



ENVISIONING VIRGINIA TECH

BEYOND BOUNDARIES

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AGENDA

9:00AM - 10:00AM | Continental Breakfast

BEYOND BOUNDARIES FORUM

10:00AM - 10:20AM | Introduction and Overview
President Timothy D. Sands and Beyond Boundaries Faculty Panel

10:20AM - 11:45AM | Forum Discussion
*Wayne Clough, Lynne Doughtie, Martin Dunn, and Brian Fitzgerald
President Timothy D. Sands and Provost Thanassis Rikakis*

DESTINATION AREAS PLENARY; FIRST STEP OF BEYOND BOUNDARIES PROCESS

12:00PM - 12:30PM | Lunch

12:30PM - 1:10PM | Introduction of Destination Areas Concept and Charge
Provost Thanassis Rikakis and Virginia Tech panelists

1:10PM - 2:00PM | Panel Discussion
Vice President Steve McKnight and external panel chairs

2:00PM - 2:15PM | Break

DESTINATION AREAS WORKSHOP

2:15PM - 3:45PM | Concurrent Destination Area Workshop Sessions
*Adaptive Brain and Behavior Across the Lifespan
Data and Decision Sciences
Resilient Earth Systems
Integrated Security
Intelligent Infrastructure and Human-Centered Communities*

3:45PM - 4:00PM | Break

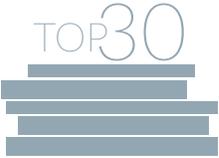
4:00PM - 4:20PM | Reconvene: Workshop Summaries and Reflections

4:20PM - 4:30PM | Closing Remarks
President Timothy D. Sands

4:30PM - 5:30PM | Reception

VIRGINIA TECH takes a hands-on, minds-on engaging approach to education, preparing scholars to be leaders in their fields and communities. As the commonwealth's most comprehensive university and its leading research institution, Virginia Tech offers 240 undergraduate and graduate degree programs to more than 31,000 students and manages a research portfolio of more than \$513 million. The university fulfills its land-grant mission of transforming knowledge to practice through technological leadership and by fueling economic growth and job creation locally, regionally, and across Virginia.

Through a combination of its three missions of learning, discovery, and engagement, Virginia Tech continually strives to accomplish the charge of its motto *Ut Prosim* (That I May Serve).

 <p>Main campus in Blacksburg, Virginia</p>	<p>Research and education facilities in:</p> <ul style="list-style-type: none"> Roanoke Richmond Northern Virginia Washington DC Hampton Roads Switzerland 	<p>Ranked 38th in university research in the United States</p> 
<p>Top 30 Public University by U.S. News</p> 	 <p>11 Agriculture Research and Extension Centers in Virginia</p>	<p>90+</p> <hr/> <p>bachelor's degree programs</p>
<p>150</p> <p>master's and doctoral degree programs</p>	<p>31,000 full-time students</p> 	<p>230 acre Corporate Research Center with 3,000+ employees</p> 



VIRGINIA TECH IN THE NATIONAL CAPITAL REGION (NCR)

The university has a significant research, educational, and public service footprint throughout the region. It operates seven facilities throughout the NCR including a graduate education center in Falls Church, research and outreach center in Middleburg, an equine hospital in Leesburg, architecture education operations in Alexandria, and research and administrative offices in Arlington.

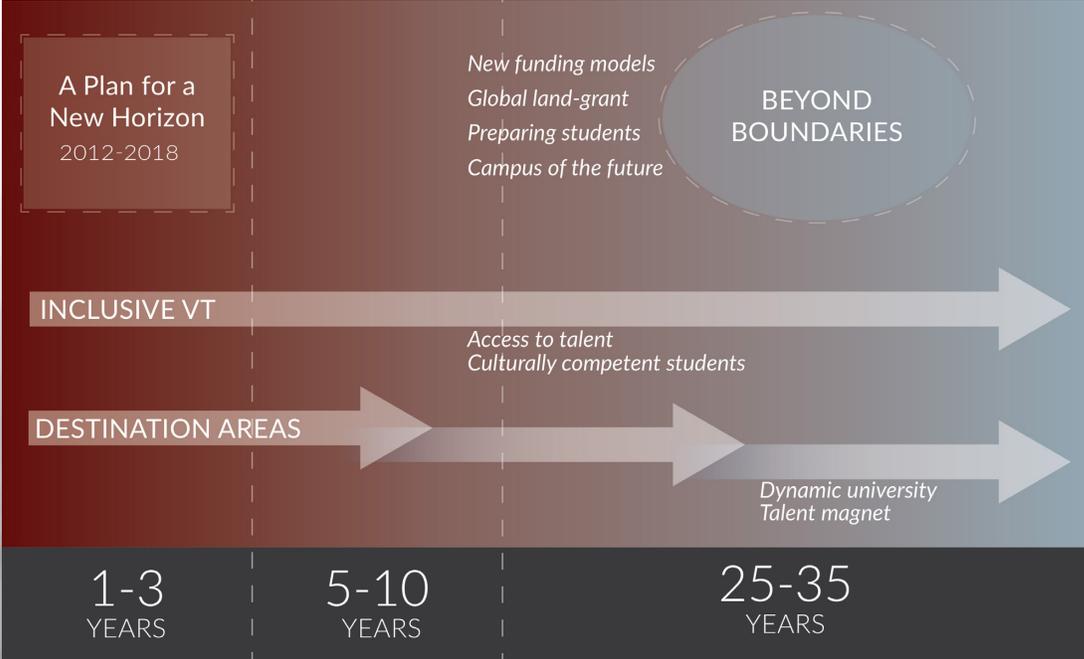
The Virginia Tech Research Center – Arlington is a seven-floor, 144,000-square-foot state-of-the-art facility is located in the vibrant Ballston district of Arlington, a short distance from many of the leading science and research agencies of the federal government and many

high-technology companies. Home for affiliate operations of the university's top level research institutes, it includes computational laboratories, offices, and an Executive Briefing Center to accommodate meetings, forums, symposia, and other events. High-performance connectivity links this research center to Virginia Tech's main campus in Blacksburg, as well as to other major universities. The network provides access to international peering points in New York, Chicago, Seattle, Los Angeles, and Florida, and the building includes a secure data center for high performance computing based research.

ENVISIONING VIRGINIA TECH BEYOND BOUNDARIES

Last May, President Timothy D. Sands challenged the university community to engage in a year-long visioning initiative to support two interrelated goals: advance as an internationally-recognized, global land-grant university, and strategically address the challenges and opportunities facing higher education institutions now and during the next generation. Thought leaders from across the university are addressing four thematic areas central to the university's advancement—advancing as a global land-grant university, preparing students for the world in which they will live and work, envisioning the campus of the future, and discovering new funding models.

The initiative challenges all members of the university community to think well beyond traditional timelines, mindsets, and paradigms. This is critically important as we engage global partners, issues, and economies to prepare our students as 21st-century global citizens.





DESTINATION AREAS

Destination Areas combine our world-leading research, faculty and technology, with a strong experiential component. The term “Destination” references the goal of identifying cross-cutting themes that will be “destinations” for talent. Destination Areas will evolve on the timescale of a decade as the needs of our society evolve, in contrast to the more permanent disciplinary department/college structure that serves to aggregate knowledge and evaluate quality. The faculty engaged in each Destination Area, in collaboration with colleagues across the university, will create crosscutting, interdisciplinary majors designed to facilitate the development of VT-shaped students.

Destination Area majors will be embedded within existing degrees, ensuring students will gain both the depth of understanding in their primary field of study as well as an interdisciplinary perspective to work across fields of inquiry. Destination Area majors will bring students together across disciplinary lines in collaborative, problem-based learning environments. Students will be challenged to focus on real problems and thus engage in the purpose-driven, “hands on, minds on” work that is a hallmark of the Virginia Tech undergraduate student experience.

FORUM PARTICIPANTS

BEYOND BOUNDARIES

WAYNE CLOUGH served as the 10th president of the Georgia Institute of Technology from 1994 to 2008 and as the 12th Secretary of the Smithsonian from 2008 to 2014. A native of Georgia he earned his BS and MS degrees from Georgia Tech and a PhD from the University of California at Berkeley. He has taught at Duke, Stanford, and Virginia Tech, where he served as the Chair of the Department of Civil and Environmental Engineering and Dean of the College of Engineering. In 1992 he was named Provost at the University of Washington. Clough was elected to the National Academy of Engineering in 1990 and the American Academy of Arts and Sciences in 2010. He was appointed to the National Science Board and the President's Council of Advisors on Science and Technology by President George W. Bush. He has received honorary doctorates from twelve universities. During his tenure at Georgia Tech the university rose into the top ten among public universities, hosted the 1996

Olympics, extended the campus into Midtown Atlanta, expanded overseas, initiated the Tech Promise program for financially disadvantaged students, and improved student retention and graduation rates.

