BHEF BUSINESS-HIGHER EDUCATION FORUM®

Creating Solutions. Inspiring Action.

SUMMER MEMBER MEETING

June 28-29, 2017

The Ritz-Carlton, Tysons Corner
McLean, Virginia

AGENDA

June 28, 2017

The Ritz-Carlton, Tysons Corner
McLean, Virginia

3:00 p.m. **Opening Plenary**
Developing a Diverse Regional Aerospace Talent Ecosystem: The Boeing-Washington University in St. Louis Partnership
Salon I, 5th Floor

Welcome
Peter A. Weinberg, Founding Partner, Perella Weinberg Partners

Opening Remarks
Joan Ferrini-Mundy, Acting COO, National Science Foundation

Moderator
Daniel Greenstein, Director of Education, Postsecondary Success, Bill & Melinda Gates Foundation

Panel I Discussants
- **Thomas George,** Chancellor, University of Missouri-St. Louis
- **Shelley Lavender,** President, Boeing Military Aircraft and St. Louis Senior Executive, Boeing Defense, Space & Security
- **Jeffrey Pittman,** Chancellor, St. Louis Community College
- **Joseph F. Reagan,** President and CEO, St. Louis Regional Chamber
- **Mark Wrighton,** Chancellor, Washington University in St. Louis

Panel II Discussants
- **Matt Daniels,** Senior Manager, Education Relations, The Boeing Company
- **Jody O'Sullivan,** Dean, Joint Undergraduate Engineering Program, School of Engineering and Applied Sciences, Washington University in St. Louis

6:00 p.m. **Opening Reception**
Old Dominion, 4th Floor

7:00 p.m. **Dinner**
Old Dominion, 4th Floor

AGENDA

June 29, 2017

The Ritz-Carlton, Tysons Corner
McLean, Virginia

8:00 a.m. **Breakfast**
Plaza Room, 6th Floor

8:30 a.m. **Business Meeting**
Plaza Room, 6th Floor

9:15 a.m. **Welcome**
Salon I, 5th Floor

9:30 a.m. **Learning Session**
How Artificial Intelligence is Reshaping Business Models, Regional Workforce, and Talent Needs. How Must Higher Education Respond?
Salon I, 5th Floor

Facilitator
Ryan Oakes, Managing Director, Health and Human Services, Accenture North America

Presenters
- **Paul Daugherty,** Chief Technology and Innovation Officer, Accenture (invited)
- **Guy Ernest,** Principal Solutions Architect, Amazon Web Services
- **Chalapathy Neti,** VP, Development and Offering Management, IBM (invited)

10:30 a.m. **Break**
Salon I Foyer, 5th Floor

10:45 a.m. **Artificial Intelligence Implications for Business and Higher Education**
Salon I, 5th Floor

Presenter
Ryan Oakes, Managing Director, Health and Human Services, Accenture North America

11:15 a.m. **BHEF's Rapid Response Model**
Salon I, 5th Floor

Presenter
Brian K. Fitzgerald, CEO, Business-Higher Education Forum

AGENDA

June 29, 2017

The Ritz-Carlton, Tysons Corner
McLean, Virginia

11:30 a.m. **Discussion with Members and Guests**
Salon I, 5th Floor

Facilitator
Ryan Oakes, Managing Director, Health and Human Services, Accenture North America

12:45 p.m. **Closing Remarks**
Plaza Room, 6th Floor

1:00 p.m. **Lunch**
Plaza Room, 6th Floor

1:45 p.m. **Adjourn**

Welcome to the Business-Higher Education Forum's Summer 2017 Member Meeting. This meeting will focus on insights from BHEF member-led projects and conversations around BHEF's next emerging field: artificial intelligence, or AI.

We will begin on Thursday by learning about the Joint Engineering Leadership Development Program (JELDP)—a collaboration that provides pathways for underserved students and directly benefits the St. Louis region's economic development. This program, which is funded in part by BHEF's National Science Foundation grant, is led by Washington University in St. Louis (Washington University) and includes The Boeing Company (Boeing), the University of Missouri—St Louis (UMSL), and St. Louis Community College. JELDP provides an engineering pathway for underserved students through a local community college or UMSL and Washington University into highly competitive engineering jobs at companies like Boeing. Senior leaders from each partner organization will share insights and successes to date, and we hope this program and its outcomes resonate with you and your organization's needs and future planning.

