

Growth of Computer Science Undergraduate Enrollments

Committee

Jared L. Cohon

Co-Chair

Jared Leigh Cohon (Co-Chair) served as the eighth President of Carnegie Mellon University in Pittsburgh, Pennsylvania, United States. He is currently a University Professor in the Carnegie Mellon College of Engineering.

He holds a B.S. in Civil Engineering from the University of Pennsylvania and M.S. and Ph.D. degrees in Civil and Environmental Engineering from Massachusetts Institute of Technology, earned in 1972 and 1973, respectively. Prior to Carnegie Mellon, Cohon was the Dean of the School of Forestry and Environmental Studies and professor of environmental systems analysis at Yale University from 1992 to 1997 and was a faculty member in the Department of Geography and Environmental Engineering and Assistant and Associate Dean of Engineering and Vice Provost for Research at Johns Hopkins University from 1973 to 1992.

Cohon stepped down from his position as President of Carnegie Mellon in 2013 and returned to the faculty as a University Professor in the Departments of Civil and Environmental Engineering and Engineering and Public Policy and director of the Wilton E. Scott Institute for Energy Innovation. In 2014, Carnegie Mellon announced that the University Center would be renamed in honor of President Cohon and will be called the Cohon University Center.

Susanne Hambrusch

Co-Chair

Susanne E. Hambrusch (Co-Chair) is professor of Computer Science at Purdue University. She holds a Diplom Ingenieur in Computer Science from the Technical University of Vienna, Austria and a Ph.D. in Computer Science from Penn State. She served as the Department Head of the Computer Science department from 2002 to 2007. She has held visiting appointments at the Technical University of Graz, Austria, and the International Computer Science Institute at the University of California, Berkeley.

Her research interests are in query and data management, computer science education, parallel and distributed computation, and analysis of algorithms. She has lead two projects in computer science education, "Science Education in Computational Thinking (SECANT)" and "Computer Science for Education (CS4EDU)". She currently is Purdue's lead in a project to establish an evidence-based professional development program to improve teachers' knowledge to teach computer science (PD4CS).

From 2010 to 2013, she served as the Director of the Computing and Communication Foundations (CCF) Division in the CISE Directorate at NSF, where she successfully led the development of several new crosscutting programs including Cyber-Enabled Sustainability Science and Engineering (CyberSEES) and eXploiting Parallelism and Scalability (XPS), and the US-Israel Collaboration in Computer Science. Susanne currently serves on the board of directors of the Computing Research Association (CRA) where she is also the vice-chair. She is a co-chair on CRA's Education committee and she is a member of the CRA Committee on the Status of Women in Computing Research (CRA-W).

M. Brian Blake

Member

M. Brian Blake PhD is Executive Vice President for Academic Affairs and Provost at Drexel University. As the highest ranking academic officer, he oversees all academic programs across the 15 schools and colleges and over 26,000 students. Blake came to Drexel from the University of Miami, where he set research and teaching priorities and led faculty enhancement efforts as vice provost for academic affairs, and oversaw 155 graduate programs serving more than 5,700 students as dean of the Graduate School.

Previously he was associate dean for research and graduate studies in the University of Notre Dame College of Engineering, and chaired the Georgetown University Department of Computer Science as it launched its first graduate program. Blake has directed computer science labs funded by more than \$10 million in sponsored research awards; authored 170-plus publications and chaired six conferences; edited major journals including his current service as editor-in-chief of IEEE Internet Computing; and advised dozens of students at every level from postdoctoral fellowships through doctoral, master's and undergraduate studies.

Blake is a Senior Member of the IEEE and ACM Distinguished Scientist. Blake's industry experience includes six years as a software engineer and architect at Lockheed Martin, General Dynamics and The MITRE Corporation before entering academia full time. Blake also holds appointments in the College of Engineering (as professor in the Department of Electrical and Computer Engineering) and in the College of Medicine (as professor of neuroengineering).

Tracy Camp

Member

Tracy Camp is a Full Professor of Computer Science in the Department of Electrical Engineering and Computer Science at the Colorado School of Mines. Her current research interests include the credibility of ad hoc network simulation studies and the use of wireless sensor networks in geosystems. She is also heavily involved in computer science education, and is currently funded to change the landscape of computer science education in Colorado high schools.

