



Creating Solutions. Inspiring Action.

WINTER MEMBER MEETING

February 22-23, 2016

**Miami Dade College
Miami, Florida**

AGENDA

FEBRUARY 22, 2016

MIAMI DADE COLLEGE
MIAMI, FLORIDA

- ▶ 11:30 A.M. **Executive Committee Meeting**
*President's Conference Room – Building 1, Room 1479
300 NE 2nd Avenue*
- ▶ 3:00 & 3:15 P.M. *Shuttle departs from EPIC Hotel to Miami Dade College*
- ▶ 3:30 P.M. **Opening Program**
*Creating a Diverse Talent Ecosystem to Meet Florida's Workforce Needs
James K. Battan Room – Building 2, Room 2106
401 NE 2nd Avenue*
- Moderator: Matt Haggman, Miami Program Director, Knight Foundation**
- Panelists:**
- **Michael Fowler**, Vice President, Information Management, NextEra Energy Resources
 - **Andrea Francis**, Partner, Accenture
 - **William Johnson**, Florida Secretary of Commerce and President & CEO, Enterprise Florida, Inc.
 - **Eduardo Padrón**, President, Miami Dade College; BHEF Chair
- ▶ 5:00 P.M. **Break**
- ▶ 5:30 P.M. **Reception**
*Miami Animation & Gaming International Complex (MAGIC)
Building 8, First Floor
315 NE 2nd Avenue*
- ▶ 6:30 P.M. **Dinner**
*Tuyo
415 NE 2nd Avenue, 8th Floor*
- ▶ 8:00 P.M. **Adjourn Day I**
- ▶ 8:00 & 8:15 P.M. *Shuttle departs from Tuyo to EPIC Hotel*

AGENDA

FEBRUARY 23, 2016

MIAMI DADE COLLEGE
MIAMI, FLORIDA

- ▶ 7:15 & 7:30 A.M. *Shuttle departs from EPIC Hotel to Miami Dade College*
- ▶ 7:30 A.M. **Breakfast**
Building 6, Room 6100
485 NE 2nd Avenue
- ▶ 8:00 A.M. **Business Meeting**
Building 6, Room 6100
485 NE 2nd Avenue
 - Report from Executive Committee (Eduardo Padrón)
 - Report on Accenture's Strategic Visioning Process (Ryan Oakes and Brian Fitzgerald)
- ▶ 9:15 A.M. **Welcome**
Eduardo J. Padrón, Chair, BHEF
James K. Battan Room – Building 2, Room 2106
401 NE 2nd Avenue
- ▶ 9:17 A.M. **Plenary Session**
The Internet of Things: Opportunities and Challenges

Moderator: Molly Broad, President, American Council on Education

Panelists:
 - **Virginia Grebbien**, Group President, Parsons
 - **Chalapathy Neti**, Director, Education Transformation, IBM
- ▶ 10:30 A.M. **Break**

AGENDA

FEBRUARY 23, 2016

MIAMI DADE COLLEGE
MIAMI, FLORIDA

▶ 10:45 A.M. **Facilitated Member Discussion**
Shaping BHEF's Market Intelligence Function: Members Discuss the Value of Market Intelligence and its Application to Data Science and Analytics
James K. Battan Room – Building 2, Room 2106
401 NE 2nd Avenue

Moderators: Jeffrey Armstrong, President, California Polytechnic State University
Michael King, Vice President and General Manager, Global Education Industry, IBM

Panelists:

- Michael Fenlon, Global and U.S. Talent Leader and Principal, PwC
- Brian Fitzgerald, CEO, Business-Higher Education Forum
- Steven Miller, Global Leader, Academic Programs and Data & Analytics, IBM

▶ 12:15 P.M. **Lunch**
Building 6, Room 6100
485 NE 2nd Avenue

▶ 1:15 P.M. **Learning Session**
Transforming Workforce Development
Building 8, Room 8503
315 NE 2nd Avenue

Moderator: Roger Ferguson, President and CEO, TIAA-CREF

Panelists:

- David Altig, Executive Vice President and Director of Research, Federal Reserve Bank of Atlanta
- Anthony Carnevale, Research Professor and Director, Center on Education and the Workforce, Georgetown University
- Carl Van Horn, Distinguished Professor at the Edward J. Bloustein School of Planning and Public Policy and Founding Director, John J. Heldrich Center for Workforce Development, Rutgers University

AGENDA

FEBRUARY 23, 2016

MIAMI DADE COLLEGE
MIAMI, FLORIDA

- ▶ 2:30 P.M. **Closing Remarks**
Eduardo J. Padrón, Chair, BHEF
- ▶ 2:45 P.M. **Adjourn**
- ▶ 2:45 & 3:00 P.M. *Shuttle departs from MAGIC to EPIC Hotel*

Welcome to the Business-Higher Education Forum's Winter 2016 Member Meeting. In addition to providing opportunities for member interaction and information sharing, the meeting will spotlight the impact of BHEF members' strategic partnership in data science, deepen members' understanding of data science through exploration of the Internet of Things, launch BHEF's new market intelligence function, and provide input that will inform and maximize the utility of this function.

Members will also learn the outcomes and recommendations from the Accenture strategic assessment. My team and I thank you for your time and invaluable insights. We are also deeply grateful to Executive Committee Member Ryan Oakes and his remarkable team for their commitment to the success, longevity, and relevance of BHEF.

