIGWEB officers and members at large to form the SIGWEB Executive committee. Within the reporting period, SIGWEB considerably updated its Executive committee, ensuring the participation of active and well-informed members.

The elected volunteer leaders of the SIG at the end of FY 2024 were:
- Chair: Eelco Herder
- Vice-Chair: Irwin King
- Secretary/Treasurer: Alexandra Bonnici
- Past Chair (2019-2023): Peter Brusilovsky

The appointed SIGWEB Executive Committee has the following members:
- Donna Cappo - ACM Program Coordinator

- Charlie Hargood - Information Director
- Ethan Munson - DocEng Liaison
- Claus Atzenbeck - Hypertext Liaison
- Cathy Marshall - JCDL Liaison
- Charles Nicholas - CIKM Liaison
- Maria Bielikova - UMAP Liaison
- David Millard - Web Science Liaison
- Mounia Lalmas - WSDM Liaison
- Jessica Rubart - Member at Large

Additional volunteers working with the SIG are:

- Martin Vesely - Newsletter Editor
- Lisa Eidloth - Webmaster
- Helma Torkamaan - Social Media Coordinator
- Nasim Sonboli - Social Media Coordinator

Challenges and Opportunities

SIGWEB continues to offer its members a compelling series of conferences that are supported in whole or in part by the SIG. Each of these conferences has a loyal following and is able to provide compelling scientific content. SIGWEB has a nice balance of small and large events, meeting the needs of young and established researchers. Some of our conferences are mature, others are working to find a longer-term identity.

SIGWEB believes that conferences should provide increased attention to diversity and inclusiveness. This does not only include raising awareness of codes of conduct among participants, but also to proactively ensure that the conferences will be accessible and affordable for a wide global community - overcoming travel restrictions, financial inequalities, mental and physical challenges, and other possible issues. With its portfolio of core and in-coop conferences, SIGWEB is in a good position to propose and evaluate several models for inclusiveness.

A particular concern among our members are the implications of the transition to 100% Open Access Publication by 2026. The SIGWEB Board recognizes the benefits of this model, but also shares the concerns of our members of issues that might occur during the transition. For instance, conference participants from institutes that do not participate in ACM Open might (temporarily or permanently) move away to other venues, which could significantly harm our core conferences, which traditionally have quite some participants from the field of humanities. We are also concerned that conferences may not be sufficiently informed about the implications of the transition: for instance, the W4A conference (with ICPS proceedings) was incorrectly classified as 100% transitioned and authors were charged an Open Access fee, without the organizers being informed that

this would happen. Therefore, SIGWEB closely monitors the process and tries to inform its members to the best of our knowledge.

One of the constant challenges for SIGWEB (and ACM) is to design a total benefits package that makes a compelling personal offer for new members. This package should include sufficient financial and scientific incentives (such as having advance registration discounts only available to existing SIG members, plus unlocking special features of the DL that are available to members on top of any benefits from existing [institutional] subscriptions), and it should provide incentives for continued long-term membership (such as access to funds to support local events or perhaps scaled discounts to SIG conferences).

We realize that these concerns are not unique to SIGWEB and look forward to actively coordinating our efforts with other SIGs. One action that we took on our side during the reporting period is a "trial membership". We decided to re-introduce the approach used by SIGWEB a few years ago: offer free membership to all registered attendees of our "flagship" events – Hypertext and DocEng. We hope that access to the Hypertext Bulletin and mailing lists could create a feeling of belonging that could be extended for years beyond the trial.