His tenure at the Smithsonian was marked by improved relations with Congress, a growth in museum visitation from 25 million to 32 million, a commitment to digital outreach and education, a focus on sustainability and interdisciplinary activities, and enhanced private support. The new \$570 million National Museum of African American History and Culture was funded and major renovations were completed at seven of the Smithsonian's 19 museums and galleries. Dr. Clough has returned to Georgia and is active as a lecturer, author, teaching part-time at Georgia Tech with a focus on leadership, climate change, and working to create access to university education for students from low-income families.

LYNNE DOUGHTIE is Chairman and Chief Executive Officer of KPMG LLP – one of the world's leading professional services firms and the fastest growing Big Four professional services firm in the U.S. She leads a high-performing team of more than 29,000 professionals that provide innovative business solutions and audit, tax and advisory services to many of the world's largest and most prestigious organizations. Doughtie drives KPMG's inclusive and purpose-driven culture, which is defined by a commitment to corporate responsibility and maintaining the highest levels of professionalism and quality in KPMG's client service and support of the capital markets. She began her career in 1985 in KPMG's Audit practice, and has served in a number of national, regional and global leadership roles, including as lead partner for a number of KPMG's major clients. In addition to her U.S. leadership role, she serves on KPMG's Global Board and Executive Committee. Doughtie most recently served as Vice Chair of KPMG's Advisory business (2011-2015). During the course of her leadership, Doughtie steered the firm's U.S. Advisory practice on a path of tremendous growth that has

established it as the firm's fastest growing business, including market-leading positions in business and risk consulting and transaction advisory services. She is a Governing Board member for the Center for Audit Quality and a member of The Committee of 200. She also serves as a board member for both NAF and the Partnership for New York City.

Doughtie has received numerous recognitions including being named one of: Fortune's Most Powerful Women in Business, Accounting Today magazine's Top 100 Most Influential People, and the National Association of Corporate Directors' 100 most influential people in the boardroom. Doughtie also was named the 2015 "Woman of Achievement" by the National Association for Female Executives. She is a graduate of Virginia Tech, where she earned a Bachelor of Science degree in accounting in 1985. She remains an active alumnus and serves as a member of the Advisory Board for the school's Pamplin College of Business and a member of the Accounting and Information Systems Advisory Board. In 2007, she was awarded the Distinguished Alumnus Award, for outstanding career accomplishments and contributions to the college.

MARTIN DUNN is Associate Provost for Research at Singapore University of Technology and Design. There, Dr. Dunn serves as Director of both the Digital Manufacturing and Design Centre as well as the National Additive Manufacturing Innovation Cluster. His research is focused on human-machine interfaces, robotics, and automation and control.

Dr. Dunn previously directed the Mechanics of Materials and Design of Engineering Materials Systems programs at the U.S. National Science Foundation. He served the NSF while on leave from the University of Colorado, Boulder where he was the Associate Dean for Research in the College of Engineering and Applied Science, a Professor of Mechanical Engineering (and former Department Chair), and held the Victor Schelke Endowed Chair.

Professor Dunn has held positions at Sandia National Laboratories and the Boeing Company. Along with his students, his research on the mechanics and physics of materials and structures has been widely published, cited, and recognized across more than 160 peer-reviewed articles and nearly a dozen book chapters and edited volumes. Dr. Dunn's recent work has been published in the *Journal of Mechanical Design*, *Scientific Reports*, and *Extreme Mechanics Letters*. He is on the editorial board of *Virtual and Physical Prototyping Journal* and serves as a regular reviewer for many others. Dr. Dunn is also a regular grant proposal reviewer for the National Science Foundation, the Department of Energy, the Army Research Office, and DARPA. He is a Fellow of the American Society of Mechanical Engineers and holds a PhD in mechanical engineering from the University of Washington.

BRIAN FITZGERALD serves as Business-Higher Education Forum's chief executive officer, developing and executing 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. Backed by some of the nation's most committed business and academic leaders, BHEF launched highly innovative partnerships in data science and analytics, financial services, cybersecurity, risk management, and social and mobile technologies. Prior to joining BHEF, Dr. Fitzgerald served as staff director for the federal Advisory Committee on Student Financial Assistance, which advises Congress on higher education and student aid policy. Dr. Fitzgerald has written extensively on policies to improve college access and success. He also served as an adjunct associate professor of government at

American University, teaching advanced studies courses on the politics of education. In the private sector, Dr. Fitzgerald held senior project management positions for large-scale education research projects for federal agencies. Earlier in his career, he served as assistant dean and as a lecturer in education at Bates College in Lewiston, Maine. While CEO, Dr. Fitzgerald has served on a number of commissions and working groups, including the STEM working group for the President's Council of Advisors on Science and Technology, which produced the widely cited 2012 report to President Obama: *Engage to Excel*.

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.

WORKSHOP PANELISTS

DESTINATION AREAS

ADAPTIVE BRAIN AND BEHAVIOR ACROSS THE LIFESPAN

+ **David H. Cohen**

Vice President and Dean of the Faculty Emeritus for Arts and Sciences, Columbia University

Dr. David H. Cohen is Vice President and Dean, Faculty Emeritus for Arts and Sciences at Columbia, and Professor Emeritus, Neuroscience in Psychiatry and Alan H. Kempner Professor Emeritus of Biological Sciences at Columbia. After 20 years as an academic research scientist, David H. Cohen served as provost at Northwestern University in the early 1990s and moved to Columbia University in 1995 to serve as vice president and dean of the faculty for Arts and Sciences. Dr. Cohen has served on many boards including Zenith Electronics, Eduventures, Argonne National Laboratory, and the Fermi National Accelerator Laboratory. Cohen spent the first half of his career developing a vertebrate model system for cellular studies of information storage. He left the laboratory in 1986 for university central administration. Much of the second half of his career involved administrative activities broadly engaging the sciences and engineering through his university responsibilities as a senior administrator, service on boards of such organizations as Argonne National Laboratory and the Fermi National Accelerator Laboratory, service as an officer of such organizations as the Society for Neuroscience and the Association of American Medical Colleges, and extensive involvement in advisory activities. David received a Bachelor of Arts degree from Harvard University and a Ph.D. from the University of California, Berkeley.

+ **Stuart Hoffman**

Scientific Program Manager, U.S. Department of Veteran Affairs

Dr. Stuart Hoffman is a scientific program manager for Brain Injury and Stroke Programs in the Rehabilitation Research & Development Service at the United States Department of Veterans Affairs (VA). Dr. Hoffman's professional career began as an assistant professor in the Department of Emergency Medicine at Emory University from 1998 to 2006. Immediately prior to joining the VA, Dr. Hoffman was the research director for the Defense and Veterans Brain Injury Center in Johnstown, Pennsylvania. Dr. Hoffman represents the Department of Veterans Affairs on traumatic brain injury research. In this role, Dr. Hoffman is the co-chair of the Government Steering Committee for the VA/DoD Chronic Effects of Neurotrauma Consortium, as well as the VA traumatic brain injury subject matter expert for the National Research Action Plan for Improving Access to Mental Health Services for Veterans, Service Members, and Military Families. Dr. Hoffman serves on several advisory boards for VA research centers, as well as the Congressionally-mandated Traumatic Brain Injury Advisory Committee for the Veterans Health Administration. Hoffman received his doctoral degree in behavioral and molecular neuroscience at Rutgers University in 1995 and completed his postdoctoral training in pharmacology at Virginia Commonwealth University in 1997.

Read Montague

Department of Physics, Virginia Tech; Virginia Tech Carilion Research Institute; Virginia Tech Carilion School of Medicine

Dr. Read Montague holds appointments as professor at the Virginia Tech Carilion Research Institute, the Department of Physics, and Psychiatry and Behavioral Medicine at the Virginia Tech Carilion School of Medicine. He serves as director of the Human Neuroimaging Laboratory, and the Computational Psychiatry Unit. Dr. Montague was recently named the first Virginia Tech Carilion Vernon Mountcastle Research Professor, in recognition for his excellence in research. His work centers broadly on human social cognition, decision-making, and willful choice with a goal of understanding the detailed underlying neurobiology of these functions in health and disease. Montague's work particularly focuses on computational neuroscience – the connection between physical mechanisms present in real neural tissue and the computational functions that these mechanisms embody. His laboratory uses theoretical, computational, and experimental approaches to these issues. In particular, the group now employs novel approaches to functional neuroimaging, new biomarkers for mental disease, spectroscopy, real-time voltammetry, and computational simulations. Montague also directs the Roanoke Brain Study, a project aimed at understanding decision-making through the lifespan and its relationship to brain development, function, and disease. Work in the laboratory is supported by the National Institutes of Health, National Science Foundation, The Kane Family Foundation, Autism Speaks, The MacArthur Foundation, The Dana Foundation, and the Wellcome Trust. Read earned a PhD in biophysics from the University of Alabama Birmingham.