The following pages provide background on each session that will be presented at the meeting. As we explore opportunities within the Accenture framework, we seek to engage you and your organization in activities that reflect our value proposition: action-oriented peer relationships, key insights, and creative workforce solutions.

Regards,



Brian K. Fitzgerald, Ed.D.
CEO, Business-Higher Education Forum

PROGRAM OVERVIEW



Opening Program

Creating a Diverse Talent Ecosystem to Meet Florida's Workforce Needs

As one of the largest and most diverse states in the U.S. and a global leader in such sectors as aerospace, energy, agriculture, and tourism, Florida is well positioned to take advantage of the revolution in data science and analytics to sustain its economic competitiveness. In order to do so, the state will need a workforce ranging from data scientists to “data-enabled” professionals with the knowledge to use data analysis to make effective decisions. In this session, the leaders of a unique South Florida partnership, designed to engage leading data-driven companies in the development of a new undergraduate pathway in data science that bridges two- and four-year degree programs, will discuss strategies for building a regional talent ecosystem in data science between higher education and business for students from diverse backgrounds.

Plenary Session

The Internet of Things: Opportunities and Challenges

The Internet of Things (IoT), the network of physical objects embedded with sensors, software, and other electronics that enable the collection and exchange data, offers unprecedented opportunities for increasing the accuracy, efficiency, and economic benefits of digitized devices and systems. A recent report by IBM's Institute for Business Value and Oxford Economics called *The Economy of Things*, addresses the potentially broad impact of this transformation across asset management, efficiency, and risk management, and it argues that the IoT will require the development of new business models. This session will explore the current and potential impact of the IoT on the global economy and will focus on the opportunities and the challenges of cybersecurity and data privacy as the IoT becomes an increasing reality.

Facilitated Member Discussion

Shaping BHEF's Market Intelligence Function: Members Discuss the Value of Market Intelligence and its Application to Data Science and Analytics

As a direct response to members' feedback during BHEF's strategic planning efforts with Accenture, BHEF is launching a new market intelligence function. Through this function, BHEF and its partners will conduct research and publish reports that spur action; provide analysis related to workforce trends, skills gaps, and hiring practices; and offer recommendations about the academic response required to effectively prepare and educate graduates in emerging fields such as cybersecurity and data science and analytics. This information will be disseminated to BHEF members as well as to a

broader audience. BHEF also will utilize this new function to research and explore emerging fields in order to keep members informed about these topics.

This session will outline BHEF's market intelligence strategy and present two partnerships BHEF is exploring around data science and analytics with member companies IBM and PwC. BHEF members will be asked to participate in a roundtable table discussion focused on data science and analytics. The discussion will explore the role, expectations, and value the market intelligence function can play for both our academic and business members. The second half of the session will be used to gain actionable insights from BHEF members, leading to a proceedings document that will inform future data science and analytics publications.

To prepare for our discussion on market intelligence and its application to data science and analytics, please review the following questions.

1. Data science and analytics (DSA) is still a relatively new and evolving field of study at the undergraduate level. Yet, within the last three years, colleges and universities across the country have begun a rapid launch of new courses, certificates, majors, and minors. This increase in DSA studies at all levels is in part due to BHEF members paving the way for others to follow. Academic members, please be prepared to discuss:
 - What is the status of undergraduate DSA education at your institution?
 - Where are your greatest challenges surrounding DSA education?
 - Is DSA considered a technical field of study or an area that all students should have access to in order to acquire data science skills, regardless of major?
2. It is becoming apparent that DSA skills and competencies are almost universal in their need and applicability across sectors, business units, and job functions, and companies are struggling to find applicants with these skills. Business members, please be prepared to discuss:
 - What are your anticipated DSA skill needs over the next five years? Do you have a workforce strategy focused on DSA, or are you changing hiring practices to reflect the need for DSA skills?
 - If you are facing skills gaps, are you providing training for your incumbent workforce and/or relying on higher education to prepare students differently?
 - Are you seeking students from only technical backgrounds to fill your DSA skill needs? If you are seeking students from non-technical backgrounds, how are you signaling to higher education institutions and students that these opportunities or pathways exist?
3. BHEF's new Market Intelligence function will produce research and provide insights, recommendations, and thought leadership in select high-priority areas, such as DSA. However, the function is not limited to emerging fields and will be utilized by BHEF to be a thought partner on particular topics of interest, as well as to keep the membership abreast of opportunities across the higher education and workforce landscape. Please be prepared to discuss how you might shape this work in order to maximize utility for your organization.

Learning Session

Transforming Workforce Development

Many of the country's workforce development policies were created more than 30 years ago and do not address the needs of today's rapidly changing economy. Some would be surprised to know that the Federal Reserve has recently taken a greater interest in workforce development. This interest, which is critical to improving labor market outcomes, supports the Federal Reserve's overarching goal of promoting price stability and maximum employment. In 2015, The Federal Reserve Banks of Atlanta and Kansas City and the John J. Heldrich Center for Workforce Development at Rutgers University (Heldrich Center) co-edited an anthology titled *Transforming U.S. Workforce Development: Policies for the 21st Century*. In this session, representatives from the Federal Reserve Bank of Atlanta, the Heldrich Center, and Georgetown University's Center on Education and the Workforce will discuss key findings from the project. The speakers and BHEF members will explore how these new policies and practices can be applied to BHEF's National Higher Education and Workforce Initiative to improve opportunities for job seekers, meet the needs of employers, and improve the effectiveness of education and training programs.

