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ACM Awards Honor CS Contributions

IN THIS ISSUE of *Communications*, as evidenced by the cover and lead article, we celebrate the latest recipients of the **ACM A.M. Turing Award**. Yoshua Bengio, Yann LeCun, and Geoffrey Hinton carried out pioneering work in deep learning that has touched all our lives. As Turing Laureates, they now join the eminent group of technology visionaries recognized with the world's highest distinction in computing.

The Turing Award is one of a suite of professional honors ACM bestows annually to recognize technical achievements that have made significant contributions to our field. This month, I will have the pleasure of joining the awardees, ACM Fellows, and other luminaries in San Francisco for the ACM Awards Banquet. The annual event pays tribute to computing excellence and to those whose contributions and innovations have had a lasting impact on our field.

Among the new honorees is Shwetak Patel, winner of the **ACM Prize in Computing**. This award recognizes individuals who have made significant contributions during the early years of their careers. Patel is being honored for his innovative work in applying sensor systems to problems of sustainability and health care. Also on hand will be Mendel Rosenblum, being honored as the first winner of the **ACM Charles P. “Chuck” Thacker Breakthrough in Computing Award**. This new biennial award recognizes individuals whose work exemplifies “out-of-the-box” thinking. Rosenblum’s work echoes Thacker’s trademark can-do approach: he reinvented the virtual machine concept, thereby revolutionizing datacenters and making today’s cloud computing possible.

Pavel Pevzner receives the **ACM Paris Kanellakis Theory and Practice Award**, recognizing theoretical advances that

have had a demonstrable effect on computing practice. Pevzner pioneered algorithms for rapidly sequencing DNA; his algorithms underlie almost all sequence assemblers used today and were used to reconstruct the vast majority of genomic sequences available in databases. The **ACM Grace Murray Hopper Award** honors a computing professional who has made a major technical or service contribution by the age of 35. This year, two individuals are being recognized: Michael J. Freedman for the design and deployment of self-organizing peer-to-peer systems; and Constantinos Daskalakis for his contributions to complexity and game theory.

Gerald C. Combs is being recognized with the **ACM Software System Award**, given to an institution or individual(s) for developing a software system of lasting influence. He created the WireShark network protocol analyzer, used by practitioners and researchers worldwide to analyze and troubleshoot a wide range of network protocols. The **2019–2020 ACM Athena Lecturer Award**, a biennial honor celebrating fundamental CS contributions by women researchers, goes to Elisa Bertino in recognition of her groundbreaking work in data security and privacy. Chelsea Finn from UC Berkeley receives the **ACM Doctoral Dissertation Award** for her work on “Learning to Learn with Gradients.”

The **ACM Distinguished Service Award**, which celebrates service contributions to the computing community, goes to Paramir (Victor) Bahl, for his work founding conferences, publications, and a SIG for researchers and practitioners in the mobile and wireless networking community, as well as contributions to technology policy. Robert Sedgewick is being honored with the **ACM Karl V. Karlstrom Outstanding Educator Award** for the outstanding textbooks and online materials he created, which are used

worldwide for courses in introductory computer science. Chris Stephenson is receiving the **Outstanding Contribution to ACM Award** for her landmark work in bringing K–12 teachers worldwide the tools and resources needed to introduce computer science to future generations. The recipient of the **ACM Eugene L. Lawler Award** for Humanitarian Contributions within Computer Science and Informatics is Meenakshi Balakrishnan for developing cost-effective solutions to address the special mobility and education challenges of the visually impaired in developing countries. The **ACM-AAAI Allen Newell Award**, presented to an individual for career contributions that have breadth within CS or that bridge CS and other disciplines, has been awarded to Henry Kautz for his work at the intersection of AI, computational social science, and public health.

Last but not least, the Awards Banquet will celebrate 56 incoming **ACM Fellows**. A complete list of names and their key achievements can be found at <https://awards.acm.org/fellows>.

The prestige of ACM’s awards brings global attention to outstanding technical and professional achievements throughout the computing community. We *all* benefit when fine work and lasting accomplishments in computer science are celebrated. I hope you will participate this coming year, by making sure the key achievers in your own area are nominated. Our award committees, led by Awards Co-Chairs John White and Vinton Cerf, do an outstanding job, but they rely on people like you to identify and put forward strong candidates. Learn more at <https://awards.acm.org/award-nominations>. 

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