Sharon Ramey

Department of Psychology, Virginia Tech; Virginia Tech Carilion Research Institute; Virginia Tech Carilion School of Medicine

Dr. Sharon Ramey's research addresses three major areas of human development: the contribution of early experience, starting even prior to conception and extending through the prenatal and early postnatal periods, to later health, social-emotional, and intellectual development (including the fields of behavioral teratology and early intervention research); the development and testing of highly promising treatments for children with disabilities and at-risk conditions; and how to improve the provision of health, education, and social services and strengthen natural community supports, to benefit children and families. In addition to this work, Dr. Ramey participates on a multidisciplinary team at the Virginia Tech Carilion Research Institute, which has launched the Roanoke Brain Study (under the direction of Dr. Read Montague). Ramey's work has appeared in the *Journal of Community Health, Developmental Medicine and Child Neurology*, and the *American Journal of Occupational Therapy*, among others. She has received numerous accolades, which recently include the Timeless Award from the University of Washington and Research Achievement Award from the Georgetown University Medical Center. She holds a PhD in developmental psychology from the University of Washington, Seattle.

John Rossmeisl

Neurology and Neurosurgery, Virginia Tech; Virginia-Maryland College of Veterinary Medicine

Dr. John H. Rossmeisl is associate professor of neurology and neurosurgery in the Department of Small Animal Clinical Sciences at the Virginia-Maryland College of Veterinary Medicine. Dr. Rossmeisl holds two board certifications from the American College of Veterinary Internal Medicine for neurology and small animal internal medicine. His research includes primary brain tumors, medical device development, central nervous system drug delivery, and endocrinology. Rossmeisl's research has appeared in *Frontiers in Veterinary Science, Journal of Veterinary Medicine Research*, and *Journal of Neurosurgery*. Dr. Rossmeisl is the recipient of the Zoetis Award for Research Excellence and the Student AVMA Teaching Excellence Award (Clinical Sciences). Rossmeisl holds a DVM from Auburn University and a master of science from the Virginia-Maryland College of Veterinary Medicine.

+ Amita Shukla

Founder and CEO, Vitamita

Ms. Amita Shukla is an innovator and entrepreneur focused on creating and scaling transformative innovations for human health, well-being, and potential. She is the founder and CEO of Vitamita and the author of *Enduring Edge*. Previously, she was a principal at New Enterprise Associates (NEA), one of the world's largest and most active venture capital firms with close to \$17 billion in committed capital, where she spent close to nine years evaluating medical innovations, investing in cutting-edge healthcare start-ups, and working closely with scientists, physicians, and entrepreneurs. Earlier, she was the vice president of AmiKa Corp., a biomedical technology company where she developed and commercialized novel research tools—for which she holds 10 issued patents—until its acquisition by Harvard Bioscience. Previously, she founded two startups and was a healthcare analyst at Merrill Lynch. She has written about innovation for publications such as the MIT Technology Review. Shukla regularly mentors startups, advises organizations, and speaks to audiences of innovators, entrepreneurs, and leaders in industry, academia, and government. In 2010, she was Governor Martin O'Malley's youngest appointee to the board of Maryland's Technology Development Corporation (TEDCO), a national leader in seed/early-stage investing. In 2015, she was reappointed by Governor Larry Hogan. She served as a Mentor in Residence at Johns Hopkins University in 2015 to help its researchers and physicians realize the potential of their groundbreaking discoveries. She also served on the Johns Hopkins Medicine Alliance for Science and Technology Development from 2007 to 2015. Shukla currently serves on the board of directors of Bethesda Green, as a founding board member of the Global Liver Institute, and as a Life Science Council member for Springboard. She holds a BA in biochemistry from Harvard, where she was a senior editor at the *Harvard Crimson*, and an MBA from Stanford, where she led a team that won the university-wide Stanford business plan competition for a novel cardiovascular device. Shukla is certified as a yoga teacher, and her passion for human health traces back to high school, where she received first place at the International Science and Engineering Fair for her research on an Indian medicinal plant for preventing gum disease.

Harald Sontheimer

Neuroscience, Virginia Tech; Virginia Tech Carilion Research Institute

Dr. Harald Sontheimer holds an appointment as professor at the Virginia Tech Carilion Research Institute in neurobiology in the College of Science. He serves as Director of the Center for Glial Biology in Health, Disease, and Cancer, the I.D. Wilson Chair in the College of Science, and Executive Director of the Neuroscience Initiative. Professor Sontheimer researches the biology of glial cells and is credited with making foundational discoveries on the functional properties of glial cells in the brain, including the localization and mechanisms of a range of receptors and ion channels that were previously thought to exist only on nerve cells. His recent work has appeared in *Science Translational Medicine, Journal of Neuroscience*, and *Glia* and has a recent book titled *Diseases of the Nervous System* (Elsevier: 2015). Sontheimer is the recipient of numerous awards and honors including the Dean's Award for Excellence in Mentorship from the University of Alabama and the McNulty Civitan Scientist Award. He holds a PhD in cell biology and biophysics from the University of Heidelberg.

+ **Todd Stottlemeyer** *

CEO, Inova Center for Personalized Health

Mr. Todd Stottlemeyer joined Inova in July 2015 as CEO of the Inova Center for Personalized Health (ICPH). Mr. Stottlemeyer is responsible for developing and growing all activities on the 117-acre ICPH campus, which includes the Inova Schar Cancer Institute and the Inova Translational Medicine Institute (ITMI). Mr. Stottlemeyer previously served at Inova from 2009-10 as Executive Vice President responsible for information technology, biomedical engineering, innovation, international business, compliance, risk, legal, communications, government relations, community affairs and philanthropy. Prior to returning to Inova, Mr. Stottlemeyer was CEO of Acentia, LCC, a provider of software, information technology and management solutions. Before Acentia, Mr. Stottlemeyer led as CEO or served as a member of the executive management teams of four technology companies, three of which were private equity backed and two were publicly traded on the NASDAQ. Mr. Stottlemeyer has been recognized by Washington Smart CEO magazine as one of their 20 “Most Admired CEOs” in the Washington, DC region; by the Washington Business Journal as one of the 50 “Most Admired CEOs” in the Washington, DC region and as one of the Washington, DC region’s 100 most influential business leaders; and by Virginia Business magazine as one of 31 people “...making their mark on the Commonwealth’s economy.” Mr. Stottlemeyer has served on or serves on the boards of nine technology companies, two publicly traded commercial banks, and a technology focused venture capital firm. Additionally, Mr. Stottlemeyer has served on the boards of numerous charitable and civic organizations, including serving as Chairman of the Fairfax County Chamber of Commerce board of directors and as a Commissioner on the Fairfax County Economic Development Authority. Mr. Stottlemeyer currently serves as Chairman of the Northern Virginia Technology Council’s (NVTC) board of directors. Mr. Stottlemeyer serves as Rector (chair of the Board of Visitors) of The College of William & Mary. Previously, he served as a member of the University of Mary Washington’s Board of Visitors. Mr. Stottlemeyer received his bachelor of arts degree (Phi Beta Kappa) from The College of William & Mary. He received a JD (cum laude) from Georgetown University Law Center and is a member of the Virginia State Bar.

Anisa Zvonkovic

Human Development, Virginia Tech

Dr. Anisa Zvonkovic is professor and department head of the Department of Human Development at Virginia Tech. Her research includes the effects of work on individual and interpersonal lives; dyadic issues in close relationships; closeness and autonomy in interpersonal relationships; and feminist and post-modern perspectives on close relationships. Her recent work has appeared in *Journal of Extension*, *Journal of Family Issues*, and *Family Relations*. Dr. Zvonkovic has been honored as an invited participant to the forum on Workplace Flexibility, the recipient of Texas Tech University’s Outstanding Mentor of Undergraduate Research, and the College of Human Sciences Nominee for the *Barnie J. Rushing Jr. Outstanding Faculty Member* (also at Texas Tech). She holds a PhD from The Pennsylvania State University.