Excerpts from *Transforming U.S. Workforce Development: Policies for the 21st Century*

- [Introduction](#) by Carl Van Horn, Tammy Edwards, and Todd Greene
- [Learn and Earn: Connecting Education to Careers in the 21st Century](#) by Tony Carnevale and Andrew Hanson

PLENARY SESSION



The Internet of Things Promises to Transform Organizations and Our Lives

The Internet of Things (IoT)—internet-connected physical products with sensors and actuators, ranging from locomotives to home appliances to wearable devices—represents the next data wave and the next opportunity for organizations to generate value. Cisco estimates that the number of internet-connected devices will grow to 50 billion by 2020.¹ Neil Postlethwaite, director of IBM's IoT Foundation platform and Device Ecosystem, predicts that the IoT will be the single greatest source of data on the planet within two years.² As a result, numerous reports on the IoT published within the last few years suggest that every organization will need to be a connected organization, with industry-focused IoT sensors likely numbering in the billions within the next ten years.

The IoT harnesses the power of machines talking to other machines, as well as machines talking to people. Currently, farmers can nearly continuously measure soil water content using embedded sensors and can view recommendations for irrigation on their smart phone. In the future, internet-connected devices will have the capacity to both predict the need for resources and provide them. For example, when fully actualized, the data from the embedded sensors in the soil would be combined with temperature readings, near-term weather predictions, ideal moisture levels relevant to the specific crop and its lifecycle, as well as market demand. Taking all the data into account, an irrigation system would then prioritize and automatically deliver water as needed.

Or not—this internet-connected supply chain could break down due to a security breach, interrupting key functions and services delivered through these devices. In the IoT, relationships among devices, their owners, and manufacturers and service providers are highly complex and dependent on tight security for reliability, and cyber-attacks affect not only the cyber world but also the physical world.

Capturing the Value in the IoT Requires Organizations to Capitalize on their Data

The machines, chips, sensors, implants, and other devices (some of which have yet to be invented) which comprise the IoT will use, create, and transport data. Patrick Tucker, author of *The Naked Future: What Happens In a World That Anticipates Your Every Move?*, describes the impact of the IoT

¹ Cisco, "Connections Counter: The Internet of Everything in Motion," press release, July 29, 2013, <http://newsroom.cisco.com/feature-content?type=webcontent&articleId=1208342>.

² Thor Olavsrud, "IBM opens Watson IoT global headquarters," CIO, December 15, 2015, <http://www.cio.com/article/3015229/internet-of-things/ibm-opens-watson-iot-global-headquarters.html>.

on generating new data: “We are entering the telemetric age—an age where we create information in everything that we do. As computation continues to grow less costly, we will incorporate more data-collecting devices into our lives.”³

McKinsey estimates that IoT systems will have an economic impact as high as \$11.1 trillion per year in 2025.⁴ They further estimate that interoperability among IoT systems is critical to capturing this value, with nearly half of the potential value requiring interoperability. Interoperability in the context of the IoT is the ability of a device to automatically and meaningfully interpret the data exchanged with other devices in order to produce valuable results. For example, if a sensor on an oil rig senses abnormal pressure readings, a local machine should have the ability to signal the rig to stop drilling, rather than simply recording the data or sending it into the cloud for human review and action.

This ability for data-driven decision-making in real time is crucial to capturing the value from the IoT. While much of the press coverage of the IoT has been about how it can impact our day-to-day lives, McKinsey reports that business-to-business applications will generate nearly 70 percent of the total value from the IoT.

Several technological challenges—or business opportunities⁵—arise as companies work to bridge the gap between the ability to collect data in the physical world and the capacity to analyze and act on data in real time. These challenges include: interoperability questions related to device/system integration and setting standards across devices/systems; data integration challenges related to bringing together different types of data (text, video, numerical, etc.) from different locations; data analytics; aligning operational technology (the hardware and software connected to a physical device) and information technology; and the ability to securely store, share, and access data.

The IoT Requires Strong Cyber Protections

The immense and global nature of the IoT amplifies the security and privacy concerns which already exist about the internet. Nonetheless, maintaining IoT security is critical to its adoption and value by both organizations and consumers.

Organizations using the IoT will need to be able to protect their devices and data from unauthorized users. With billions of devices collecting and producing data, there are more opportunities for potential breaches. Furthermore, because the IoT can be used to control physical assets, such as energy grids or implanted medical devices, the consequences of a security breach could result in physical harm.

³ Pew Research Center, *The Internet of Things Will Thrive by 2025* (May 2014): 3. http://www.pewinternet.org/files/2014/05/PIP_Internet-of-things_0514142.pdf.