On Friday, we will focus on the growing influence of AI and, specifically, its impact in business and how professionals can augment their skills with AI and cognitive computing to make better decisions, optimize operational processes, and respond to customer needs. We will explore how AI creates and captures value for business, higher education, and the workforce. We will also discuss its possible influence on higher education and the incumbent workforce, with a particular focus on the roles BHEF members can play in creating the talent pipeline for human-only jobs and capturing AI's potential to the benefit of their organizations. We will have a special session where AI experts from Accenture, Amazon Web Services, and IBM will present AI's current and future potential applications in a TED-Talk format.

The following pages provide background on each session of the meeting. My staff and I hope you will dive in, discuss, and depart more engaged and positioned to participate in activities that reflect BHEF's value proposition: action-oriented peer relationships, actionable insights, and creative workforce solutions.

Regards,

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

PROGRAM OVERVIEW

Developing a Diverse Regional Aerospace Talent Ecosystem: The Boeing-Washington University in St. Louis Partnership

BHEF's 2005 STEM Initiative made significant contributions to understanding the complex nature of the U.S. STEM talent shortfall, as well as the most impactful solutions in P-12 and higher education. These contributions included developing the STEM Education Model, the first system dynamics simulation model of P-16 STEM (developed in partnership with the Raytheon Company and support from the Bill & Melinda Gates Foundation), as well as a subsequent simulation model, the STEM Undergraduate Model, funded by the Department of the Navy's Office of Naval Research (ONR). The ONR-funded project also resulted in a report on high-impact practices in STEM undergraduate education.

BHEF's modeling identified one of the most significant barriers to increasing the number and diversity of STEM graduates: high attrition in the first two years of undergraduate education. This attrition is most severe on the most diverse campuses, especially community colleges. A 2009 Department of Education study determined that only 7.3 percent of students who began their STEM coursework at community colleges had attained a bachelor's degree six years later. Improving persistence and transfer rates among STEM undergraduates at community colleges through the use of evidence-based, high-impact practices must be a critical component of a larger STEM talent strategy.

A grant from the National Science Foundation in 2015 permitted BHEF to put the insights from modeling and business-higher education partnerships into action. BHEF catalyzed five partnerships focused on improving persistence and transfer of community college students by engaging business in the development of innovative new STEM undergraduate pathways. This meeting's opening plenary session focuses on one of these partnerships—between Boeing and Washington University.

Washington University and the UMSL partnered to form the Joint Undergraduate Engineering Program, which provides accredited engineering education to nontraditional students. The program offers bachelor of science degrees in civil, electrical, and mechanical engineering. A major objective of this program is to build a pipeline of diverse, highly skilled engineering talent for the St. Louis region.

Many students begin the program by completing introductory material and scientific foundational coursework at either UMSL or a local community college before transitioning to Washington University, where the upper-division traditional engineering courses are offered. Students originate

primarily from seven community colleges: Jefferson College, Southwestern Illinois College, St. Charles Community College, and St. Louis Community College's four campuses, including Florissant Valley, Forest Park, Meramec, and Wildwood. The most difficult transition for students in the program, and for many students nationwide, is from the community college to the upper-division level.

In partnership with Boeing, Washington University created the JELDP in 2015. This program provides an array of enriched learning opportunities to a special cohort of students to help them persist with their bachelor's degree and develop career readiness in engineering for highly competitive companies such as Boeing. The program offers a pathway into engineering education and careers to students who would have limited or no access to such opportunities, especially women, veterans, and underrepresented minorities.

JELDP consists of the following focus areas:

- Part-time intern program
- Capstone projects
- Mentoring
- Scholarships
- Ethics and leadership development

JELDP features a required one-credit seminar that serves as a first-year experience for students beginning their engineering coursework on the Washington University campus to accommodate the different rates at which students might enter the program. The seminar consists of modules that feature topics such as ethics, leadership, and diversity, and it allows students to engage with a practicing engineer (either the course lecturer or a visiting expert) on those topics. This interaction helps students connect traditional coursework with the real world, developing a professional identity and an understanding of business, ethics, and society through engagement with industry leaders as well as their peers. Washington University has also incorporated upper-division seminars focused on developing career goals and professional skills in each of the three engineering majors (civil, electrical, and mechanical) to deepen the holistic, real-world connections in a student's chosen field of study.