DATA AND DECISION SCIENCES

+ **L. Isabel Cardenas-Navia**

Director of Emerging Workforce Programs, Business-Higher Education Forum

Dr. L. Isabel Cárdenas-Navia is the director of emerging workforce programs at BHEF, where she develops and manages innovative partnerships between industry and postsecondary institutions to increase persistence to degree of STEM students, particularly women and minorities, and align undergraduate STEM education with workforce needs. Dr. Cárdenas-Navia has consulted for the U.S. Navy where she had the responsibility to develop, implement, manage, evaluate, and report on activities and programs that strengthen and support the capabilities of non-profits, schools, and postsecondary institutions to participate in Naval STEM education programs and develop the next generation of Naval scientists and engineers. She served as a postdoctoral fellow at the National Human Genome Research Institute, and she received her PhD in biomedical engineering from Duke University and B.S. in mechanical engineering from Yale University.

Mark Embree

Mathematics, Virginia Tech

Dr. Mark Embree is a professor of mathematics at Virginia Tech. His research interests include Krylov subspace methods for linear systems, eigenvalue problems, non-normal operators, and spectral calculations, among others. Embree is the author of numerous articles published in journals such as *Integral Equations Operator Theory* and *SIAM Journal on Matrix Analysis and Applications* and is the coauthor of the book *Spectra and Pseudospectra* with Lloyd Trefethen (Princeton University Press: 2005).

+ **Eui-Hong (Sam) Han**

Director, Big Data and Personalization, The Washington Post

Dr. Eui-Hong (Sam) Han is the director for big data and personalization at the Washington Post. Han is an experienced practitioner of data mining and machine learning. He has in-depth understanding of analytics technologies and has experience of successfully applying these technologies to solve real business problems. At the Washington Post, he is leading a team to build an integrated big data platform to store all aspects of customer profiles and activities from both digital and print circulation, metadata of content, and business data. His team builds an infrastructure, tools, and services to provide personalized experience to customers, to empower newsroom with data for better decisions, and to provide targeted advertising capability. Prior to joining The Washington Post, he led Big Data practice at Persistent Systems, started Machine Learning Group at Sears Holdings Online Business Unit, and worked for a data mining startup company. His expertise includes data mining, machine learning, information retrieval, and high performance computing. Han holds PhD in Computer Science from the University of Minnesota.

+ **Dewey R. Houck, II ***

Vice President and Chief Data Analytics Officer, Phantom Works, Boeing

Mr. Dewey Houck is vice president and chief data analytics officer within the Phantom Works division for Boeing Defense, Space & Security. He is responsible for leading a team focused on gathering and leveraging data as a business asset, enabling Boeing defense platforms and services to gain a distinct information advantage in the global marketplace. Houck was previously vice president and general manager of Electronic and Information Solutions, a division of Boeing Network and Space Systems focused on command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), cyber and electronic systems and services. Houck has also served as chief technology officer for Boeing Mission Systems within Space & Intelligence Systems. Houck was vice president for technology development for Autometric, Inc., when Boeing acquired it in 2000. In that role, he administered all research and product development activities including several geospatial, photogrammetric and visualization initiatives. Houck is a Boeing Senior Technical Fellow. He holds both a Bachelor of Science and Master of Science degree in civil engineering, with specialization in photogrammetric and geodesy, from Virginia Tech. He currently serves on the board of directors of the United States Geospatial Intelligence Foundation, and on the board of advisors for the Intelligence and National Security Alliance, and the Virginia Tech Hume Center. He is also a member of California Polytechnic State University's Cyber Council.

[Sallie Keller](#)

Statistics, Virginia Tech

Dr. Sallie Keller is a professor in the Department of Statistics at Virginia Tech and serves as director and professor of Statistics for the Social and Decision Analytics Laboratory within the Biocomplexity Institute of Virginia Tech. Her research interests include social and decision analytics, big data, uncertainty, computational and graphical statistics, and data access and confidentiality. Professor Keller is the author of numerous articles published in journals such as *Nature*, *Journal of the American Statistical Association*, *Significance*, and *Chance*. Keller also is the author of the book *Introduction to Probability and Systems Modeling* (Duxbury Press: 2005) with J.J. Higgins. Formerly she was professor of statistics at University of Waterloo and their Vice-President, Academic Affairs & Provost. Prior to this she was the director of the IDA Science and Technology Policy Institute in Washington DC. Prior to this she was the William and Stephanie Sick Dean of Engineering and Professor of Statistics at Rice University. Her other appointments include head of the Statistical Sciences group at Los Alamos National Laboratory, professor and director of graduate studies in the Department of Statistics at Kansas State University, and statistics program director at the National Science Foundation. Dr. Keller has served as a member of the National Academy of Sciences Board on Mathematical Sciences and its Applications, has chaired the Committee on Applied and Theoretical Statistics, and is currently a member of the Committee on National Statistics. Her areas of research are uncertainty quantification, computational and graphical statistics and related software and modeling techniques, and data access and confidentiality. She is a national associate of the National Academy of Sciences, fellow of the American Association for the Advancement of Science, elected member of the International Statistics Institute, and member of the JASON advisory group. Recent accolades include election as a member into the International Statistical Institute and receipt of the Jerome Sacks Award for Outstanding Cross-Disciplinary Research. She also is a fellow and past president of the American Statistical Association. She holds a PhD in statistics from the Iowa State University of Science and Technology.

+ Jay Mork

Vice President of Strategy, General Dynamics Mission Systems

Mr. Jay Mork is the Vice President of Strategy for General Dynamics Mission Systems, a business unit of General Dynamics. With an extensive portfolio of technologies, products and systems, General Dynamics Mission Systems delivers cutting edge solutions for our customer's most complex challenges in the defense, intelligence, space and homeland security communities. As Vice President of Strategy, Mr. Mork provides leadership for the creation of pioneering solutions and agile business practices that deliver innovative mission capabilities for customers worldwide. For over 30 years, Mr. Mork has launched and successfully led strategic initiatives for customers across the defense and intelligence communities. From harnessing the power of cloud computing; to open architecture mission solutions; to space-based sensing and communications, he is dedicated to addressing customers' most urgent mission needs, rapidly and affordably. An advocate for community outreach, he leads company efforts to engage employees, industry and academia to bring "innovation with purpose" to our customers through efforts like GDNexus and the EDGE network. Mr. Mork started his career at Control Data Corporation as a computing systems architect/systems engineer where he spearheaded the successful design of many high performance computing systems for the U.S. Department of Defense and Intelligence Communities. Prior to joining General Dynamics, he was the Chief Technologist at Control Data/Computing Devices International, responsible for the company technical strategy and all internal and customer funded research and development activities for the company. For the past 18 years, he has held a number of roles within General Dynamics, where most recently as the Chief Technology Officer for the General Dynamics Advanced Information Systems business unit. Mr. Mork received his bachelor's degree in electrical and computer engineering from the University of Wisconsin, Madison and completed the Strategic Business Management, Executive Leadership Program at the Columbia School of Business.

+ Neal Orringer

Vice President for Alliances and Partnerships, 3D Systems

Mr. Neal Orringer is Vice President for Alliances and Partnerships, 3D Systems. At 3D Systems he leads research and qualification partnerships with the federal government as well as major aerospace and defense suppliers. His responsibilities include overseeing several Air Force and DARPA-sponsored research projects associated with direct metal printing and cooperative R&D agreements with the U.S. Army and Navy. In addition to these responsibilities, he is a visiting researcher at the U.S. Army Research Laboratory where he is focused on accelerating to market innovations in new production materials, processes, and applications. Orringer has served in key manufacturing business and technology positions in both legislative and executive branches of the federal government. This includes serving as the Department of Commerce's representative to the White House's Office of Manufacturing Policy and as the Director of Manufacturing at the Department of Defense. Prior to this, he served the U.S. Senate Committee on Banking, Housing, and Urban Affairs where he supported oversight of financial aid to automotive manufacturers. Orringer has received multiple citations from the Secretary of Defense for his service. In addition to serving on the Virginia Tech Science and Engineering Regional Growth Enterprise (VT-SERGE) board, Mr. Orringer's serves on boards at the Penn State Center for Innovative Materials Processing Through Direct Digital Decomposition and the Montgomery County, MD Public School Budget Steering Committee. He holds a B.A. in politics and economics from Brandeis and a M.A. in national security studies from Georgetown University.