⁴ James Manyika, et al., *The Internet of Things: Mapping the Value Beyond the Hype* (McKinsey & Company, June 2015): 2. http://www.mckinsey.com/insights/business_technology/the_internet_of_things_the_value_of_digitizing_the_physical_world

⁵ Veena Pureswaran and Robin Lougee, *The Economy of Things: Extracting new value from the Internet of Things* IBM Institute for Business Value (IBM Corporation, 2015): 14. <http://www-935.ibm.com/services/us/gbs/thoughtleadership/economyofthings/>

As organizations develop plans to collect, store, and analyze data from the IoT, concerns about data privacy will need to be addressed. FTC Chairwoman Edith Ramirez expressed her view regarding data in the IoT: “As more and more of our devices become smarter and smarter, it is essential we know as much about them as they know about us—that we understand what information the devices are collecting and how it is being used or shared.”⁶ Some of the chief concerns, largely from individual users of the IoT but also shared by organizations, include: lack of control over collected data; information asymmetry among IoT users; valid informed consent for use of data; intrusive behavior profiling; and inability to remain anonymous in the IoT.

Navigating the IoT will Require New Skills and Abilities

While the IoT is driven by technological advancements, obtaining the benefits from the IoT will require investments in both the physical systems linked to the IoT and the human talent coordinating those systems.⁷

This need for new skills and abilities in human talent will span all areas: technical expertise to connect and secure the IoT; analytical expertise to drive data optimization and prediction; legal expertise to develop and understand new regulations related to the IoT; actuarial expertise to calculate risk and insure physical systems and devices connected to the IoT; business expertise to invest in and operationalize the IoT for an organization; and leadership expertise to transform organizations to embrace data-driven decision-making.

The discussion for this session will be guided by these questions:

- As a business or higher education institution, is your organization preparing to more fully capture the value from the IoT?
 - How important a priority is it for your organization to capture this value?
 - Is talent development part of that part of that preparation?
- As a business or higher education institution, what do you believe your greatest value gain would be from the IoT?
- Do you see value in data sharing with other businesses or higher education institutions through the IoT?
 - Do you anticipate that the IoT will ease collaboration between your organization and others?
- Does the IoT raise any additional security concerns for your business or higher education institution beyond those already raised by today’s internet?
 - What mitigation strategies are you putting in place to protect your organization while still taking advantage of the opportunities the IoT presents?
- For higher education institutions, how can the IoT assist in deepening student engagement and learning?

⁶ Blanca Escribano, *Privacy and security in the Internet of Things: challenge or opportunity* (Olswang: November 2014): 1. http://www.olswang.com/media/48315339/privacy_and_security_in_the_iiot.pdf.

⁷ Shvetank Shah, Andrew Horne, and Jaime Capella, “Good Data Won’t Guarantee Good Decisions,” *Harvard Business Review* 90, no. 4 (April 2012). <https://hbr.org/2012/04/good-data-wont-guarantee-good-decisions>.

NEW MEMBER BIOGRAPHIES



ANTHONY A. FRANK

CHANCELLOR
COLORADO STATE UNIVERSITY SYSTEM

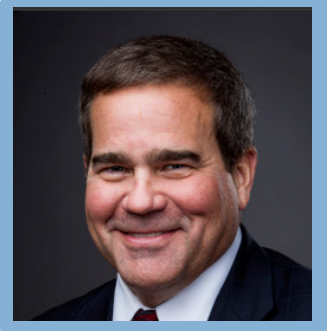
Tony Frank is the 14th president of Colorado State University, one of the nation's leading public land-grant research universities with more than 29,000 students and more than \$300 million in annual research activity. Since his appointment to the presidency in 2008, he has overseen a period of record fund-raising and enrollment, rising graduation rates, increasing diversity, and unprecedented research support. He was named Chancellor of the Colorado State University System on June 1, 2015.

President Frank earned his undergraduate degree in biology from Wartburg College, followed by a Doctor of Veterinary Medicine degree from the University of Illinois, and a Ph.D. and residencies in pathology and toxicology at Purdue. Prior to his appointment as CSU's president in 2008, he served as the University's provost and executive vice president, vice president for research, chairman of the Pathology Department, and Associate Dean for Research in the College of Veterinary Medicine and Biomedical Sciences.

He has been active in local and national service and professional organizations throughout his career, including his current role as chair of the Association of Public & Land Grant Universities Commission on International Initiatives and his local service on the board of the Food Bank for Larimer County. He has served on several federal panels including appointment by the U.S. Department of Commerce to the Deemed Export Advisory Council. He also has served on the editorial board of Toxicologic Pathology and as a member of the Colorado Climate Action Panel.

Professional and personal honors include induction into the Illinois and Colorado 4-H Halls of Fame; the regional Presidential Excellence Award from NASPA, the Student Affairs Administrators in Higher Education professional organization; and the 2010 Fort Collins Board of Realtors Citizen of the Year. He was awarded the Carl J. Norden Distinguished Teaching Award at both Colorado State and Oregon State University. Dr. Frank's research interests have included toxicologic and infectious disease pathology, and he has authored and co-authored numerous scientific publications.

Dr. Frank and his wife, Dr. Patti Helper, have three daughters.



DANIEL J. HOUSTON

PRESIDENT AND CHIEF EXECUTIVE OFFICER
PRINCIPAL FINANCIAL GROUP

Daniel J. Houston is president and chief executive officer of the Principal Financial Group®. He is responsible for overall management of the company.

Houston joined the company in 1984 in Dallas. He has held several management positions, being named senior vice president in 2000, executive vice president in 2006 and president of Retirement and Investor Services in 2008. He was named president and chief operating officer in 2014 before assuming his current role in 2015. Houston is a member of several boards, including Greater Des Moines Partnership, Employee Benefits Research Institute (EBRI), Iowa State University Business School Dean's Advisory Council, and Partnership for a Healthier America (PHA).

