



The Circuit

News from the halls of academic engineering & technology

January 2020

Headlines

Air Force Research Lab seeks breakthroughs — and research talent

The Air Force Research Laboratory (AFRL) is teaming up with Carnegie Mellon University (CMU) to create a Center of Excellence focused on the development of high-tech materials — and, more importantly, high-tech *talent*. The five-year, \$7.5 million initiative — dubbed Data-Driven Discovery of Optimized Multifunctional Material Systems, or D₃OM₂S — will support cutting-edge research and seek to draw PhD students to an emerging area of materials science: using artificial intelligence and machine learning to discover, analyze, and design next-generation aerospace materials. Project manager Sean Donegan, PhD, said the AFRL, headquartered at Ohio's Wright-Patterson Air Force Base, hopes to create a talent pipeline that can sustain the organization for years to come. “We are funding PhD students to do their research in areas we think are important skills that will be especially useful for AFRL.” Donegan said the center is somewhat unusual in that the outside funding agency, the AFRL, will also be an active member of the university research team. “There will be significant collaboration between AFRL and the CMU students,” he said. “Student researchers will spend their summers at Wright-Patterson Air Force Base, and AFRL scientists will, in turn, spend time at CMU throughout the academic year.” [READ MORE](#)





University of Minnesota

The University of Minnesota's College of Science and Engineering expects to renovate part of its main classroom building, Lind Hall, to accommodate a planned spike in admissions. Starting this year, the school will accept 100 additional students each fall for three years.

Minnesota's engineering program to increase enrollment by 25 percent

In the face of growing global demand for tech talent, the University of Minnesota's College of Science and Engineering (CSE) plans to expand enrollment by nearly 25 percent. The college will accept 100 additional students each fall for the next three years, thereby increasing undergraduate enrollment to 6,700 students within six years. "CSE is the organization in the state that can supply the top echelon of the science and technology workforce that employment surveys and the media have identified as necessary for Minnesota's continued leadership in technology-dependent industries," said Dean Mos Kaveh, PhD. "Rightsizing the university's science and engineering programs is critical for the future of our state, nation, and world." The decision to grow class sizes is also partly attributable to the increasing volume and consistent quality of applications received by the college. The CSE's incoming students have a higher average ACT composite score — 31.5 — than the matriculants of any other college at the university. Accordingly, Kaveh said, the CSE is confident that it can meet its growth goals without any diminution of admission standards. "I feel like classrooms are already packed," Cara Nix, a CSE math major, told the *Minnesota Daily*, the university's student-run newspaper. "But it is important to encourage people to go into STEM careers." To accommodate the larger enrollment — and a commensurate expansion of faculty — the CSE plans to renovate a portion of its main classroom building, Lind Hall, by 2021. [READ MORE](#)

Case Western launches academic unit dedicated to data sciences

Case Western Reserve University has launched a new Computer & Data Sciences Department in the Case School of Engineering. The Cleveland institution also announced the Kevin J. Kranzusch Professorship, which will be held by the future chair of the new department. Kranzusch, a Case engineering alumnus, said a spike in computer sciences enrollment, coupled with the advent of artificial intelligence, inspired him to make a \$5 million commitment to the program. "I'm so excited to be a part of this effort," said Kranzusch, vice president of a software team working on autonomous vehicles, robotics, and gaming devices at California-based NVIDIA. "Computer sciences, especially AI and machine learning, are the future, and I hope this can play a part in helping our students to excel in those areas." The Case School of Engineering has launched a national search for the inaugural chair of the new Computer & Data Sciences Department. [READ MORE](#)



Arizona State University

In his opening remarks at this month's innovation conference, Arizona State University President Michael Crow said his institution benefited greatly from systemic change. "We decided that most universities were archaic, bureaucratic structures incapable of serving the United States to the level they needed to serve," he told attendees.

Commission: With U.S. tech dominance at stake, it's time for a 'reset'

If the United States is to remain the global leader in technological innovation, it must stop talking about the issue in theoretical terms and instead start taking specific steps to improve its competitiveness. That's the message that Mehmood Khan, CEO of Life Biosciences Inc. and chairman of the National Commission on Innovation and Competitiveness Frontiers, delivered earlier this month at a daylong conference at Arizona State University. "We're not here to do hypothetical thinking around the distant future of a policy that might change things," Khan said. The event, which drew CEOs, university presidents, and researchers, represented a kickoff of sorts for the recently formed commission, an offshoot of the National Council on Competitiveness. The commission's goal is to identify and address factors that have allowed the rest of the world to catch up with — and, in some cases, surpass — the United States. Among the critical issues discussed at the January 16 conference: the decline of U.S. manufacturing, the emergence of climate change as an existential threat, and the rise of China on the global stage. "What we need is more innovation, more innovators, more perspectives, more solutions, more energy," not just more government funding, said Arizona State President Michael Crow, PhD, university vice-chair of the Council on Competitiveness. "This is our opportunity to do a reset." [READ MORE](#)