Cliff Ragsdale

Business Information Technology, Virginia Tech

Dr. Cliff Ragsdale is the Bank of America Professor of Information Technology in the Pamplin College of Business at Virginia Tech. Ragsdale's research interests include applications of quantitative modeling techniques to managerial decision making problems using microcomputers. He has served as a financial, statistical and information systems consultant for General Mills and the public accounting firm of Deloitte and Touche. Professor Ragsdale has published in journals such as *Decision Sciences*, *Naval Research Logistics*, *Operations Research Letters*, to name a few. He is author of the textbook *Spreadsheet Modeling and Decision Analysis*, now in its 6th edition. He is a member of DSI, TIMS, ORSA and APICS and is currently Vice-President of Member Services for Southeast DSI and has also served as Vice-President for Publications and on council for that organization. Professor Ragsdale holds a PhD in management science and information technology from the University of Georgia.

Naren Ramakrishnan

Computer Science, Virginia Tech

Dr. Naren Ramakrishnan is the Thomas L. Phillips Professor of Engineering at Virginia Tech. At Virginia Tech, he directs the Discovery Analytics Center, a university-wide effort that brings together researchers from computer science, statistics, mathematics, and electrical and computer engineering to tackle knowledge discovery problems in important areas of national interest, including intelligence analysis, sustainability, and electronic medical records. His research has been supported by NSF, DHS, NIH, NEH, IARPA, DARPA, DTRA, ONR, US Army, General Motors, HP Labs, NEC Labs, and Advance Auto Parts. His work has been featured in the NIH outreach publication *Biomedical Computation Review*, the National Science Foundation's Discoveries series, *Wall Street Journal*, *Smithsonian Magazine*, *Newsweek*, *Popular Science*, *Slate magazine*, and *ACM Technews*. Dr. Ramakrishnan serves on the editorial boards of *IEEE Computer*, *Data Mining and Knowledge Discovery*, *IEEE Transactions on Knowledge and Data Engineering*, to name a few. Ramakrishnan has received an NSF CAREER grant (2000), the New Century Technology Council Innovation Award (2001), DARPA BioSPICE Early Contributor Appreciation Award (2002), Dean's awards for both teaching excellence (2005) and research excellence (2010) at Virginia Tech, and a HP Labs innovation award (2009). He was included in two "40 under 40" lists: Computerworld's innovative IT people to watch (2007) and Purdue University's list of distinguished alumni (2010). He is an ACM Distinguished Scientist (2009). He is a recipient of Virginia Tech's Alumni award for research excellence (2011) - the highest research award given at the university. Ramakrishnan holds a PhD in computer sciences from Purdue University.

Susan Sterett

Public Administration and Policy, Virginia Tech

Dr. Susan Sterett is a professor in the Center for Public Administration and Policy and serves as the Director of the Metropolitan Institute, both at Virginia Tech. She is the editor of the collection *Sociolegal Studies and Disaster*, published as part of a series with the Onati International Institute for the Sociology of Law. Her focus has been on legal mobilization and the politics of legal accountability in social welfare claims. Her first book, *Creating Constitutionalism?* (University of Michigan Press, 1997) concerned the development of rights politics in Europe in the case of the politics of legal accountability in the administrative state in Britain since the Second World War. Her second book, *Public Pensions: Gender and Civic Service in the States, 1850s-1937* (Cornell University Press, 2003), analyzed the judicial politics of worthiness in contests over public payments for soldiers, firefighters other public servants and mothers. She has also published articles in journals including *Law and Social Inquiry*, *Comparative Political Studies*, *Studies in Law Politics and Society*, and *Studies in American Political Development*. She has also published several articles on legal engagements by displaced people after disaster, including in the journals *Law and Policy* and *Natural Hazards Review* and has served on the editorial boards of the *Law and Social Inquiry* and *Law and Society Review*. Dr. Sterett has more than 20 years of academic service including appointments at SUNY Binghamton and University of Denver. She has been a Fulbright Scholar at Tongji University in Shanghai and at the China University of Political Science and Law in Beijing. She also has been a visiting scholar at Griffith University in Australia. Professor Sterrett holds a PhD from the University of California, Berkeley.

+ **Thomas H. Woteki**

Chief Technology Officer and Senior Vice President, MAXIMUS Federal Services

Dr. Thomas Woteki has more than 25 years of public and private sector experience in large-scale systems engineering and integration, as well as software development. He has extensive experience with commercial product development and with medical device product development and its associated regulatory issues. As chief technology officer, Woteki identifies new and emerging technologies and strategic partners and serves as a principal interface into industry activities. He joined MAXIMUS as part of the company's acquisition of Acentia where he served as CTO and led its Centers of Excellence. He holds a PhD in statistics and a master's in mathematics from Virginia Tech.

RESILIENT EARTH SYSTEMS

[Mark Barrow](#)

History, Virginia Tech

Dr. Mark Barrow is a professor and chair in the Department of History at Virginia Tech and is an affiliated faculty member with the Science and Technology in Society Department. His research interests lie at the intersection of the history of biology (especially natural history), environmental history (especially wildlife conservation), and cultural history, particularly in the American context. His first book, *A Passion for Birds: American Ornithology after Audubon* (Princeton University Press, 1998), won the Forum for the History of Science in America Book Prize and was selected as a Choice Outstanding Academic Book. His second book, *Nature's Ghosts: Confronting Extinction from the Age of Jefferson to the Age of Ecology* (University of Chicago Press, 2009), examines how American naturalists have engaged with the issue of wildlife extinction in the two centuries leading up to the Endangered Species Act of 1973. He is currently working on an environmental and cultural history of the American alligator, an apex predator that offers a telling window onto our complex perceptions of the natural world. Barrow's work has appeared in *Endeavor*, *Journal of American History*, and *Journal of the History of Biology*. Barrow holds a PhD from Harvard.

Arrietta Chakos *

+ *Principal, Urban Resilience Strategies*

Ms. Arrietta Chakos is a consultant in urban resilience policy. Her specialties include disaster risk assessment, disaster loss estimates, public policy development, multi-party negotiations, and municipal government operations. She recently served as director of the Acting in Time Advance Disaster Recovery project at the Harvard Kennedy School, which was involved with disaster policy research and application. A seismic safety advocate, she was assistant city manager in Berkeley, California until 2007 and managed the city's intergovernmental coordination and hazard mitigation initiatives. She directed California's first municipal hazard mitigation plan aimed at sustainable risk reduction. Berkeley's mitigation efforts are nationally recognized and use innovative tax incentives and locally funded programs to promote community resilience. Chakos worked with the Federal Emergency Management Agency (FEMA) for its report to the Congress on all hazards risk mitigation, and with the California Governor's Office of Emergency Services (CalEMA) on natural hazards projects and seismic safety legislation. She served as a technical advisor to the Organization for Economic Cooperation and Development (OECD) on its international seismic safety program for schools; the World Bank on disaster risk reduction and sustainable development in the metropolitan Istanbul region; and with the National Academies of Sciences, Engineering, and Medicine's research on community disaster resilience. She also has advised on a recent Ford Foundation study on Stafford Act implementation in the Gulf Coast region; as well as with the Association of Bay Area Governments; the Earthquake Engineering Research Institute; GeoHazards International; the Center for Biosecurity; and the Natural Hazards Center on disaster policy issues. Publications include papers on disaster risk reduction for technical conferences; the American Society of Civil Engineers; *Spectra*, an engineering professional publication; the *Natural Hazards' Observer*; the United Nations journal, *Regional Development*, and as a contributor to *Keeping Schools Safe in Earthquake Country* (OECD, 2004) and *Global Warming, Natural Hazards, and Emergency Management* (2009). She received a B.A. from California State University, Humboldt and a M.P.A. from the Harvard Kennedy School.

[Patricia Dove](#)

Geosciences, Virginia Tech

University Distinguished Professor Patricia M. Dove is the C.P. Miles Professor of Science in the Department of Geosciences at Virginia Tech. She was elected as a member of the National Academy of Sciences in 2012. Dove is focused on interdisciplinary approaches to the understanding the formation and transformation of minerals, specifically biological mineralization—the processes by which organisms nucleate and grow minerals within their tissues to form the functional structures that we know as skeletons and other organic-mineral materials. Findings from these studies are relevant to diverse problems in science and engineering. These include new materials synthesis, biomedical calcification, cementation, sedimentation and engineering ground improvement. Dove's work has appeared in *Science*, *Reviews in Mineralogy and Geochemistry*, and *Geochimica et Cosmochimica Acta*, among others. Dr. Dove was selected as a Virginia Outstanding Scientist in 2013 and received the 1996 Amoco CETL Junior Faculty Teaching Excellence Award. She was previously a Georgia Tech Teaching Fellow. She holds a PhD in geochemistry from Princeton.