Houston received his bachelor's degree from Iowa State University in 1984. He has appeared before the U.S. Senate Special Committee on Aging to discuss the importance of educating the workforce about the financial needs in retirement. Houston joined the joint forum of U.S. Senate Committees on Finance and Health, Education, Labor and Pensions to discuss "Private-Sector Retirement Savings Plans: What Does the Future Hold?" He also authored a chapter in *The Upside of Aging* published by John Wiley & Sons in 2014, on the keys to achieving financial security in retirement.



EARL "MARTY" MARTIN

PRESIDENT
DRAKE UNIVERSITY

Earl F. "Marty" Martin is the 13th president of Drake University and assumed the office on July 1, 2015. An accomplished academic administrator, teacher, and legal scholar, Martin joined Drake following 10 years at Gonzaga University in Spokane, Washington.

The Drake University Board of Trustees identified President Martin as an engaged leader who brings to Drake a passionate commitment to the liberal arts and professional education; experience enhancing diversity; a deep understanding of excellent teaching, learning, and scholarship; a collaborative leadership style; and a vision for positioning the University to thrive in challenging times.

Martin served as executive vice president at Gonzaga University from 2010 to 2015. In this role, he was a key member of the senior leadership team and was responsible for administrative, operational, and support services, including the Office of Admissions, Student Financial Services, Information Technology Services, and Human Resources. He led Gonzaga's strategic planning process, linking the university's mission and vision to its strategic goals through well-defined performance measures. He also provided strategic direction and oversight to the Office of Admissions and Student Financial Services, helping Gonzaga achieve overall success in undergraduate enrollment and retention through the recent economic downturn and subsequent recovery.

From July 2009 to July 2010, Martin was acting academic vice president with responsibility for all academic programs, including the College of Arts and Sciences, School of Law, School of Business Administration, School of Education, School of Engineering and Applied Science, and the School of Professional Studies. He also oversaw the university's international academic programs and created the Center for Global Engagement to coordinate and support all global outreach at Gonzaga.

Previously, Martin served as the dean of the School of Law, a standalone academic unit with more than 80 employees providing academic and support services to more than 500 students on a budget of approximately \$15 million. During his time at the law school, he worked with law faculty to revise the curriculum to enhance its quality and allow for more experiential learning opportunities, increased the academic profile and diversity of incoming students, and expanded international partnerships with law schools in Brazil, China, and South Korea.

Martin spent eight years (1997–2005) as a professor of law at Texas Wesleyan University School of Law and served as associate dean for academic affairs for his final two years. As associate dean, he was responsible for ensuring compliance with American Bar Association accreditation standards and oversaw faculty support, adjunct faculty hiring and training, the externship program, and student records. In the classroom, he taught criminal law, criminal procedure, torts, and seminars on the death penalty and law and psychology.

Prior to beginning his academic career, Martin served for eight years as an active-duty U.S. Air Force staff judge advocate officer in England, Germany, and the United States. Martin retired as a lieutenant colonel in 2007 after serving an additional 12 years in the Air Force Reserves.

Martin looks forward to bringing a commitment to community engagement to his work as president of Drake University. While at Texas Wesleyan, he served the Fort Worth community as a presenter, moderator, and committee and board member and established a short-course program in art law in cooperation with the four leading art museums in the Dallas-Fort Worth area. As Gonzaga's law dean, Martin was heavily involved in multiple bar associations, and he worked in a variety of markets to create new externship, internship, and employment opportunities for students and graduates. Throughout his time in Spokane, he has taken on significant leadership roles in the community—he currently serves as the chair of the City of Spokane's Use of Force Commission, as president of the Saint George's School Board, and as vice-chair of the Health Sciences and Services Authority of Spokane County.

Martin holds a bachelor's degree and a J.D. from the University of Kentucky and an LL.M. from Yale University School of Law. He is married to Laura Martin and they are the parents of Cade and Case.



SUSAN MARTIN

INTERIM PRESIDENT
SAN JOSE STATE UNIVERSITY

Dr. Susan W. Martin joined San Jose State University (SJSU) as interim president August 18, 2015 after serving for the previous seven years as president of Eastern Michigan University (EMU). At SJSU, Martin succeeded Dr. Mohammad Qayoumi, who departed for a senior position in the government of Afghanistan.

Martin arrived at Eastern Michigan University (EMU) during a period of leadership instability, declining enrollment and campus safety concerns. She built a diverse leadership team; achieved record enrollment growth and a doubling in size of the Honors College; made sizable investments in faculty hiring, financial aid (doubled during her tenure from \$21 to \$42 million), and capital improvements (\$210 million, including a 75 percent increase for academic facilities). Capital investments included a new science complex and renovation of EMU's largest classroom building, serving 10,000 or more students on a typical day.

Other student-centered achievements included expanding on-campus advising centers and creating online advising options. Martin continued efforts to serve non-traditional students, supporting returning students between the ages of 25 and 34 who had earned some college credits without completing a degree.

At EMU, Martin led a large public university recognized as one of the most culturally diverse in the Midwest. Under her leadership, the campus sought creative ways to serve minority students. Its "Students of Color Degree Completion and Retention Plan," considered by many as a model for supporting the unique needs of underrepresented students, was recognized by the Obama administration as a model for innovation. Martin actively maintained personal relationships with student leaders, including those engaged in initiatives to support underrepresented students.

