

Dr. John E. Savage is the An Wang Emeritus Professor of Computer Science at Brown University. He earned the ScB, ScM and PhD in Electrical Engineering at MIT, completing the latter in 1965 specializing in coding and communication theory. He joined Bell Laboratories in 1965 and the faculty of the Division of Engineering at Brown University in 1967. In 1979 he co-founded the Department of Computer Science at Brown and served as its second chair from 1985 to 1991. He is a member of the IC Associates Program.

He is a Fellow of AAAS and ACM, a Life Fellow of IEEE, a John Simon Guggenheim Fellow for an award given in 1973, and a Jefferson Science Fellow. He was awarded a Fulbright-Hays Research Award in 1973. He is a member of the Sigma Xi, Eta Kappa Nu, and Tau Beta Pi honorary societies. He has published more than 95 articles on his research, authored or co-authored three books, and is a co-editor of the proceedings of a VLSI conference. He is a Professorial Fellow of the EastWest Institute and was a member of the Board of Directors of the Michael Dukakis Institute, which sponsors the Boston Global Forum.

His initial research interests were in the area of coding for error control and communication theory. Around 1970 he changed his focus to theoretical computer science. In 1976 he published the first book on circuit complexity, a topic that today plays a central role in the theory of computation. This book was updated and translated into Russian in 1998. By 1980 his research interests expanded to applied theory of computation, which includes space-time tradeoffs in serial computation, area-time tradeoffs in the very large scale integrated (VLSI) model of computation, silicon compilers and parallel algorithms for the latter.

Around 1995 his interests expanded to include scientific computing with a PhD student who joined the IBM Blue Gene Team. In 2002 he switched his principal interests to nanotechnology, which continued until 2010 when his interests included I/O complexity for multi-core chips. Since 2011 he has published on cybersecurity and Internet governance. In 2018 he developed an interest in blockchain technologies.

He served as a Jefferson Science Fellow in the Cyber Affairs Office, in the Bureau of Intelligence and Research in State Department during the 2009-2010 academic year. As a result of this experience, he developed a keen interest in cybersecurity technology and policy, which continues today.

His faculty service at Brown has been extensive, both within the Computer Science Department and at the University level. It includes service as Chair, Vice Chair and Past Chair of the Faculty, Chair of the Task Force on Faculty Governance, Chair of the Nominations Committee, and Chair of the Search Committee for Vice President for Public Affairs and University Relations. He also served as President of the Faculty Club Board of Managers and a chair or a member of many other committees. He received the President's Award for Excellence in Faculty Governance in recognition of this service.

One of his achievements as Chair of Computer Science was the creation of the department's Industry Partners Program in 1989. It continues to provide important exposure for faculty and students with our partner companies and generates substantial discretionary income to support departmental activities, including faculty hiring.

His service to the profession includes service on many professional conference program committees and the editorial boards of the Journal of Computer and Systems Sciences and the IEEE Transactions on Computers. In addition, he served on many NSF research proposal evaluation panels, an NSF site visiting committee, ONR external review panels, and a DARPA internal review panel. He also served twice on the Vietnam Education Foundation Fellowship Review Panel, which involved traveling to Hanoi and Ho Chi Minh City. He also served on a Ford Foundation Fellowship panel. The National Research Council coordinated the latter two activities.

He also served on the MIT Corporation Visiting Committee for 11 years. He was also an external examiner on a Harvard presidential tenure review committee, a member of the accreditation committees for Northeastern University and the University of Bridgeport, and on external review committees for many computer science departments.

While a Jefferson Science Fellow from 2009-2010 he served on the Special Cyber Operations Research and Engineering (SCORE) Committee Office in the Office of the Director of National Intelligence (ODNI) and as a member of the NITRD Cyber Security and Information Assurance Interagency Working Group, both reporting to the Office of Science and Technology Policy (OSTP). He also served on the Architecture R&D Sub inter-agency policy committee that produced the first draft of the National Strategy for Trusted Identities in Cyberspace (NSTIC). He also traveled as a subject matter expert with the US delegation to ITU Study Group 17 in Geneva in the spring of 2010. He also ran a conference on Identity Management for the State Department.

He has been a panelist at cyber policy meetings sponsored by the Chinese, Indian, and Russian governments, the Munich Security Conference, the U.S. State Department, the U.S. National Intelligence Council, the EastWest Institute, MIT on Cyber Norms, the Battelle Institute "Cyber Doctrine Workshop," and the Boston Global Forum.

He has given more than 170 invited presentations in the U.S., Europe, Vietnam, and Japan. This includes the Jefferson Science Fellows Distinguished Lecture entitled "Cyberspace – Taming the Wild West" given in the State Department.

On April 12, 2011 he gave Congressional testimony at a Hearing of the Subcommittee on Crime and Terrorism of the Senate Judiciary Committee on the subject **Cyber Security: Responding to the Threat of Cyber Crime and Terrorism.**

He has developed many new courses at Brown including Future Directions in Cybersecurity Policy and Technology, Computer Systems Security: Principles and Practice, Cybersecurity and International Relations, Introduction to Nanocomputing, Models of Computation, Introduction to Computational Complexity, Applied Theory of

Computing, Introduction to Scientific Computing, Analysis of Algorithms, Computers and Society, and Operating Systems.

He has supervised ten PhD theses and 17 Master's theses and co-authored nine patents, the most recent issued on February 2, 2106 on nanotechnology.

He has received numerous grants, the most recent being an NSF grant entitled "NIRT: Technologies, Architectures and Performance Analysis for Nanoelectronics" with André DeHon of UPenn and Charles M. Lieber of Harvard at \$1,319,995 from 2004-2009.

He has spent sabbaticals in the Netherlands (Eindhoven University of Technology in 1973-74), France (Institut National de Recherche en Informatique et en Automatique and Université Paris-Sud in 1980-81; École Polytechnique in 2004-05), England (University of Warwick in 1991-92), and Brown (1994-95 and 2008-09). He is fluent in French.