Through this program, Boeing engages with its academic partners and brings corporate resources, particularly the company's engineering professionals, to support JELDP students through recruitment, transition, preparation, and employment readiness. Although the program will begin while students are at UMSL or a community college, most of the activities will occur once the students arrive at Washington University and begin their engineering course work. In the first year, Boeing made three key contributions: (1) part-time, year-round internships exclusive to students in the program; (2) a mentorship program, a first for the joint engineering program students; and

(3) $50,000 in additional tuition scholarship funds for select students. Boeing also helps deliver content in the program's engineering studio courses and the one-credit seminar course. Upon completion, students may be considered for Boeing's Graduate Residency Program, which allows graduate students the opportunity to work 32 hours a week at Boeing while earning their advanced engineering degree.

The first JELDP cohort is expected to graduate in spring 2018. Washington University looks forward to building on the success of this program, including expanding its partnership with Boeing, implementing program evaluations, and creating a learning community where students can engage in hands-on projects in a dedicated research space.

About St. Louis Community College

St. Louis Community College (STLCC) is the largest community college district in Missouri and one of the largest in the United States. Local voters approved by a two-to-one margin the formation of the Junior College District of St. Louis-St. Louis County in April 1962. It was the first district in the United States to simultaneously construct three campuses. The $47.2 million bond issue approved in 1965 was the largest in the history of U.S. community college development at that time. More than one-half the households in the St. Louis area include at least one person who has attended STLCC.

About St. Louis Regional Chamber

The St. Louis Regional Chamber connects business and civic communities in the 16-county, bi-state region by supporting public policy and infrastructure initiatives and attracting new jobs, capital, and talent. The St. Louis Regional Chamber has three primary roles: 1) to serve as the regional chamber of commerce for over 4,000 member companies; 2) to serve as the bi-state region's lead economic development organization; and 3) to investigate and support public policy initiatives that help the region thrive and grow.

About the Boeing Company

The Boeing Company (Boeing) is the world's largest aerospace company and leading manufacturer of commercial jetliners and defense, space, and security systems. A top U.S. exporter, the company supports airlines and U.S. and allied government customers in 150 countries. Boeing products and tailored services include commercial and military aircraft, satellites, weapons, electronic and defense systems, launch systems, advanced information and communication systems, and performance-based logistics and training.

About University of Missouri-St. Louis

With nearly 17,000 students, University of Missouri-St. Louis (UMSL) is the largest public research university in eastern Missouri. It provides excellent learning experiences and leadership opportunities to a diverse student body whose influence on the region upon graduation is immense. UMSL is spread across 470 acres in suburban St. Louis County. It has a mix of modern and historic academic buildings as well as a variety of student residence halls, condominiums, and apartments.

It is the perfect setting for students to gain unique insights from outstanding faculty and work experience from internships at companies and organizations found only in this world-class metropolitan region. While UMSL graduates can be found in all 50 states and 63 countries, their greatest impact is felt right here in St. Louis. More than 65,000 UMSL alumni call the St. Louis region home. They drive the region's economy and contribute mightily to its social well-being.

About Washington University in St. Louis

Washington University in St. Louis, a medium-sized, independent university, is dedicated to challenging its faculty and students alike to seek new knowledge and greater understanding of an ever-changing, multicultural world. The university has played an integral role in the history and continuing growth of St. Louis and benefits in turn from the wide array of social, cultural, and recreational opportunities offered by the metropolitan area to its more than 2.8 million residents.

LEARNING SESSION

BHEF BUSINESS-HIGHER EDUCATION FORUM®

AI for All: How AI is Changing Jobs and Requiring New Skills

Artificial intelligence (AI) was first envisioned in the 1950s as machines "solv[ing] the kinds of problems reserved for humans."[1] Progress toward this vision continued slowly over the following decades, initially limited by available computational power. However, steady advances in computing power combined with massive datasets led to a breakthrough in 2012. For the first time, machines surpassed humans in image recognition using deep learning techniques.

Deep learning is a process that uses a known dataset to train an artificial neural network—or decision-making model—without any direct intervention. Using huge amounts of computing power, these artificial neural networks are able to "learn" how to solve a broad range of problems and apply their new knowledge. For example, deep learning can be used to filter spam from email, tag photographs on Facebook, detect fraudulent activity, or identify data breeches.