Martin earlier served as provost and vice chancellor of academic affairs at the University of Michigan-Dearborn, where she was involved in allocating budgetary resources, increasing enrollment and faculty support.

Martin has a doctorate and an MBA in accounting from Michigan State University, and a bachelor's degree in public speaking from Central Michigan University. She earned her graduate and doctoral degrees while working full time for the state of Michigan as an assistant auditor general, deputy state treasurer and commissioner of revenue.

Martin is a past recipient of the Glenn A. Niemeyer Outstanding Faculty Award (2001), the Beta Alpha Psi Accounting Professor of the Year award (1999 and 2001), the Kellogg Fellow of Academic Leadership Academy of the American Association of State Colleges and Universities (1992), and the National Distinguished Leadership Award from the Association of Government Accountants (1987).

Martin is married to economist Larry Martin, a faculty member at Michigan State University.



MARTY MEEHAN

PRESIDENT
UNIVERSITY OF MASSACHUSETTS

Marty Meehan is the first undergraduate alumnus to lead the five-campus University of Massachusetts system. He became the university's 27th president after serving in the U.S. House of Representatives and as chancellor of University of Massachusetts Lowell.

Born in Lowell, President Meehan was one of seven children and grew up in a family where the importance of education was always stressed. After attending the Lowell public schools, President Meehan, a first-generation college student, graduated cum laude from UMass Lowell in 1978 with a degree in education and political science.

President Meehan has an abiding belief in public higher education's power to transform lives, and believes that the University of Massachusetts is the singular force for social and economic progress in the Commonwealth.

He was elected to the presidency after eight successful years as chancellor of UMass Lowell, where he led the campus on its rise to top-tier national university status, improving its performance in every sphere of activity.

President Meehan embraced a career in public service early in his life. He served as the deputy secretary of state for securities and corporations from 1986 to 1990. During that time, he was recognized by The Boston Globe for transforming the securities division from "being a frequent embarrassment to gaining a national reputation as hard-hitting and activist."

In 1991, President Meehan was appointed first assistant district attorney for Middlesex County. He managed a staff of more than 150 people, including 80 prosecutors, and established an innovative "priority prosecution" policy that targeted hardened criminals.

Seeing an opportunity to bring his public service commitment to a broader audience and to serve his nation, President Meehan ran for U.S. Congress and was elected to represent the 5th Congressional District of Massachusetts in the U.S. House of Representatives in 1992. He served on the House Armed Services and Judiciary committees. He established a national reputation for his legislative leadership, including for his efforts to protect the public from the health risks of tobacco. President Meehan also was a central figure in campaign finance reform and a major sponsor of the Bipartisan Campaign Reform Act of 2002, known as the McCain-Feingold Bill in the Senate and the Shays-Meehan Bill in the House.

After serving 14 years in Congress, President Meehan was elected chancellor of UMass Lowell in 2007. He made quality, diversity and access and affordability keystones of his vision to raise UMass Lowell's national and international reputation and its impact. During his eight-year tenure, UMass Lowell climbed into the top-tier of *U.S. News & World Report's* best national universities and was the third-fastest-rising institution on its list.

Now, as the leader of the 73,000-student public research university, President Meehan is poised to guide the University of Massachusetts—an engine for social mobility and economic development in the Commonwealth—into a new era of growth and achievement.

In addition to his degree from UMass Lowell, President Meehan earned a master's degree in public administration from Suffolk University in 1981 and a juris doctor from Suffolk University Law School in 1986.

President Meehan currently resides in Andover with his wife, Ellen T. Murphy, and their two children, Robert Francis and Daniel Martin.



CAROL QUILLEN

PRESIDENT
DAVIDSON COLLEGE

Carol Quillen became the 18th president of Davidson College on August 1, 2011.

A respected scholar and an accomplished administrator, Quillen came to Davidson from Rice University in Houston, Texas, where she served most recently as vice president for international and interdisciplinary initiatives.

Quillen grew up in New Castle, Delaware, a small town where she says “it was second nature to support the community and look out for other people.” A Presbyterian, she attended Quaker schools from pre-kindergarten through high school. She earned a B.A. degree in American history from the University of Chicago, graduating Phi Beta Kappa with special and general honors, then received a Ph.D. degree in European history from Princeton.

Since taking office, Quillen has engaged the Davidson community in reimagining the liberal arts experience within the changing landscape of higher education and an increasingly interconnected world.

Her emphasis on “Transition to Impact” initiatives—a budding entrepreneurship program, community-based learning, and student/faculty collaborative research among others—empowers students to develop compassion, analytic rigor, creativity, resilience, and moral courage, and enables graduates to lead in the service of something larger than themselves.

In the fall of 2012, Quillen announced a transformational gift from The Duke Endowment: \$45 million to support the development of an Academic Neighborhood, a project that is intended to reimagine the possibilities of an interdisciplinary liberal arts education in the 21st century.

Ensuring educational excellence and access for all talented students regardless of their financial circumstances is a top priority for the Davidson community, and Quillen is a passionate advocate for this commitment. To be meaningful, she asserts, equal opportunity must be real. Through The Davidson Trust, the college practices need-blind admission and meets 100 percent of demonstrated need of accepted students through a combination of grants and campus employment, with no loans.

