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ÉVA TARDOS NAMED ACM ATHENA LECTURER FOR TECHNICAL AND MENTORING CONTRIBUTIONS

Cornell University Professor Made Significant Contributions in Many Areas of Theoretical Computer Science

New York, NY, April 20, 2022 – ACM, the Association for Computing Machinery, today named Éva Tardos, a Professor at Cornell University, as the 2022-2023 ACM Athena Lecturer. Tardos is recognized for fundamental research contributions to combinatorial optimization, approximation algorithms, and algorithmic game theory, and for her dedicated mentoring and service to these communities. Initiated in 2006, the ACM Athena Lecturer Award celebrates women researchers who have made fundamental contributions to computer science.

Tardos is one of the most influential leaders in the field of theoretical computer science. Her impact spans deriving deep theoretical results, shaping new research areas, and influencing a broad range of applications. Her key contributions in combinatorial optimization include the first strongly polynomial-time algorithm for the minimum-cost flow problem (for which she received the Fulkerson Prize) and a general framework for fast approximation of packing and covering linear programs.

She developed fundamental approximation algorithms, developing new algorithmic techniques for the use of linear programming and rounding in network design problems. The applications of her work include solving problems in facility location, network routing, and the spread of influence in social networks. Tardos also played a key role in founding the field of algorithmic game theory by developing algorithms in the presence of self-interested agents that are governed by incentives and economic constraints.

Her pioneering work using game-theoretic ideas to quantify the performance gaps between centrally managed network traffic and the flow of traffic directed by self-interested agents (selfish routing) was recognized with the Gödel Prize. She subsequently developed new approaches to analyzing dynamic games and new algorithms for mechanism design including composable ones.

Tardos is an outstanding educator, mentor, and leader in her scientific community. She has received awards for excellence in teaching and leadership for her work supporting women in computer science, and several of her former students are now prominent figures in the field. She co-authored one of the leading textbooks used in undergraduate computer science, *Algorithm Design*, and co-edited *Algorithmic Game Theory*, a significant book at the intersection of economics and computation.

"Each year ACM honors a preeminent woman computer scientist as the Athena Lecturer," said ACM President Gabriele Kotsis. "Athena Lecturers are recognized for both enduring technical contributions, as well as their community service and mentoring. Éva Tardos has played a central role in shaping the field of algorithms over three decades, and she has been one of the foremost authorities in the emerging field of algorithmic game theory. Her work, her generosity to younger colleagues, and her service to the wider field have been outstanding. We look forward to presenting her with this award and we know she will continue to make contributions for years to come."

Tardos will be formally presented with the ACM Athena Lecturer Award at the annual ACM Awards Banquet, which will be held this year on Saturday, June 11 at the Palace Hotel in San Francisco. The ACM Athena Lecturer Award carries a cash prize of $25,000, with financial support provided by Two Sigma.

Biographical Background

Éva Tardos is the Jacob Gould Schurman Professor of Computer Science and Chair of the Department of Computer Science at Cornell University. Earlier in her career at Cornell, she held posts including Associate Dean for Diversity & Inclusion, and Diversity Lead for Computing and Information Sciences.

Tardos earned Diploma and Ph.D. degrees in Mathematics from Eötvös University, Budapest, and later earned a Candidate degree from the Hungarian Academy of Sciences. She has authored more than 100 publications on topics including approximation algorithms, mathematical optimization, algorithms, network planning and design, and theoretical computer science.

Her honors include receiving the IEEE John von Neumann Medal, the Fulkerson Prize, the George B. Dantzig Prize, the Van Wijngaarden Award, and the Gödel Prize. She is a Fellow of ACM, the Institute for Operations Research and the Management Sciences (INFORMS), the American Mathematical Society (AMS), the Society of Industrial and Applied Mathematics (SIAM), and the Game Theory Society. She has also been elected to the National Academy of Engineering, National Academy of Sciences, Hungarian Academy of Sciences, the American Philosophical Society, and the National Academy of Arts and Science.

About the ACM Athena Lecturer Award

The ACM Athena Lecturer Award celebrates women researchers who have made fundamental contributions to computer science. It includes a $25,000 honorarium provided by Two Sigma. The Athena Lecturer is invited to present a lecture at an ACM event. Each year, the Athena Lecturer honors a preeminent woman computer scientist. Athena is the Greek goddess of wisdom; with her knowledge and sense of purpose, she epitomizes the strength,

determination, and intelligence of the “Athena Lecturers.” The Athena Lecturer gives an invited talk at a major ACM conference of her choice.

About ACM

ACM, the Association for Computing Machinery, 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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