

## Opening Keynote

# Realizing the Transformative Impact of Computing and Data in a Networked World

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### Abstract

The computer and information science and engineering disciplines are at the center of an ongoing societal transformation. The explosive growth of scientific and social data, wireless connectivity at broadband speeds for a countless number of mobile endpoints, and seamless access to resources in the “cloud” are transforming the way we work, learn, play, and communicate. Furthermore, the proliferation of mobile devices and new applications is leading to increasing complexity and growth of network traffic.

I will talk about how digitalization, virtualization, and mobility are reshaping our economy, society, and daily lives. I will also talk about these trends catalyze new opportunities for foundational research. I will further explore how advances in computing and communication serve as key drivers of economic competitiveness and how they will be crucial to achieving national priorities.

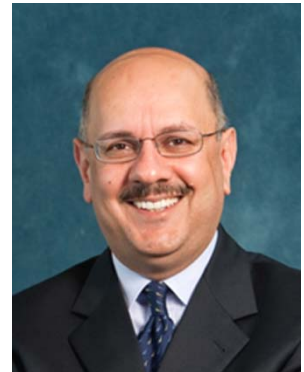
### Bio

Farnam Jahanian serves as the Assistant Director of the National Science Foundation for Computer and Information Science and Engineering (CISE). He leads CISE in its mission to uphold the nation’s leadership in scientific discovery and engineering innovation through its support of fundamental research in computer and information science and engineering and of transformative advances in cyberinfrastructure.

Farnam Jahanian is on leave from the University of Michigan, where he holds the Edward S. Davidson Collegiate Professorship and served as Chair for Computer Science and Engineering from 2007 – 2011 and as Director of the Software Systems Laboratory from 1997 – 2000.

Over the last two decades at the University of Michigan, Farnam Jahanian led several large-scale research projects that studied the growth and scalability of the Internet infrastructure, which ultimately transformed how cyber threats are addressed by Internet Service Providers. His research on Internet

infrastructure security formed the basis for the successful Internet security services company Arbor Networks, which he co-founded in 2001. Farnam Jahanian served as Chairman of Arbor Networks until its acquisition in 2010. His work on Internet routing stability and convergence has been highly influential within both the network research and the Internet operational communities and was recognized with an ACM SIGCOMM Test of Time Award in 2008.



Farnam Jahanian is the author of over 100 published research papers and has served on dozens of national advisory boards and panels. He has testified before Congress on a broad range of topics, including cybersecurity and Big Data. He has been an active advocate for how basic research can be uniquely central to an innovation ecosystem that drives global competitiveness and addresses national priorities.

In September 2014, Farnam Jahanian will join Carnegie Mellon University as the Vice President for Research. He holds a master’s degree and Ph.D. in Computer Science from the University of Texas at Austin. He is a Fellow of the Association for Computing Machinery (ACM), the Institute of Electrical and Electronic Engineers (IEEE), and the American Association for the Advancement of Science (AAAS).

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