+ **Martin Dunn**

Associate Provost for Research, Singapore University of Technology and Design

Dr. Martin L. Dunn previously directed the Mechanics of Materials and Design of Engineering Materials Systems programs at the U.S. National Science Foundation. He served the NSF while on leave from the University of Colorado, Boulder where he was the Associate Dean for Research in the College of Engineering and Applied Science, a Professor of Mechanical Engineering (and former Department Chair), and held the Victor Schelke Endowed Chair. Professor Dunn has held positions at Sandia National Laboratories and the Boeing Company. Along with his students, his research on the mechanics and physics of materials and structures has been widely published, cited, and recognized across more than 160 peer-reviewed articles and nearly a dozen book chapters and edited volumes. Dunn's recent work has been published in the *Journal of Mechanical Design*, *Scientific Reports*, and *Extreme Mechanics Letters*.

Dr. Dunn is on the editorial board of *Virtual and Physical Prototyping Journal* and serves as a regular reviewer for many others. Dunn is also a regular grant proposal reviewer for the National Science Foundation, the Department of Energy, the Army Research Office, and DARPA. He is a Fellow of the American Society of Mechanical Engineers and holds a PhD in mechanical engineering from the University of Washington.

+ **Michael Foster**

Principal, MTFA Architecture

Mr. Michael Foster, FAIA is a Fellow of the American Institute of Architects and founder and president of MTFA Architecture, Inc., an award-winning architecture, interiors, and urban planning firm. MTFA Architecture is a regional leader in sustainable design and development for commercial, educational, institutional, and government buildings. Mr. Foster is a founding organizer and serves on the Board of John Marshall Bank one of the fastest growing community banks in the country. He is active in the community having served as Chair of the Arlington Planning Commission and past Chair of the Arlington Chamber of Commerce. He is currently appointed to the Arlington Economic Development Commission and Arlington Board of Code Appeals. Mr. Foster is a graduate of the Virginia Tech College of Architecture and Urban Studies and serves on the board of the Virginia Hospital Center Foundation, The Branch Virginia Museum of Architecture and Design in Richmond, The German Club Alumni Foundation, and is a mentor for the Urban Land Institute. He is active in numerous professional, civic, and philanthropic organizations serving the community and the region.

+ **Donna Harris**

Co-founder, 1776

Ms. Donna Harris is a four-time entrepreneur, co-founder of 1776 and frequent speaker on entrepreneurship, startup community building, and economic development. She also is an active angel investor as a cofounder of K Street Capital. Prior to 1776, Harris served as the Managing Director at the Startup America Partnership, where she focused on accelerating the formation of vibrant entrepreneurial ecosystems across the United States and connecting the communities into a national startup ecosystem. Prior to joining Startup America, Harris was Vice Chair of Interpoint Group, a government markets, government relations, and public affairs strategy and management firm, which generated nearly \$8 billion in revenue while passing or defeating legislation, and executed public affairs campaigns for corporations, non-profits, foundations, and governments globally. She was also previously Founder and CEO of Kinderstreet, which sold SaaS solutions in the education, sports, and recreation markets. She was also Vice President of Strategic Planning, Marketing, and Product Management for Centromine, a provider of web-based clinical and fiscal systems in the Health and Human Services industry. Harris is a Member of the Global Entrepreneurship Network Board of Directors, a Board Member of the National Center for Entrepreneurship and Innovation, and an Entrepreneur-in-Residence at Georgetown University. She holds a bachelor's degree from Central Michigan University and MBA from The University of Michigan Ross School of Business.

William Hopkins

Fish and Wildlife Conservation, Virginia Tech

Dr. William Hopkins is a professor in the Fish and Wildlife Conservation director of the Global Change Center at Virginia Tech. His research focuses on physiological ecology and wildlife ecotoxicology, addressing pressing questions in both basic and applied science. From a basic science perspective, his interests are in the energy costs of various physiological and behavioral processes. From an applied perspective, his goal is to understand how anthropogenic disturbances alter the ability of fish and wildlife to interact appropriately with their environment. Professor Hopkins' recent work has appeared in *Biol Lett*, *Herpetological Review*, and *Environmental Pollution*. He holds a PhD in ecology, evolution, and organismal biology from the University of South Carolina.

John McDowell

Plant Pathology, Physiology, and Weed Science, Virginia Tech

Dr. John McDowell is a professor in the Department of Plant Pathology, Physiology, and Weed Science at Virginia Tech. Professor McDowell's research focuses on the molecular interplay and co-evolution between pathogens effector proteins, their targets inside plant cells, and the plant immune surveillance system. Dr. McDowell is the recipient of multiple awards including a 2007 Henderson Award for outstanding performance and recognition as a Highly Cited Scientist by the Institute for Scientific Information. McDowell is the senior editor of *Molecular Plant-Microbe Interactions* and serves on the board of and reviews at several other journals. His work has appeared in *Molecular Plant Pathology*, *Methods in Molecular Biology*, and *Plant Signaling & Behavior*, among others. He holds a PhD in genetics from the University of Georgia.

Amy Pruden

Civil and Environmental Engineering, Virginia Tech

Dr. Amy Pruden is a professor in the Department of Civil and Environmental Engineering and the associate dean and director of Interdisciplinary Graduate Education in the Graduate School at Virginia Tech. Her research program at Virginia Tech focuses on applied environmental microbiology. Pruden studies the role of microbial communities in dynamic environmental systems. For example, there is currently a boom in the manufacture of nanomaterials, and therefore a need to understand the implications of these new products in terms of biodegradability by and toxicity to microbes in wastewater treatment plants. She serves as the Director of Strategic Planning for the Institute for Critical Technology and Applied Sciences Water Sustainability Thrust. She is an Associate Editor for the journal *Biodegradation* and serves on an advisory panel on Contaminants of Emerging Concern (CECs) in recycled water. Dr. Pruden has published numerous manuscripts and book chapters on subjects pertaining to bioremediation, pathogens, and antibiotic resistance, some of which have appeared in *Conservation Biology*, *Water Research*, and *Process & Impacts*, among others. She holds a PhD in environmental science from the University of Cincinnati.

+ Edward Swallow

Vice President, Vaeros

Mr. Edward Swallow is vice president of Vaeros, a division of The Aerospace Corporation that combines deep technical expertise with industry-leading innovation to help our customers solve some of the world's most complex systems engineering and integration challenges in high consequence environments. Swallow directs all civil and commercial business at Aerospace and is responsible for contracts valued at over \$80 million annually. In addition to his responsibilities in Vaeros, Swallow is corporate director of government relations. Prior to joining Aerospace, Swallow was vice president, Business Development for the Federal and Defense Technologies Division, Northrop Grumman Information Systems. He was responsible for developing win strategies for the division's captures and for all activities associated with the identification, qualification, shaping, and pursuit of new business opportunities with both current and prospective customers. Swallow is a retired U.S. Air Force Reserve officer who served in a variety of leadership positions, including space systems acquisition and operations. Swallow has earned two bachelor's degrees: one in physics and astronomy from the State University of New York–Oneonta, and a second in electrical engineering from Syracuse University. He has a master's degree in systems management for the University of Southern California. He is a graduate of the Air Force Squadron Officer's School and Air Command and Staff College, and the Defense Acquisition University's Systems Acquisition Management for Flag Officers course. He has also completed certificate programs at the University of California, Berkeley; the University of Virginia's Darden School; and the University of Chicago Booth Graduate School of Business.

INTEGRATED SECURITY

T. Charles Clancy

Electrical and Computer Engineering, Virginia Tech

Dr. T. Charles Clancy is the director of the Hume Center for National Security and Technology and associate professor in the Bradley Department of Electrical and Computer Engineering at Virginia Tech. Dr. Clancy's research interests include wireless, cyber security, unmanned platforms, and data analytics. His work has appeared in the *IEEE Journal on Selected Areas in Communications*, *Transactions on Emerging Telecommunications Technologies*, and *Wireless Communications and Mobile Computing*. Prior to joining Virginia Tech in 2010, Dr. Clancy spent seven years working for the US Department of Defense in a variety of research, engineering, and operations roles. The majority of his time was spent as a senior researcher with the Laboratory for Telecommunications Sciences, a defense research laboratory at the University of Maryland. There he led government research programs in wireless communications, with an emphasis on software-defined and cognitive radio. His research focused on efficient use of commodity processors for software-defined radio, and security implications involved in military use of cognitive radio technologies. During this time, Dr. Clancy was also heavily involved in wireless authentication and authorization protocol standardization, and held leadership positions within the Internet Engineering Task Force. He holds a PhD in computer science from the University of Maryland.