Dr. Camp is an ACM Fellow, an IEEE Fellow, and an ACM Distinguished Lecturer. She has enjoyed being a Fulbright Scholar in New Zealand (in 2006), and a Distinguished Visitor at the University of Bonn in Germany (in 2010). In December 2007, Dr. Camp received the Board of Trustees Outstanding Faculty Award at the Colorado School of Mines; this award was only given five times between 1998-2007. In May 2015 Dr. Camp received the Senior Researcher Award at the Colorado School of Mines and, in February 2016, Dr. Camp received the MLK Faculty Recognition Award for her commitment to diversity.

Dr. Camp is an elected member of the Computing Research Association (CRA) Board and is currently chairing a CRA committee addressing the booming enrollments in undergraduate computer science courses. She recently finished her 3-year term as Co-Chair of the Computing Research Association's Committee on the Status of Women in Computing Research (CRA-W), and continues today as a CRA-W Board member. She received her Ph.D. in computer science from the College of William & Mary.

David E. Culler

Member

David Culler (NAE) received his B.A. from UC Berkeley in 1980, and an M.S. and Ph.D. from MIT in 1985 and 1989, respectively. He joined the EECS faculty in 1989 and is the founding Director of Intel Research, UC Berkeley and was Associate Chair of the EECS Department, 2010-2012 and Chair from 2012 through June 30, 2014.

He won the Okawa Prize in 2013. He is a member of the National Academy of Engineering, an ACM Fellow, and an IEEE Fellow. He has been named one of Scientific American's Top 50 Researchers and the creator of one of MIT's Technology Review's 10 Technologies that Will Change the World. He was awarded the NSF Presidential Young Investigator and the Presidential Faculty Fellowship.

His research addresses networks of small, embedded wireless devices, planetary-scale internet services, parallel computer architecture, parallel programming languages, and high performance communication. It includes TinyOS, Berkeley Motes, PlanetLab, Networks of Workstations (NOW), Internet services, Active Messages, Split-C, and the Threaded Abstract Machine (TAM).

Susan B. Davidson

Member

Susan B. Davidson is a computer scientist known for her work in databases and bioinformatics. She is currently Weiss Professor of Computer and Information Science at University of Pennsylvania. Her dissertation work on distributed databases included results on statistical and mathematical techniques for data resolution as well as mechanisms to avoid database conflicts.

Davidson has also done research in bioinformatics, where her work (with collaborators) on data integration was commercialized by GeneticXChange. She is also currently serving on the board of the Computing Research Association. She received her Ph.D. in computer science from Princeton University.

Brian K. Fitzgerald

Member

Brian K. Fitzgerald serves as the CEO of the Business-Higher Education Forum (BHEF), developing long-term strategy for the membership organization. Under Dr. Fitzgerald's leadership, BHEF's National Higher Education and Workforce Initiative (HEWI) has emerged as the organization's strategic enterprise.

Through BHEF member collaboration, HEWI includes regional projects focused on business-higher education partnerships in selected states, as well as national networks which disseminate insights and scale effective practices. HEWI deploys a model of strategic business engagement in higher education to address our members' high-skill, high-priority workforce needs. The Wall Street Journal featured BHEF and its work in a front-page article, and the National Science Foundation recognized HEWI's success with a five-year, \$4.5M grant to increase persistence and diversity in undergraduate STEM education.

Dr. Fitzgerald earned his master's and doctoral degrees from the Harvard Graduate School of Education, where he also served on the alumni council for four years and as its chairman. He currently serves on the Dean's Leadership Council. He received his bachelor's degree from the Massachusetts College of Liberal Arts, which named him Distinguished Alumnus and awarded him an honorary doctorate in public service.

Ann Q. Gates

Member

Ann Quiroz Gates is a Professor and Chair of the Computer Science Department and past Associate Vice President of Research and Sponsored Projects at the University of Texas at El Paso. Gates directs the NSF-funded Cyber-ShARE Center of Excellence that was established in 2007 with a mission to advance and integrate cyber-enhanced, collaborative, and interdisciplinary education and research through technologies that support the acquisition, exchange, analysis, and integration of data, information, and knowledge. Her research areas are in requirements specification and modeling approaches and techniques.