Quillen joined Rice as a member of the history faculty in 1990. From 2004 to 2008, she served as the first director of the university’s Boniuk Center for the Study and Advancement of Religious Tolerance, leading development of the center’s new mission and shaping an agenda that helped distinguish the center from other organizations.

From 2006 to 2010, Quillen served as Rice’s vice provost for academic affairs and then as vice president for international and interdisciplinary initiatives, focusing particularly on faculty diversity and faculty development, resource development, and initiatives that cross academic disciplines and institutions.

Quillen has published two books on Petrarch, as well as scholarly articles, reviews, and papers. She received a number of teaching awards during her tenure at Rice, and also has received grants and fellowships from the Social Science Research Council, the Whiting Foundation, the Fulbright Foundation, and the Harvard University Center for Renaissance Studies, among others.

Quillen was appointed by President Barack Obama to serve on the President's Advisory Council on Financial Capability for Young Americans. She also is a member of the Board of Directors of the National Alliance of Public Charter Schools and the Board of Directors of the Levine Museum of the New South.



LOU ANNA SIMON

PRESIDENT
MICHIGAN STATE UNIVERSITY

Lou Anna K. Simon, the 20th president of Michigan State University, leads the university's work to advance the common good in Michigan and around the world. An MSU graduate, she began her career at Michigan State after earning her doctorate in 1974. From there, she moved into a variety of administrative roles, including assistant provost for general academic administration, associate provost, and provost and vice president for academic affairs. The MSU Board of Trustees appointed her president in January 2005.

As president, Simon has engaged Michigan State in a strategic and transformative journey to adapt the principles of the land-grant tradition to 21st-century challenges. She has expanded MSU's reach in the state and around the world by focusing the university's strengths on solutions that enhance and protect quality of life: clean and affordable energy, access to education, safe and plentiful food, and health care. She outlined these commitments and the philosophy driving them in her monograph, *Embracing the World Grant Ideal: Affirming the Morrill Act for a Twenty-first-century Global Society*.

Simon's key initiatives, particularly in economic development and international engagement, reflect her commitment to applying knowledge to benefit society and further the global common good.

Simon chairs the Association of American Universities, a group of 62 leading U.S. and Canadian research universities focused on issues of concern, including research funding, research and education policy, and graduate and undergraduate education. She also chairs the National Security Higher Education Advisory Board, a group of presidents and chancellors of several prominent U.S. universities that consults regularly with national agencies responsible for security, intelligence, and law enforcement.

Simon is a member of the American Council on Education and the Council on Competitiveness, a nonpartisan, nongovernmental organization working to ensure U.S. prosperity. She also is a member of the National Commission on Financing 21st Century Higher Education, a nonpartisan organization formed to explore policy proposals aimed at providing long-term sustainable finance models for U.S. higher education. As a past chair of the National Collegiate Athletic Association Executive Committee, she now serves as an ex officio administrative committee member.

Simon's resolute commitment to advancing Michigan's economic future has been a hallmark of her presidency. She serves on the board of directors of Business Leaders for Michigan and the Detroit Branch of the Federal Reserve Bank of Chicago and is an advisory committee member of the Detroit Innovation District, which promotes small business growth and job creation in the city. In the area of international engagement, Simon is a member of the executive committee of the Partnership to Cut Hunger and Poverty in Africa.

Research at Michigan State University reflects Simon's commitment to advancing knowledge and discovery to improve quality of life. Under her leadership, MSU has expanded its research in, among other areas, biofuels and green energy, medicine and medical technology, physics and rare isotopes, safe water, and agriculture to address world hunger. With the support of external funding now exceeding \$500 million annually, Simon is helping ensure that MSU makes a significant positive difference locally and globally.



JOSEPH E. AOUN

PRESIDENT
NORTHEASTERN UNIVERSITY

Joseph E. Aoun, a leader in higher education policy and an internationally renowned scholar in linguistics, is the seventh president of Northeastern University.

A respected voice on the value of global and experiential education, President Aoun has enhanced Northeastern's signature co-op program with opportunities around the world and additional flexibility. Students have worked, studied, and conducted research in 114 countries, on all seven continents.

President Aoun has strategically aligned the university's research enterprise with three global imperatives—health, security, and sustainability. Northeastern is home to seven federally recognized research centers and institutes, including the Center for Awareness and Localization of Explosives-Related Threats, the Center for High-Rate Nanomanufacturing, the Center for Translational Cancer Nanomedicine, the Gordon Center for Subsurface Sensing and Imaging Systems, and the Institute for Information Assurance. Northeastern's faculty focuses on interdisciplinary research, entrepreneurship, and on transforming research into commercial solutions that address the world's most pressing problems.

Northeastern's excellence in education, research, and urban and global engagement is attracting highly talented applicants from throughout the U.S. and around the world. This year, it received more than 47,000 applications for freshman admission—the highest in the university's history. During Aoun's presidency, Northeastern has also established a network of graduate campuses and has amassed one of the largest libraries of online and hybrid professional masters programs of any university in the U.S.

President Aoun came to Northeastern from the University of Southern California's College of Letters, Arts & Sciences where he was the inaugural holder of the Anna H. Bing Dean's Chair. He received his Ph.D. in linguistics and philosophy from the Massachusetts Institute of Technology and advanced degrees from the University of Paris (France) VIII and Saint Joseph University (Beirut, Lebanon).