+ Mark Frantz

Co-founder, BlueDelta Capital Partners

Mr. Mark Frantz is the co-founder of BlueDelta Capital Partners, a growth capital firm focused on the U.S. federal government technology marketplace. He currently serves on the Board of Directors/Advisory Board for numerous privately-held growth companies and non-profit organizations. Mr. Frantz has served as the managing general partner of In-Q-Tel (the strategic venture capital affiliate of the U.S. intelligence community), a principal with Carlyle Venture Partners, a partner at RedShift Ventures, the associate to the senior chairman at Deutsche Bank Alex. Brown, Inc., the economic and technology policy advisor to Pennsylvania Governor Tom Ridge and the associate director of The White House Office of Intergovernmental Affairs under President George H. W. Bush. Mr. Frantz holds J.D. and MBA degrees from the University of Pittsburgh and a B.A. degree from Allegheny College, where he was a NCAA All-American swimmer. He is a former frequent qualifier for the USA Triathlon national championships.

+ Deborah Golden

Principal, Federal Cyber Risk Services Leader, Deloitte

Ms. Deborah Golden is a principal at Deloitte & Touche LLP where she leads federal cyber risk services and federal government healthcare efforts. Golden has over 20 years of information technology, security, and privacy experience spanning numerous industries, including a specialization in cybersecurity and identity and access management. She also has expertise within the federal, life sciences and health, and financial services industries. Golden serves on Virginia Tech's Accounting and Information Systems Board and is an advisory board member of the Ted and Karyn Hume Center for National Security and Technology, as well as the Master's in Information Technology Advisory Board. Golden recently co-authored a report on cybersecurity, "Addressing Cyber Threats Multi-Factor Authentication for Privileged User Accounts," which describes how passwords are not enough protection today's digital economy and the steps federal agencies, and other organizations, could take to better defend against cyberattacks. Ms. Golden has published in Federal Computer Week and appeared in numerous news outlets including Federal Times and Federal News Radio on issues ranging from biometrics to cyber simulations.

Janine S. Hiller

Finance, Insurance, and Business Law, Virginia Tech

Ms. Janine S. Hiller is the Richard E. Sorensen Professor of Finance in the Pamplin College of Business. Professor Hiller's research focuses on the intersection of law, ethics and technology in the context of the business environment. She has examined privacy and cybersecurity laws and regulations in diverse areas. Supported by an NSF grant, in 2008 her co-authored article in the *American Business Law Journal* won the Outstanding Research paper award for a study of technical and regulatory methods for parental consent for children's online activities; an evolving area of her research includes the intersection of business and human rights. In addition to the *American Business Law Journal*, her most recent research appeared in the *Journal of Business Ethics*, *Decision Support Systems*, and the *Computer Law and Security Review*. In 2010 Hiller was a Fulbright Distinguished Professor at the Raoul Wallenberg Institute for Human Rights and Humanitarian Law at Lund University, Sweden. Hiller has served as the President of the Academy of Legal Studies in Business, and received their award for extraordinary service to the academy. She has also served in each officer position for the ALSB, and editor in chief of the *Journal of Legal Studies Education*. Professor Hiller is an associate member of the Virginia State Bar, a member of the Virginia Bar Association, and a member of the American Bar Association. She holds a J.D. from the University of Richmond.

+ **[Chris Jordan](#)**

President/CEO, Fluency Corp

Serial entrepreneur Mr. Chris Jordan founded Endeavor Security, a cutting-edge, threat detection and analysis company focused on helping enterprises and governments protect their most sensitive networks. Acquired by McAfee in 2009, he then continued with a role as Vice President of Threat Intelligence. Well known for establishing some of the largest Government security operations centers, Chris changed his career to entrepreneur, starting a security services company in 2003 and a research & development company in 2004. Both companies have since been acquired, and with retiring from McAfee in 2012 founded SecurityDo®, now Fluency, with longtime friend and coworker Kun Luo.

[Timothy W. Luke](#)

Political Science, Virginia Tech

University Distinguished Professor of Political Science Timothy W. Luke's areas of research include environmental politics and cultural studies as well as comparative politics, international political economy, and modern critical social and political theory. He teaches courses in the history of political thought, contemporary political theory, and comparative and international politics. Dr. Luke has authored many publications and books and serves on numerous editorial boards; he is Associate Editor of *New Political Science*. Dr. Luke has been awarded fellowships and grants by the National Endowment for the Humanities, the Carter G. Woodson Institute, the Center for Organizational and Technological Advancement, Alfred P. Sloan Foundation, International Research and Exchange Board (IREX), the Department of State, and the Council for the International Exchange of Scholars (Fulbright Research/Teaching Award). In 1996, Professor Luke was Visiting Research and Teaching Scholar at the Open Polytechnic of New Zealand and earlier in 1995, the Fulbright Professor of Cultural Theory and the Politics of Information Society at Victoria University of Wellington in New Zealand.

+ **[Jason Matheny](#)***

Director, Intelligence Advanced Research Projects Activity

Dr. Jason Matheny became IARPA's (Intelligence Advanced Research Projects Activity) director in 2015, after serving as a program manager, associate office director, and office director. Before IARPA, Dr. Matheny worked at Oxford University, the World Bank, the Applied Physics Laboratory, the Center for Biosecurity and Princeton University. He is the co-founder of two biotechnology companies. His research has been published in *Nature*, *Nature Biotechnology*, *Biosecurity and Bioterrorism*, *Clinical Pharmacology and Therapeutics*, *Risk Analysis*, *Tissue Engineering* and the *World Health Organization's Disease Control Priorities*, among others. His research has been profiled in the *New York Times*' annual "Ideas of the Year," *Discover Magazine's* "Top Science Stories of the Year," as well as *NOVA*, *Scientific American*, and the *Economist*. Dr. Matheny holds a doctorate in applied economics from Johns Hopkins, a master's in public health from Johns Hopkins, a master's in business administration from Duke, and a bachelor's from the University of Chicago. He received the Intelligence Community's Award for Individual Achievement in Science and Technology.

[Frank William Pierson](#)

Population and Health Sciences, Virginia Tech; Virginia-Maryland College of Veterinary Medicine

Dr. Frank William Pierson is a professor in the Department of Population and Health Sciences at Virginia Tech and is a Board Certified veterinarian (Diplomate, American College of Poultry Veterinarians, 1994). Prior to his appointment in his current department, he was the director of the Veterinary Teaching Hospital at the Virginia-Maryland College of Veterinary Medicine. Dr. Pierson's research interests include biosecurity and agro terrorism, hospital acquired infections, and bioremediation of foodborne pathogens, among others. His work has appeared in the *Journal of the American Veterinary Medical Association*, *Avian Diseases*, *World's Poultry Science Journal*, and *Journal of Food Protection*. Pierson holds a DVM from the Virginia-Maryland College of Veterinary Medicine and a PhD in veterinary medical sciences from Virginia Tech.

[Robert Weiss](#)

Geosciences, Virginia Tech

Dr. Robert Weiss is an associate professor of geosciences at Virginia Tech. His research focuses on sedimentology, coastal engineering, and oceanography. His primary research goal is to understand the response of the physical environment to tsunami generated by earthquakes, slides and oceanic meteorite impacts, and the records that such processes produce. He is the co-founder of the Interdisciplinary Coastal Hazards Research Team, which was initiated on a small scale with the help of a NSF-RAPID grant for Hurricane Sandy. Dr. Weiss' work has appeared in *Earth and Planetary Science Letters*, *Coastal Engineering*, *Marine Geology*, and *Pure and Applied Geophysics*. Weiss holds a PhD in natural sciences from Westfälische-Wilhelms-University, Munster, Germany.

INTELLIGENT INFRASTRUCTURE AND HUMAN-CENTERED COMMUNITIES

Myra Blanco

Virginia Tech Transportation Institute

Dr. Myra Blanco is the director of the Center for Automated Vehicle Systems at the Virginia Tech Transportation Institute. Blanco's leadership at the Virginia Tech Transportation Institute (VTTI) has included research on improvement in transportation safety and efficiency through the study of driver performance and by designing in-vehicle displays and driver assistance systems and forward collision warning analysis and development of a camera video imaging system program. Blanco's work is represented in numerous papers and also has appeared in *Accident Analysts & Prevention*. She holds a PhD in industrial and systems engineering from Virginia Tech.