The application of AI is simultaneously supported and necessitated by the explosion of digital data. Large datasets are needed to train AI systems to solve problems, and the huge amounts of data continuously created and stored are critical to furthering the applications of AI. These massive datasets are also driving organizations to implement AI in order to extract meaning from them. AI is also increasingly embedded in data collection and analytics.

Organizations across all industry sectors are looking to AI to improve their operations and processes. Bank of America Merrill Lynch predicted that by 2025 the "annual creative disruption impact from AI could amount to $14-$33 trillion."[2] A recent survey of 835 executives across 13 global industry sectors found that 84 percent of companies see the use of AI as "essential" to competitiveness, and 50 percent see AI as "transformative."[3] Leaders in business and higher education must be ready to help employees and organizations adapt in order to benefit from the rise of this new technology.

Artificial Intelligence: Augmenting Human Talent

Predictions that automation will make humans redundant have been made with each transformative technology, ranging from steam engines during the Industrial Revolution to the personal computer in the 1980s. Rather than eliminate the need for human talent, these technologies have altered the skills workers need to perform effectively in increasingly automated workplaces. For example, a recent analysis of the U.S. workforce between 1982 and 2012 found that employment grew significantly faster in occupations that made more use of computers.[4] Employees were able to focus

[1] The Return of the Machinery Question. The Economist, June 25, 2016.
[2] Thematic Investing: Robot Revolution – Global Robot & AI Primer. Bank of America Merrill Lynch, November 3, 2015.
[3] Getting Smarter by the Day: How AI is Elevating the Performance of Global Companies. Tata Consultancy Services, 2017.
[4] Toil and Technology. James Bessen, Finance & Development, March 2015.

their efforts on fewer tasks when computers automated the more routine tasks, changing the skills profiles for their occupation. AI seems poised to follow the same model.

AI is likely to be used in a variety of occupations: paralegals, radiologists, IT workers, commercial pilots, accountants, and technical writers, to name a few. The demand for skills will shift to emphasize those that are uniquely human: creativity, collaboration, and complex problem solving. Seventy percent of business executives believe that leveraging AI has the potential to enable humans to concentrate on more meaningful work.[5]

Artificial Intelligence: Transforming Learning

AI also has the ability to transform learning. The same technologies that enable companies to improve their operations can enable students and employees to learn new skills. AI can adapt courses and content to be better tailored to an individual's learning goals and style. For example, Carnegie Learning, Inc., founded by a Carnegie Mellon professor, has developed a suite of programs using adaptive computer systems—a form of AI—that provides mathematics tutoring tailored to an individual student. Developed for middle school, high school, and postsecondary students, these cognitive tutors adjust the pace of learning and difficulty of mathematics problems for a student based on their answers to previous questions. This technology is used to support teachers and faculty members in the classroom, allowing them to better meet the needs of all learners.

The impact of AI in education, particularly when deployed at scale, can aid educators in providing a learning environment that is personal, flexible, and engaging. The individualized approach of this technology can help close student achievement gaps through targeted interventions. It also provides a strategy for employers to tailor learning for their employees by using this technology to focus on specific skills required for a particular role or project. Applying AI in education will require collaboration between companies developing the technologies, educational institutions, and the many organizations that will benefit from lifelong learning.

The Artificial Intelligence Skills Imperative

Business executives and higher education leaders must take concerted action to meet the changing skills profiles in hundreds of occupations that will be transformed by AI. The adoption of AI tools will enable employees to shift to higher-order skills for many occupations and functions and increase the need for learning agility, interpersonal skills, flexibility, and good judgment. As routine tasks are automated in all functions, organizations must ensure that incumbent workers learn to seamlessly work with these new AI tools to increase productivity and generate value.

Beginning with a learning session at the summer 2017 meeting, BHEF plans to launch a year-long effort to better understand the impact and future direction of AI, how this direction will influence the skills demand both for incumbent employees and new college graduates, and develop a strategy for ensuring that higher education, working with business, can respond rapidly to these needs.

[5] The Future of Employment: How susceptible are jobs to computerisation? Carl Benedikt Frey and Michael A. Osborne, September 17, 2013.