President Aoun has published seven books and written more than 40 articles. In 2006 he was named a Chevalier dans l'Ordre des Palmes Academiques (Knight of the Order of the Academic Palms) by the French government.

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NARIMAN FARVARDIN

PRESIDENT
STEVENS INSTITUTE OF TECHNOLOGY

Dr. Nariman Farvardin became the seventh president of Stevens Institute of Technology in July 2011. Since joining Stevens, Farvardin has been the driving force for the development and implementation of an ambitious 10-year Strategic Plan, entitled, *The Future. Ours to Create*, which aims to increase the university's stature, impact and size through: growth and increased selectivity in undergraduate and graduate student populations; targeted investments in areas of societal benefit, including healthcare and medicine, sustainable energy, financial systems, defense and security, and STEM education; and an unyielding commitment to excellence across all sectors of the university.

Farvardin joined Stevens from the University of Maryland, where he was a member of the faculty for 27 years. He served as the University of Maryland's Senior Vice President for Academic Affairs and Provost from 2007-2011, having previously served as Professor of Electrical and Computer Engineering, Chair of the Department of Electrical and Computer Engineering and Dean of the A. James Clark School of Engineering. Among Farvardin's accomplishments at the University of Maryland was spearheading the development and implementation of the University of Maryland's ambitious strategic plan, *Transforming Maryland: Higher Expectations*.

Farvardin is an accomplished researcher in the areas of information theory and coding, multimedia signal compression and transmission, high-speed networks, and wireless networks. He has made significant contributions to a number of communications standards and practical systems in data communication, image and video compression, and voice coding in wireless applications.

Farvardin holds seven U.S. patents in data communication, image coding, and wireless communication. He also co-founded two companies: Zagros Networks, a venture-funded fabless semiconductor company; and NovaTherm Technologies, a high-tech start-up company that develops technologies to improve the energy efficiency of buildings.

A fellow of the Institute of Electrical and Electronics Engineers (IEEE), Farvardin served multi-year terms as associate editor for two IEEE publications: *Transactions on Communications*, from 1986 to 1990, and *Transactions on Information Theory*, from 1992 to 1995. He has co-authored more than 150 technical papers in journals and conference proceedings.

A passionate advocate of technological innovation, Farvardin has served on the boards of several companies and educational non-profit organizations. In December 2013 he was named a Fellow of the National Academy of Inventors, which honors academic innovators who are named on a patent issued by the USPTO and who have contributed to the invention of products, goods and services which have positively impacted quality of life, economic development and welfare of society. Also in Fall 2012, he was named CEO of the Year by the New Jersey Technology Council, the state's premier trade association for technology companies.

Farvardin served as Chairman of the New Jersey President's Council Task Force on Alignment of Higher Education Programs and New Jersey Workforce Needs. He is a member of the Board of Directors of the New Jersey Technology Council. He was chosen by the Governor of Maryland to serve on the state's task forces for Science, Technology, Engineering and Mathematics (STEM) and Nano-biotechnology, and he chaired the University System of Maryland's Task Force on Cybersecurity.

In recognition of his contributions to technology education and his support of innovation and entrepreneurship, Farvardin was featured in *The Washington Post* as one of the "Five to Watch" in 2003. Among his honors are the National Science Foundation's Presidential Young Investigator Award, the George Corcoran Award for Outstanding Contributions to Electrical Engineering Education, and the University of Maryland's Invention of the Year Award in Information Sciences.

A native of Tehran, Iran, Farvardin earned his bachelor's, master's, and doctoral degrees from the Rensselaer Polytechnic Institute in Troy, New York, in 1979, 1980, and 1983, respectively.



TIMOTHY D. SANDS

PRESIDENT
VIRGINIA TECH

Timothy D. Sands was named the 16th president of Virginia Tech on Dec, 6, 2013. He began his term on June 1, 2014. Prior to coming to Blacksburg, Sands had served as executive vice president for academic affairs and provost of Purdue University since April 2010. Sands was acting president from June 2012-January 2013, before Mitch Daniels became the 12th president of Purdue. In his role as acting president, Sands was responsible for leading Purdue's West Lafayette and regional campuses.

Sands earned a bachelor's degree with highest honors in engineering physics and a master's degree and doctorate in materials science from the University of California-Berkeley. He joined the Purdue faculty in 2002 as the Basil S. Turner Professor of Engineering in the schools of materials engineering and electrical and computer engineering. Prior to becoming provost, he served as the Mary Jo and Robert L. Kirk Director of the Birck Nanotechnology Center in Purdue's Discovery Park. From 1993-2002, Sands was a professor of materials science and engineering at the University of California-Berkeley and before that, he performed research and directed research groups at Bellcore, a New Jersey-based research company now known as Telcordia.

Sands has published more than 250 refereed papers and conference proceedings and has been granted 17 patents in electronic and optoelectronic materials and devices. His present research efforts are directed toward the development of novel nanocomposite materials for environmentally friendly and cost-effective solid-state lighting, direct conversion of heat to electrical power and thermoelectric refrigeration. He is a fellow of the Institute of Electrical and Electronics Engineers (IEEE), the Materials Research Society (MRS) and the National Academy of Inventors (NAI).

Tim Sands is married Laura Sands. All four of their children have attended Purdue.