Purdue moves to make textbooks more affordable and accessible

The Purdue University College of Engineering is developing a first-of-its-kind collection of educational resources that will be available online – for free, or at a low cost – to anyone in the world. Purdue Engineering Open Bytes will include high-quality textbooks, case studies, monographs, and lecture notes written by College of Engineering faculty members. Working with the college and Purdue University Libraries, Purdue University Press will make digital copies of the materials accessible to students, professors, working professionals, and anyone else interested in engineering, starting in mid-2020. Hardcover editions of books also will be made available. "Open Bytes is all about expanding affordability and accessibility," said John W. Sutherland, PhD, inaugural editor-in-chief of Open Bytes and the Fehsenfeld Family Head of Environmental and Ecological Engineering at Purdue. The program will launch with 10 textbooks and five case studies. [READ MORE](#)



Cross-disciplinary institute to explore technology's social implications

The UCLA Samueli School of Engineering and the UCLA School of Law have come together to explore how ever-evolving technology affects society, privacy, and government regulation. The schools' cross-disciplinary Institute for Technology, Law and Policy will examine advances in artificial intelligence, autonomous vehicles, robotics, and new forms of digital media to identify the benefits and risks they represent. John Villasenor, PhD, professor of electrical engineering, public policy, law and management, and Richard Re, JD, professor of law, will serve as co-directors. Villasenor joined Samueli's faculty in 1992, after several years developing imaging technology at NASA's Jet Propulsion Laboratory. "To spur innovation



Richard Re, JD, left, and John Villasenor, PhD, have been named co-chairs of UCLA's Institute for Technology, Law and Policy.

and fully realize the extraordinary potential that technology can offer, we cannot look at technology alone," he said. "We must also look at the role of legal and policy frameworks." Re, a former clerk for now-retired U.S. Supreme Court Associate Justice Anthony Kennedy, joined the UCLA Law faculty in 2014. "Lawyers, judges and policymakers are constantly engaging with the opportunities, challenges and ethical considerations posed by new technologies," he said. "An interdisciplinary approach will shed new light on the issues and create future leaders in technology and the law." Supported by a five-year, \$10.25 million grant from philanthropist Brad Jones, the Troesh Family Foundation, the Anthony & Jeanne Pritzker Family Foundation, and the Charles Koch Foundation, the institute will encourage faculty and students from the law and engineering schools to conduct research, convene events, and engage the public. Earlier this month, the institute hosted its first symposium, "Algorithmic Criminal Justice?" which focused on the use of algorithms in policing and criminal justice. [READ MORE](#)

West Texas A&M's engineering program becomes standalone college

West Texas A&M University's School of Engineering, Computer Science and Mathematics is now the College of Engineering. "It's a big deal because it recognizes the growth of engineering programs in this region in Texas," Dean Emily Hunt, PhD, told KVII-TV, the ABC affiliate in Amarillo. "It recognizes the level of research that our faculty are conducting." Hunt predicts that the formal name change, which had to be approved by the Texas A&M University System and the Texas Higher Education Coordinating Board, will boost funding and recruiting, especially outside Texas. "There is a name recognition that goes with being a college of engineering," she said. "It puts us at a different level." The program experienced significant growth en route to becoming a college. It was launched in 2003 with one major — mechanical engineering — and a three-year enrollment target of 90 students. It now has close to 800 students and some 40 faculty members. The college, the university's sixth, will offer master's degrees in engineering, engineering technology and mathematics, as well as bachelor's degrees in civil, electrical, mechanical, and environmental engineering; engineering technology; computer science; mathematics; and mathematics education. [READ MORE](#)

“How to deliver expanded research opportunities at medical institutions”



Jeffrey Joyce, PhD

Senior associate dean for research and graduate programs
at Florida State University