NEW MEMBER BIOGRAPHIES

Teresa Carlson

Vice President, Worldwide Public Sector, Amazon Web Services

Teresa Carlson leads the Amazon Web Services (AWS) Worldwide Public Sector business, which includes state, local, central, and regional governments; educational institutions and ed techs; nonprofits and non-governmental organizations; as well as advising Amazon Public Policy on global policy issues. Since starting AWS's public sector business in 2010, Carlson has driven the business' growth, which today accounts for 2,300 government, 7,000 education, and 22,000 nonprofit customers, and a vast partner ecosystem across all geographies.

Carlson dedicates time to philanthropic and leadership roles to support the global community. This includes service on the American Red Cross Chairman's Advisory Council, the International Center for Missing & Exploited Children, USO of Metropolitan Washington Board of Directors, the Veteran Administration Advisory Committee, and Princeton University's Infrastructure Board, among others. Carlson has received many honors over the years, including being named as one of Business Insider's Most Important People in Cloud Computing, Washington Life's Power 100 list, Washingtonian Tech Titan, and is a recipient of the 2016 Ellis Island Medal of Honor, which recognizes individuals who have made it their mission to share with those less fortunate their wealth of knowledge, indomitable courage, and boundless compassion.

Prior to joining AWS, Carlson served as vice president of Microsoft Federal Government. Before moving into technology, Carlson worked in health care as a practitioner and consultant initially, then as a business manager and area vice president, responsible for national accounts, marketing, and business development.

Carlson earned her bachelor's degree and master's degree in communications and speech and language pathology from Western Kentucky University.

Mary Sue Coleman

President
Association of American Universities

Dr. Mary Sue Coleman began her tenure as president of the Association of American Universities (AAU) on May 31, 2016.

Prior to joining AAU, Coleman was president of the University of Michigan from 2002 to July 2014 (where she is now president and professor emerita) and president of the University of Iowa from 1995 to 2002. Long involved with AAU, Coleman served as chair from 2011-2012.

Coleman has been a national leader in higher education. Time magazine named her one of the nation's "10 best college presidents," and the American Council on Education honored her with its Lifetime Achievement Award in 2014.

At the University of Michigan, Coleman oversaw the groundbreaking partnership with Google to digitize the university's 7-million volume library, launched enduring institutional partnerships with universities in China, Ghana, South Africa, Brazil, and India, revitalized student living and learning experiences through a residential life initiative, and worked tirelessly to promote economic revitalization and innovation within the state of Michigan. In recognition of these efforts, Coleman was named by President Obama in 2010 to help launch the Advanced Manufacturing Partnership, and U.S. Commerce Secretary Gary Locke named her as co-chair of the National Advisory Council on Innovation and Entrepreneurship.

As a biochemist and faculty member at the University of Kentucky, Coleman built a distinguished academic career through her teaching and research on the immune system and malignancies. Prior to becoming a university president, Coleman was vice chancellor for research and graduate education at the University of North Carolina, Chapel Hill and provost at the University of New Mexico.

Coleman earned her undergraduate degree in chemistry from Grinnell College and a Ph.D. in biochemistry from the University of North Carolina at Chapel Hill.

Peter Grauer

Chairman, Bloomberg, LP

Peter T. Grauer is chairman of Bloomberg, the global financial technology company that was founded in 1981. He has been a member of the Bloomberg board of directors since October 1996 and was named chairman of the board in March 2001, succeeding Michael R. Bloomberg.

Grauer joined Bloomberg full time as chairman, president, and CEO in March 2002. Prior to joining Bloomberg, Mr. Grauer was a managing director of Donaldson, Lufkin & Jenrette from 1992 to 2000 when DU was acquired by Credit Suisse First Boston. He is a founder of DU Merchant Banking Partners and DU Investment Partners and had also served as a managing director and senior partner of CSFB Private Equity.

Grauer graduated from the University of North Carolina at Chapel Hill and the Harvard University Graduate School of Business, Program for Management Development. Mr. Grauer serves as lead director of DaVita Health Care Partners, Inc. (NYSE: DVA), a healthcare services company based in Colorado. He is a member of the Business Council and McKinsey Advisory Council. He is also a member of the International Business Council of the World Economic Forum and serves on its Media, Entertainment and Information, Financial Services and Gender Parity Board of Governors. He is founding chairman of the Community of Chairmen at the World Economic Forum. Mr. Grauer is the senior independent director and chairman of the Nominations and Audit Committees of Glencore. He is an independent director and member of the Audit Committee of Blackstone (NYSE:BX).

