Abstract:
Advances in computer and information science and engineering (CISE) are catalyzing a societal transformation. We are witnessing unprecedented growth of scientific and social data, deep integration of the cyber and physical worlds, wireless connectivity at broadband speeds, and seamless access to resources in the cloud. These advances are transforming the way we work, play, communicate, learn, and discover. Foundational research is an integral part of a comprehensive innovation ecosystem with the capacity to yield new benefits for society. Investments in ambitious, long-term research and infrastructure, as well as in the development of a computing and information technology workforce, enable these advances and are a national imperative.

This talk will focus on technological advances and emerging trends that are shaping our future and accelerating the pace of discovery and innovation across all science and engineering disciplines. It will also describe how these trends inform priorities and programs at the National Science Foundation. CISE research provides a foundation for economic competitiveness and is critical to achieving our national priorities including sustainability, smart transportation, disaster resilience, education and life-long learning, public safety, and national security.

Bio:
Farnam Jahanian leads the National Science Foundation Directorate for Computer and Information Science and Engineering (CISE). He guides CISE, with a budget of over $850 million, 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. He has testified before Congress on a broad range of topics, including cybersecurity and Big Data.

Dr. 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. His research on Internet infrastructure security formed the basis for the Internet security company Arbor Networks, which he co-founded in 2001 and served as Chairman until its acquisition in 2010. Dr. Jahanian holds a master's degree and a Ph.D. in Computer Science from the University of Texas at Austin. He is a Fellow of ACM, IEEE, and AAAS.