The Gödel Prize 2017 - Call for Nominations

Deadline: February 15, 2017

The Gödel Prize for outstanding papers in the area of theoretical computer science is sponsored jointly by the European Association for Theoretical Computer Science (EATCS) and the Association for Computing Machinery, Special Interest Group on Algorithms and Computation Theory (ACM SIGACT). The award is presented annually, with the presentation taking place alternately at the International Colloquium on Automata, Languages, and Programming (ICALP) and the ACM Symposium on Theory of Computing (STOC). The 25th Gödel Prize will be awarded at the 49th Annual ACM Symposium on Theory of Computing, to be held from 19-23 June, 2017 in Montreal, Canada.

The Prize is named in honor of Kurt Gödel in recognition of his major contributions to mathematical logic and of his interest, discovered in a letter he wrote to John von Neumann shortly before von Neumann's death, in what has become the famous "P versus NP" question. The Prize includes an award of USD 5,000.

Award Committee: The 2017 Award Committee consists of Moses Charikar (Stanford University), Orna Kupferman (Hebrew University), Kurt Mehlhorn (Max Planck Institute), Giuseppe Persiano (Università di Salerno), Omer Reingold (Stanford University) and Madhu Sudan (Chair, Harvard University).

Eligibility: The 2017 Prize rules are given below and they supersede any different interpretation of the generic rule to be found on websites of both SIGACT and EATCS. Any research paper or series of papers by a single author or by a team of authors is deemed eligible if:

- The main results were not published (in either preliminary or final form) in a journal or conference proceedings before **January 1st, 2004**.

- The paper was published in a recognized refereed journal no later than **December 31, 2016**.

The research work nominated for the award should be in the area of theoretical computer science. Nominations are encouraged from the broadest spectrum of the theoretical computer science community so as to ensure that potential award winning papers are not overlooked. The Award Committee shall have the ultimate authority to decide whether a particular paper is eligible for the Prize.

Nominations: Nominations for the award should be submitted by email to the Award Committee Chair: **madhu@cs.harvard.edu**. Please make sure that the Subject line of all nominations and related messages begin with "*Goedel Prize 2017*." To be considered, nominations for the 2017 Prize must be received by **February 15, 2017**.

Any member of the scientific community can make nominations. The Award Committee may actively solicit nominations. A nomination should contain a brief summary of the technical content of the paper(s) and a brief explanation of its significance. A printable copy of the research paper or papers should accompany the nomination. The nomination must state the date and venue of the first conference or workshop publication, or state that no such publication has occurred. The work may be in

any language. However, if it is not in English, a more extended summary written in English should be enclosed.

To be considered for the award, the paper or series of papers must be recommended by at least two individuals, either in the form of distinct nominations, or one nomination including recommendations from at least two different people. Additional recommendations may also be enclosed and are generally useful. The Award Committee encourages recommendation and support letters to be mailed separately, without being necessarily shared with the nominator(s). The rest of the nomination package should be sent in a single email whenever possible. Those intending to submit a nomination should contact the Award Committee Chair by email well in advance. The Chair will answer questions about eligibility, encourage coordination among different nominators for the same paper(s), and also accept informal proposals of potential nominees or tentative offers to prepare formal nominations. The committee maintains a database of past nominations for eligible papers, but fresh nominations for the same papers (especially if they highlight new evidence of impact) are always welcome.

Selection Process: The Award Committee is free to use any other sources of information in addition to the ones mentioned above. It may split the award among multiple papers, or declare no winner at all. All matters relating to the selection process left unspecified in this document are left to the discretion of the Award Committee.

Recent Winners (all winners since 1993 are listed at http://www.sigact.org/Prizes/Godel/ and http://eatcs.org/index.php/goedel-prize):

2016: S. Brookes, *A Semantics for Concurrent Separation Logic*. Theoretical Computer Science 375(1-3): 227-270 (2007). P. W. O'Hearn, *Resources, Concurrency, and Local Reasoning*. Theoretical Computer Science 375(1-3): 271-307 (2007).

2015: Dan Spielman and Shang-Hua Teng, *Nearly-linear time algorithms for graph partitioning, graph sparsification, and solving linear systems*, Proc. 36th ACM Symposium on Theory of Computing, pp. 81-90, 2004; *Spectral sparsification of graphs*, SIAM J. Computing 40:981-1025, 2011; *A local clustering algorithm for massive graphs and its application to nearly linear time graph partitioning*, SIAM J. Computing 42:1-26, 2013; *Nearly linear time algorithms for preconditioning and solving symmetric, diagonally dominant linear systems*, SIAM J. Matrix Anal. Appl. 35:835-885, 2014.

2014: Ronald Fagin, Amnon Lotem, and Moni Naor, *Optimal Aggregation Algorithms for Middleware*, Journal of Computer and System Sciences 66(4): 614–656, 2003.

2013: Antoine Joux, *A one round protocol for tripartite Diffie-Hellman*, J. Cryptology 17(4): 263-276, 2004. Dan Boneh and Matthew K. Franklin, *Identity-Based Encryption from the Weil pairing*, SIAM J. Comput. 32(3): 586-615, 2003.

2012: Elias Koutsoupias and Christos Papadimitriou, *Worst-case equilibria*, Computer Science Review 3(2): 65–69, 2009. Tim Roughgarden and Éva Tardos, *How bad is selfish routing?*, Journal of the ACM 49(2): 236– 259, 2002. Noam Nisan and Amir Ronen, *Algorithmic mechanism design*, Games and Economic Behavior 35(1-2): 166–196, 2001.