Grauer serves on numerous boards in leadership capacities: the Inner City Scholarship Fund in New York City, the Partnership for Inner City Education, Rockefeller University, Jazz at Lincoln Center, U.S. 30% Club, Prostate Cancer Foundation, and many others.

Ralph J. Hexter

Interim chancellor
University of California, Davis

Dr. Ralph Hexter arrived at the University of California, Davis (UC Davis) on January 1, 2011, to become provost and executive vice chancellor. He also holds an appointment as distinguished professor of classics and comparative literature. On April 27, 2016, President Janet Napolitano notified Hexter that he would serve as the acting chancellor. On September 14, 2016, he was named interim chancellor by the UC regents.

Hexter received his A.B. degree in English literature from Harvard College in 1974. He earned a B.A. and M.A. in classics and modern languages at Oxford University in 1977 and 1982, respectively. He also earned an M.Phil. and a Ph.D. in comparative literature from Yale University in 1979 and 1982, where he taught in the classics department from 1981 to 1991.

In 1991, he became a professor of classics and comparative literature at the University of Colorado at Boulder, where he directed the graduate program in comparative literature. In 1995, he joined the faculty at the University of California, Berkeley. From 2005 through 2010, he served as president of Hampshire College in Amherst, Massachusetts.

In all of his leadership positions, Hexter has made it a priority to foster excellence across the full range of disciplines, and to promote equal opportunity, diversity, and inclusion for students, faculty, and staff. A recipient of the University of Massachusetts' Continuing the Legacy of Stonewall Award, he was a founding member of the LGBTQ Presidents in Higher Education. From 2012 to 2014, he co-chaired with Barbara J. French the UC Task Force and Implementation Team on Lesbian, Gay, Bisexual and Transgender Climate & Inclusion, which was charged with making recommendations to create more welcoming and inclusive campus environments for members of the LGBT community.

In 2016, Hexter was elected to the National Academy of Arts and Sciences.

Daniel J. Houston

Chairman, President and Chief Executive Officer, Principal Financial Group

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

Houston joined Principal® 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 Income Solutions 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, American Council of Life Insurers, Financial Services Roundtable, Iowa State University Business School Dean's Advisory Council, Partnership for a Healthier America, and Reaching Higher Iowa.

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.

Andrew N. Liveris

Chairman and Chief Executive Officer, The Dow Chemical Company

Andrew N. Liveris is chairman and chief executive officer of the Dow Chemical Company, a materials, polymers, chemicals and biological sciences enterprise, with 2016 annual sales of $48 billion.

Liveris' career has spanned roles in manufacturing, engineering, sales, marketing, and business and general management around the world. During more than a decade as Dow's CEO, Liveris has led the company's transformation from a cyclical chemicals manufacturing company into one powered by science, driven by innovation and delivering solutions to the world.

An international advocate for the criticality of manufacturing to the long-term health of national economies, Liveris is the author of Make It in America, a book which presents a comprehensive set of practical policy solutions and business strategies to achieve the company's vision of an "Advanced Manufacturing" economy. He has been tapped to lead President Donald J. Trump's Manufacturing Jobs Initiative, which will identify new ways to spur innovation, revitalize the U.S. manufacturing sector, and drive economic growth and prosperity. Previously he served as co-chair of President Obama's Advanced Manufacturing Partnership steering committee and a member of the U.S. President's Export Council.

In addition to his work at Dow, Liveris' sits on the board of directors of IBM, is vice chair of the Business Roundtable, an executive committee member and past chairman of the U.S. Business Council, and a member of the Concordia Leadership Council and the Australian government's Industry Growth Centres Advisory Committee. Liveris serves on the board of trustees for the Herbert H. and Grace A. Dow Foundation, California Institute of Technology, and the United States Council for International Business.

Born in Darwin, Australia, Liveris attended the University of Queensland in Brisbane, graduating with a bachelor's degree (first-class honors) in chemical engineering. He is a chartered engineer and a fellow of the Institute of Chemical Engineers as well as a fellow of the Australian Academy of Technological Sciences and Engineering.

Mary A. Papazian

President
San José State University

Dr. Mary Papazian, a seasoned leader with more than 25 years of teaching and academic administrative experience, joined San José State University (SJSU) as its president on July 1, 2016.

