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ACM SIGCOMM 2016 to Highlight Transformative Data Communication Breakthroughs

August 10, 2016, New York – The Association for Computing Machinery's Special Interest Group on Data Communication (SIGCOMM), will host its annual flagship conference, ACM SIGCOMM, in Florianópolis, Brazil from August 22 to August 26, 2016. Now in its 29th year, ACM SIGCOMM is considered a major venue for presenting new research in data communication, one of the fastest- growing areas of computing and technology. By hosting the conference in Brazil immediately following the Olympics, conference organizers hope to strengthen outreach efforts in Latin America, a growing region with vast potential for technology research and development.

ACM SIGCOMM 2016 will take place against a backdrop of startling transformations in the data communication field, including a massive increase in the amount of data transmitted over data communication networks; the continued increase in the kinds of devices connected to the Internet, including, phones, appliances, watches, and other devices; and the coming introduction of fifth-generation (5G) wireless connections, which will allow billions more devices to be connected to the Internet, faster Internet speeds, and ultra HD video viewing on phones.

"Computer communications and networks form the foundation of today's information economy and SIGCOMM has become a hub for data communications professionals, worldwide," said SIGCOMM 2016 General Co-Chair Jon Crowcroft, Marconi Professor of Communications Systems at the University of Cambridge. "Our program will bring together the world's leading experts to look at the state of the field right now, where it is heading, and what are some especially promising new technologies."

2016 ACM SIGCOMM HIGHLIGHTS

Keynote: "Networking Research, Education, Mentoring and Service: Ten Insights"
Tuesday, August 23, 8:45am - 10:30am
Jim Kurose, 2016 ACM SIGCOMM Lifetime Achievement Award Recipient

Jim Kurose is currently Distinguished University Professor in the College of Information and Computer Sciences at the University of Massachusetts Amherst. He has been a Visiting Scientist at IBM Research, INRIA, Institut EURECOM , the University of Paris, the Laboratory for Information, Network and Communication Sciences, and Technicolor Research Labs.

He serves as an Assistant Director of the US National Science Foundation, where he leads the Directorate for the Computer and Information Science and Engineering (CISE) in its mission to conduct fundamental research in computer and information science and engineering and transformative advances in cyberinfrastructure. Kurose oversees the CISE budget of more than $900 million. He also serves as co-chair of the Networking and Information Technology Research and Development (NITRD) Subcommittee of the National Science and Technology Council Committee on Technology, helping coordinate the activities of 17 government agencies.

Additional Program Highlights Include:

"Inter-Technology Backscatter: Towards Internet Connectivity for Implanted Devices"
Authors: Vikram Iyer, Vamsi Talla, Bryce Kellogg, Shyamnath Gollakota, and Joshua Smith
Thursday, August 25, 8:30 am – 10:35 am

The authors show, for the first time, that Bluetooth transmissions can be used to create Wi-Fi and ZigBee-compatible signals using backscatter communication. Based on their findings, they discuss proof-of-concepts for previously infeasible applications including the first contact lens form-factor antenna prototype and an implantable neural recording interface that communicate directly withdevices such as smartphones and watches, thus enabling the implanted devices to connect with the Internet.

"Enabling Practical Backscatter Communication for On-Body Sensors"
Authors: Pengyu Zhang, Mohammad Rostami, Pan Hu, and Deepak Ganesan
Thursday, August 25, 8:30 am – 10:35 am
The ultra low-power nature of backscatter communication makes it a compelling technology for the design of wearable and on-body sensors that operate on tiny energy budgets. Today, most such sensors use Bluetooth Low Energy (BLE) for low-power communication, but BLE consumes tens of milliwatts when operating in active mode i.e. when transmitting data. The tiny energy budget combined with the simplicity of the hardware components needed to design backscatter-based sensors opens up a range of possibilities including micro-powered on-body sensors, miniature implantable sensors, thin and flexible wearables, and others. The authors examine the feasibility of making backscatter practical for these uses.

"Neutral Net Neutrality"
Authors: Yiannis Yiakoumis, Sachin Katti, and Nick McKeown
Thursday, August 25, 1:30 pm – 2:45 pm
Net Neutrality is the principle that Internet service providers and governments should treat all data on the Internet the same, not discriminating or charging differently by user, application, platform etc. Through user studies, the authors demonstrate that users do want some services to receive preferential treatment…and argue that users should be able to decide how traffic is treated. A crucial part of enabling user preferences is a mechanism to express them. In their presentation, the authors will present three potential systems that that effectively express user preferences to a network.

"Values and Networks: Steps Toward Exploring Their Relationships"
Authors: Carsten Orwat, Roland Bless
Thursday, August 25, 5pm – 5:50 pm
Many technical systems of the Information and Communication Technology (ICT) influence or implement certain values, including human rights, and affect or raise conflicts among values. The ongoing developments toward an "Internet of Everything (IOE)" is likely to lead to further value conflicts. The authors suggest some ideas to develop a methodology for considering technical and institutional systems together.

About SIGCOMM
SIGCOMM (http://www.sigcomm.org/) 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. The SIG's members are particularly interested in the systems engineering and architectural questions of communication.

About ACM
ACM, the Association for Computing Machinery (www.acm.org)**,** is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

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