Gates was a founding member of the NSF Advisory Committee for Cyber-infrastructure, a committee that provided advice to NSF's director, assistant directors, and office heads regarding the agency's plans and programmatic strategies to develop, support, and use of state-of-the-art cyberinfrastructure for advancing fields of science and engineering. Gates was given the IEEE-CS Golden Core Award for her service to the IEEE-Computer Society. She leads the Computing Alliance for Hispanic-Serving Institutions (CAHSI), an NSF-funded consortium that is focused on the recruitment, retention, and advancement of Hispanics in computing, and is a founding member of the National Center for Women in Information Technology.

Gates received the 2015 HENAAC Educator award, the CRA's 2015 A. Nico Habermann Award, the 2010 Anita Borg Institute Social Impact Award, and the 2009 Tapia Achievement Award for Scientific Scholarship, Civic Science, and Diversifying Computing. She was named to Hispanic Business magazine's 100 Influential Hispanics in 2006 for her work on the Affinity Research Group model that focuses on development of undergraduate students involved in research.

Charles Isbell

Member

Charles Isbell has been a leader in education efforts both at Georgia Tech's College of Computing, where he is Senior Associate Dean for Academic Affairs, and nationally, where he co-chairs the Computing Research Association's Subcommittee on Education. At Georgia Tech, Dr. Isbell was one of the co-leaders of the Threads reform of the undergraduate computing curriculum. Threads was a successful, comprehensive restructuring of the computing curriculum that provided a cohesive, coordinated set of contexts - or threads - for teaching and learning computing skills, with a goal of making computing more inclusive, relevant and exciting for a much broader student audience.

Dr. Isbell has won numerous teaching awards. Dr. Isbell received his Ph.D. from MIT's AI Lab (now CSAIL). His research focuses on artificial intelligence and machine learning.

Clas Jacobsen

Member

Clas Jacobson is Chief Scientist, Controls, for United Technologies Corporation (UTC). In this role he works with the UTC business units to provide advice on controls technology in both products as well as development processes to enhance product quality, functionality and engineering effectiveness. Prior to his role as Chief Scientist, he has worked at United Technologies Research Center (UTRC) in management and scientific positions since 1995.

He was Director of the Carrier Program Office. He also was Director of the Systems Department at UTRC responsible for 140 staff working in the systems engineering areas emphasizing mathematical modeling and analysis. Dr. Jacobson received his Ph.D degree in electrical engineering in 1986 from Rensselaer Polytechnic Institute. He was an Associate Professor at Northeastern University in Boston from 1986-1995 and conducted research in control systems.

Michael McPherson

Member

Michael S. McPherson is the fifth President of the Spencer Foundation, a private foundation that grants funds to support research that will contribute to the understanding of education and the improvement of its practice. Prior to joining the Foundation in 2003 he served as President of Macalester College in St. Paul, Minnesota for seven years.

A nationally known economist whose expertise focuses on the interplay between education and economics, McPherson spent the 22 years prior to his Macalester presidency as professor of economics, chairman of the Economics Department, and dean of faculty at Williams College in Williamstown, Massachusetts. He holds a B.A. in Mathematics, an M.A. in Economics, and a Ph.D. in Economics, all from the University of Chicago.

He has served as a trustee of the College Board, the American Council on Education and Wesleyan University. He was a Fellow of the Institute for Advanced Study and a Senior Fellow at the Brookings Institution.

Eric Roberts

Member

Eric Roberts received his Ph.D. in Applied Mathematics from Harvard University in 1980 and went on to teach at Wellesley College from 1980-85, where he chaired the Computer Science Department. From 1985-90, he was a member of the research staff at Digital Equipment Corporation's Systems Research Center in Palo Alto, California, where his research focused on programming tools for multiprocessor architectures.

In September 1990, Roberts joined the Stanford faculty, where he is now the Charles Simonyi Professor of Computer Science, emeritus. From 1990 to 2002, Professor Roberts was Associate Chair and Director of Undergraduate Studies for Computer Science. In that capacity, he was the principal architect of Stanford's introductory programming sequence. He has written seven computer science textbooks that are used at many colleges and universities throughout the world. While at Stanford, Professor Roberts has received several university level teaching awards, including the Bing Fellowship, the Dinkelspiel Award, and the Laurance and Naomi Carpenter Hoagland Prize.