Dushan Boroyevich

Electrical and Computer Engineering, Virginia Tech

Dr. Dushan Boroyevich is the American Electric Power Professor of Electrical Engineering at Virginia Tech where he serves as co-director of the Center for Power Electronics Systems. His research focuses on multi-phase power conversion, electronic power distribution systems, modeling and control, and multidisciplinary design optimization. Dr. Boroyevich was recently elected to the National Academy of Engineering (2014). Professor Boroyevich is a Fellow with the Institute of Electrical and Electronics Engineers and the recipient of the William E. Newell Power Electronics Technical Field Award. He has received the Award for Outstanding Achievements and Service to Profession by the European Power Electronics and Motion Control Council, among many other accolades within Virginia Tech and beyond. He holds a PhD in electrical engineering from Virginia Tech.

Madhav Marathe

Computer Science, Virginia Tech

Dr. Madhav Marathe is a professor of computer science and director of the Network Dynamics and Simulation Science Laboratory. Prior to joining Virginia Tech, he worked in the Basic and Applied Simulation Science group (CCS-5) in the Computer and Computational Sciences division at Los Alamos National Laboratory where he was team leader in a theory-based, advanced simulation program to represent, design, and analyze extremely large socio-technical and critical infrastructure systems. Marathe has published more than 200 research articles in peer reviewed journals, conference proceedings, and books, and has over eight years of experience in project leadership and technology development, specializing in population dynamics, telecommunication systems, epidemiology, design and architecture of the data grid, design and analysis of algorithms for data manipulation, design of services-oriented architectures, and socio-technical systems. He is the recipient of the Distinguished Copyright award for TRANSIMS software, Los Alamos National Laboratory's achievement award, a recipient of the University at Albany Distinguished Alumni Award and 2010 Award for Research Excellence, Biocomplexity Institute of Virginia Tech. Dr. Marathe is the 2011 Inaugural George Michael Distinguished Scholar at the Lawrence Livermore National Laboratory. In 2013 he became an ACM Fellow for contributions to high performance computing algorithms and software environments for simulating and analyzing socio-technical network science. Also in 2013, he was named an IEEE Fellow for contributions to socio-technical network science. In 2014, he was named an AAAS Fellow for contributions to high performance computing algorithms and software environments. He holds a PhD in computer science from the University at Albany.

Susan C. Piedmont-Palladino

Architecture, Virginia Tech

Ms. Susan C. Piedmont-Palladino is an architect, a professor of architecture at Virginia Tech's Washington-Alexandria Architecture Center (WAAC), and a curator at the National Building Museum. She is the Coordinator of the new graduate program in Urban Design at the WAAC. Before joining the faculty at the Washington-Alexandria Architecture Center, she taught at the University of Maryland and at the Catholic University of America. Professor Piedmont-Palladino has lectured and written on sustainability, American urbanism, design-build, and architectural education. At the National Building Museum, she was the curator of Green Community and had previously served as a guest curator for Tools of the Imagination: Drawing Tools and Technologies from the Eighteenth Century to the Present. Her recent project with the Museum was Intelligent Cities, a multi-faceted initiative funded by the Rockefeller Foundation to investigate the intersection of information technology and cities. *The Intelligent Cities* book was published in December 2011. She is the author of three previous books, *Devil's Workshop: 25 Years of Jersey Devil Architecture*, with Mark Alden Branch, and *Tools of the Imagination: Drawing Tools and Technologies from the Eighteenth Century to the Present*, the companion book to the exhibition, both published by Princeton Architectural Press. With Tim Mennell she co-edited the companion book for Green Community, published by the American Planning Association. Professor Piedmont-Palladino holds a M.Arch from Virginia Tech.

+ Jonathan Porter

Chief Scientist, Federal Highways Administration

Dr. Jonathan Porter is the Chief Scientist for the Federal Highway Administration in the Office of Research, Development and Technology at the Turner-Fairbank Highway Research Center. He oversees the quality of science and technology across all disciplines in the research center's eighteen laboratories. Dr. Porter also leads long-range strategic planning, develops cross-cutting research initiatives and collaboration opportunities, and provides scientific and technical direction to the exploratory advanced research program that is focused on high-risk, high-payoff research to improve mobility on the nation's highways. Prior to joining the FHWA, Dr. Porter managed laboratory policy initiatives, multidisciplinary university research initiatives, and science and technology programs in the Office of the Secretary of Defense and the Office of the Deputy Assistant Secretary of the Air Force (Science, Technology & Engineering). Before being assigned to the Pentagon, Dr. Porter conducted engineering research and led technology development programs for the Air Force Research Laboratory. He earned a B.S., M.S., and Ph.D. in civil engineering from Virginia Tech.

+ Greg Sauter *

Co-founder, Smart City Works

Mr. Greg Sauter's 30 years of experience in the engineering and construction industry includes being the Founder of Smart City Works, a business accelerator fostering business ideas and companies promising to catalyze and rethink civil infrastructure innovation. Sauter is currently President and Chief Executive of Crossroads Advisory, which is focused on servicing infrastructure and technology companies by advancing leadership and outcomes through executive and organizational transformation and a focus on culture, ethics, integrity, and authentic leadership. Prior to this recent work, Sauter served as Executive Vice President and Chief Corporate Officer at the engineering and construction firm AECOM. At AECOM, Sauter was instrumental in leading significant corporate growth; he has been recognized numerous times for excellence in his efforts. Mr. Sauter's service includes working with the Network for Teaching Entrepreneurship, the Derek Jeter Turn-2 Foundation, the New Jersey Institute of Technology, and the Rutgers University Institute for Ethical Leadership. A professional engineer, Sauter is an adjunct professor in Columbia University's civil engineering and engineering mechanics department. He holds a bachelor's degree in mechanical engineering from the University of Massachusetts, a master's in civil/environmental engineering from the University of Alabama, and master's in business administration from Rutgers University

+ Carlos Valeiras

CEO, inHand Electronics, Inc.

Mr. Carlos Valeiras has served as the President and CEO of InHand Electronics, Inc. for the past 5 years. Prior to this position, he served 4 years as the Company's CFO. Previously, Valeiras served as CEO of Sophia Wireless, a Millimeter Wave Communications Company and Gemesis Corporation, a Materials Company. He has also worked as an investment banker, fund manager, and equity research analyst during a 15-year career in finance. Mr. Valeiras has served on the board of directors and advisory boards of InHand, Sophia Wireless, Gemesis and Advantor Capital Company. Mr. Valeiras received a bachelor of science in aerospace and ocean engineering from Virginia Tech. He has a master of science in aerospace engineering from the University of Maryland and a master's in business administration from The Darden School of Business at the University of Virginia. Valeiras worked for the Navy on the Tomahawk Cruise Missile Program for 8 years before transitioning to finance.

Craig Woolsey

Aerospace and Ocean Engineering, Virginia Tech

Dr. Craig Woolsey is a professor in aerospace and ocean engineering at Virginia Tech. His research focuses on nonlinear control theory and its application to autonomous air and marine vehicles. Since 2006, Dr. Woolsey has been a core faculty member of the Virginia Center for Autonomous Systems (VaCAS), an ICTAS / College of Engineering research center which facilitates interdisciplinary research in autonomous systems technology. VaCAS includes more than a dozen core faculty members from three engineering departments and more than two dozen affiliated faculty members. Research activities range from basic control and estimation theory to applications spanning every domain: water, land, air, and space. Dr. Woolsey served as the inaugural Director of VaCAS from 2006 to 2014. He has received the NSF CAREER award, the ONR Young Investigator Program Award, and the Ralph Teetor Educational Award from the Society of Automotive Engineers. Dr. Woolsey is an Associate Fellow of AIAA and a Senior Member of IEEE. Woolsey holds a PhD in mechanical and aerospace engineering from Princeton University.

Chris Zobel

Business Information Technology, Virginia Tech

Dr. Christopher W. Zobel is the R.B. Pamplin Professor of Business Information Technology at Virginia Tech. His recent research interests have included management of humanitarian operations, resilience, and understanding the value of disruptive information. His work has appeared in *Risk Analysis*, *International Journal of Production Economics*, and *International Journal of Business Analytics*, among others. Professor Zobel is a recipient of a Fullbright Scholar Award (Germany, 2014-2015) and has received many citations for teaching excellence during his time at Virginia Tech. Zobel holds a PhD in systems engineering from the University of Virginia.

ACADEMIC COUNCIL

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