Papazian most recently served as president of Southern Connecticut State University (SCSU) in New Haven, Connecticut. Under her leadership, SCSU launched a predictive analytics advising tool and hired additional advisors in key areas to support first-year experience, sophomore, transition programs, and degree programs. She developed partnerships with local community colleges to expand advising resources for prospective transfer students and established a summer scholarship program for undergraduate research.

Prior to her tenure at SCSU, Papazian was the provost and senior vice president for academic affairs at Lehman College of The City University of New York, managing a $70 million budget that supported 450 full-time faculty members and 200 staff members. At Lehman College, she strengthened the research infrastructure by creating a research advisory board, hiring a new director of the Office of Research and Sponsored Programs, and developing a research handbook for faculty.

In addition to her high-level administrative experience, Papazian previously served as the dean of the College of Humanities and Social Sciences at Montclair State University in New Jersey, and associate dean of the College of Arts and Science at Oakland University in Rochester, Michigan. Papazian began her career in higher education at Oakland University, where she was an assistant, associate, and tenured professor of English.

Born and raised in Southern California, Papazian holds a bachelor's, master's and Ph.D. in English from the University of California, Los Angeles.

Brian Roach

Managing Director, U.S. Regulated Industries, SAP North America

Brian Roach leads SAP's Regulated Industries practice in the United States for SAP North America, which encompasses federal, state, and local government, as well as the higher education, aerospace and defense, healthcare, and utilities industries. He is responsible for leading the strategy, business operations, revenue performance, customer relationships, and overall customer satisfaction throughout the United States.

He joined SAP following six years with Juniper Networks, where he led their National Government business unit, selling and delivering high performance networking and security systems to U.S. government agencies. Prior, Brian worked for Microsoft as the general manager of product sales for their U.S. Department of Defense division, and over the course of his 10-year career with the company, he grew their healthcare, treasury, and military lines of business as well. Through additional and earlier posts with Lockheed Martin, Loral Corporation (acquired by Lockheed in 1996), and Unisys Corporation, Brian developed his exceptional sales leadership acumen, and a deep knowledge of regulated industries.

Brian obtained his bachelor of science degree in electrical engineering from Duke University and his master of science degree in technology management from the University of Maryland.

Lou Anna K. Simon

President
Michigan State University

Dr. Lou Anna K. Simon, the 20th president of Michigan State University (MSU), leads the university's work to advance the common good in Michigan and around the world. She began her career at Michigan State after earning her doctorate at MSU in 1974, starting as an assistant professor in the Office of Institutional Research and promoted to associate professor in 1979. She was named professor of educational administration in 1984. Simon has held a variety of administrative roles at MSU, 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.

Simon chairs the Association of American Universities. 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, the Council on Competitiveness, and the National Commission on Financing 21st Century 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.

Michael L. Tipsord

Chairman, President and Chief Executive Officer
State Farm Mutual Automobile Insurance Company

Michael L. Tipsord is chairman, president and chief executive officer of State Farm Mutual Automobile Insurance Company. State Farm® and its affiliates are the largest providers of auto, home, and individual life insurance in the United States.

Tipsord was named chief executive officer in September 2015 and was elected to the office of president earlier the same year. He was elected chairman of the board of State Farm Mutual Automobile Insurance Company in June 2016. He began his State Farm career in 1988 and served in a number of leadership roles including vice chairman of the board, chief operating officer, and chief financial officer. He practiced law prior to joining State Farm.

A native of Illinois, Michael received a bachelor's degree from Illinois Wesleyan University in Bloomington, Illinois, and a law degree from the University of Illinois at Urbana-Champaign. He earned the Chartered Property Casualty Underwriter designation in 1995, the Chartered Life Underwriter designation in 1991, and is a Certified Public Accountant.

Tipsord is a member of the American Bar Association and Illinois State Bar Association. He serves on the board of directors for Navigant Consulting, Inc. and is a trustee of the Brookings Institution. He is also a member of the dean's advisory board for the University of Illinois College of Law.

He is a member of the board of directors of State Farm Mutual Automobile Insurance Company, State Farm Fire and Casualty Company, State Farm Life Insurance Company, State Farm Life and Accident Assurance Company, State Farm Health Insurance Company, State Farm Bank®, F.S.B. State Farm Investment Management Corp., State Farm VP Management Corp.