In January 2002, Roberts was named one of the first Bass University Fellows in Undergraduate Education, designed "to reward faculty who make truly outstanding contributions to Stanford's undergraduate experience." In 2012, Roberts received both the Karl V. Karlstrom Outstanding Educator Award from the Association for Computing Machinery (ACM) and the Taylor Booth Education Award from the Institute for Electrical and Electronic Engineers Computer Society (IEEE CS).

Valerie Taylor

Member

Valerie Taylor is Senior Associate Dean for Academic Affairs in the College of Engineering and the holder of the Royce E. Wisenbaker Professorship and Regents Professor of Computer Science and Engineering at Texas A&M University. Dr. Taylor is the former Department Head of Texas A&M's Department of Computer Science and Engineering, serving in that role from 2003 until 2011. She is also the Executive Director of the Center for Minorities and People with Disabilities in IT (CMD-IT), a 501(c)(3) non-profit organization with a vision of contributing to the national need for an effective workforce in computing and IT through synergistic activities related to minorities and people with disabilities.

Dr. Taylor earned her B.S. in Electrical and Computer Engineering and M.S. in Computer Engineering from Purdue University in 1985 and 1986, respectively. She received her Ph.D. in Electrical Engineering and Computer Science from the University of California, Berkeley, in 1991. From 1991 through 2002, Dr. Taylor was a member of the faculty in the Electrical and Computer Engineering Department at Northwestern University.

Among her many awards and recognitions are the designation as an IEEE Fellow; recipient of Richard A. Tapia Achievement Award for Scientific Scholarship, Civic Science, and Diversifying Computing; the MOBE Influencers and Innovators of the Internet and Technology; and the Harriet B. Rigas Education Award. She has authored or co-authored over 100 papers in the area of HPC. Dr. Taylor is a member of ACM.

Jodi Tims

Member

Jodi Tims is a Professor of Computer Science at Baldwin Wallace University in Berea, OH, a liberal arts-based college with approximately 3,000 undergraduate students and a student-faculty ratio of approximately 13:1. She is currently serving as Chair of the Department of Mathematics and Computer Science. She began teaching at the university level in 1982 at the University of Pittsburgh at Johnstown as an Instructor of Mathematics.

Upon completing her M.S. in Computer Science at the University of Pittsburgh in 1988, Dr. Tims became an Assistant Professor of Computer Science at UPJ. In 1992, she received the Edward A. Vizzini Natural Science Division Award for Excellence in Teaching and in 1994 was tenured and promoted to Associate Professor. After earning her Ph.D. in Computer Science from the University of Pittsburgh with an emphasis on programming languages and compilation for distributed memory parallel systems, she accepted a position as Associate Professor and Coordinator of Computer Science at Saint Francis University, Loretto, PA.

She accepted her current position at Baldwin Wallace in 2002 and was promoted to Full Professor in 2004. In addition to her teaching and administrative responsibilities, she serves on numerous college-wide committees, is a member of the Regional Information Technology Engagement (RITE) Board of Northeast Ohio, the OHTec Advisory Board, and is a member of the ACM-W Executive Council and currently serving as Vice Chair.

She served as Program Chair for the Ohio Celebration of Women in Computing (OCWiC) held in 2009 and 2011, general chair of that event for OCWiC 2013, and is now serving as chair of the newly formed OCWiC Executive board. She also is currently serving as co-chair of SIGCSE 2016, a symposium of the ACM Special Interest Group on Computer Science Education.

Sarah E. Turner

Member

Sarah Turner is the Chair of the Department of Economics at the University of Virginia. Dr. Turner specializes in research on the economics of education in the United States. She has written extensively on the economics of higher education, including the behavioral effects of financial aid policies and the entry of new providers. She has served as a Visiting Scholar at the Russell Sage Foundation, and received the Milken Institute Award for Distinguished Economic Research, "Trade in University Training." Some of her recent research has addressed the labor market for IT workers, and college enrollment during the Great Recession. She received her Ph.D. in Economics from the University of Michigan.