RECENT INNOVATORS PODCASTS

- “Tearing down walls – one relationship at a time,” featuring Raquel Tamez, JD, CEO of the Society of Hispanic Professional Engineers [LISTEN](#)
- “The role of the land-grant university,” featuring Susan Fritz, PhD, executive vice president and provost of the University of Nebraska [LISTEN](#)
- “Beware the weakest link: Global food security depends on a sound supply chain,” featuring Eleftherios Iakovou, PhD, director of manufacturing and logistics innovation initiatives at Texas A&M’s Engineering Experiment Station [LISTEN](#)
- “One Health: the *other* universal healthcare,” featuring Michael D. Lairmore, DVM, PhD, dean of the University of California-Davis School of Veterinary Medicine [LISTEN](#)
- “Attracting international students to U.S. engineering program,” featuring Leo Kempel, PhD, dean of the College of Engineering at Michigan State University [LISTEN](#)
- “The importance of partnerships in academia and healthcare,” featuring Charles Taylor, PharmD, provost and executive vice president of academic affairs at the University of North Texas [LISTEN](#)
- “Artificial intelligence and precision medicine,” featuring Douglas Miller, MD, MBA, founder and CEO of Cognitive Diagnosis [LISTEN](#)

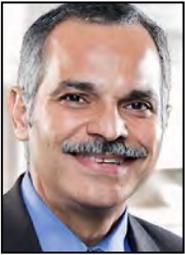
In Transition



Monica Adya, PhD, a noted scholar and innovator in the area of IT workforce issues, will become dean of the Rutgers School of Business-Camden on March 30. Adya is currently chair of the Management Department at Wisconsin's Marquette University College of Business Administration. Her research on forecasting has been published in a variety of journals.



Olivia Aguilar, PhD, an associate professor of environmental studies at Ohio's Denison University, has been named the Leslie and Sarah Miller Director of the Miller Worley Center for the Environment at Massachusetts' Mount Holyoke College. Aguilar, a horticultural scientist by training, also will serve as an associate professor of environmental studies.



Amir Asif, PhD, dean of the Gina Cody School of Engineering and Computer Science at Montreal's Concordia University since 2014, has been appointed vice president for research and innovation at York University in Toronto. Asif will assume his new role at York on May 1. Before joining Concordia, Asif was the founding chair of York's Department of Electrical Engineering and Computer Science.



Monica H. Baloga, PhD, will become provost of Limestone College in Gaffney, South Carolina, on February 1. Baloga, an organic chemist, was most recently senior vice president for academic administration at the Florida Institute of Technology in Melbourne, her academic home for two decades. At Limestone, Baloga will oversee the development and administration of all academic programs and support services.



Vaughn Benson, PhD, dean of the School of Business and Technology at Nebraska's Wayne State College since 2002, will return to teaching on July 1. Steve Elliot, vice president for academic affairs, told *The Wayne Stater* that the university is looking for a successor with a background in engineering, technology, or computer science and some experience in business or industry.



Thomas Botzman, PhD, president of Misericordia University in Dallas, Pennsylvania, since 2013, will become the 13th president of the University of Mount Union in Alliance, Ohio, on July 1. Botzman, a former polymer engineer for Goodyear and the holder of 12 U.S. patents, was a faculty member and administrator at Mount Union from 1989 to 2004. He succeeds W. Richard Merriman Jr.



Rafael L. Bras, PhD, provost and executive vice president for academic affairs at Georgia Tech since 2010, will step down from his post in September. He will remain a professor in the School of Civil and Environmental Engineering and the School of Earth and Atmospheric Sciences. Before joining Georgia Tech, Bras was dean of the Henry Samueli School of Engineering at the University of California, Irvine.



Patricia J. Culligan, PhD, chair and professor of civil engineering and engineering mechanics at Columbia University, will become the Matthew H. McCloskey Dean of the College of Engineering at the University of Notre Dame on August 1. Culligan, a civil engineer known internationally for her expertise in water resource management, is also founding associate director of Columbia's Data Science Institute.



Nairanjana "Jan" Dasgupta, PhD, the Boeing Science/Math Education Distinguished Professor in Mathematics and Statistics at Washington State University (WSU), has been named director of the school's Program in Data Analytics. Dasgupta, a member of WSU's faculty since 1996, was instrumental in establishing the school's interdisciplinary data analytics degree program in 2016.



Thomas DeLuca, PhD, dean of the University of Montana's College of Forestry and Conservation, has been appointed dean of Oregon State University's College of Forestry, effective June 30. At Oregon State, DeLuca will oversee a college with six undergraduate programs, four graduate programs and more than 1,200 students. He will succeed Anthony S. Davis, PhD, acting dean since January 2018.



Reginald DesRoches, PhD, has been appointed provost of Houston's Rice University, effective July 1. DesRoches, a native of Haiti, is currently the William and Stephanie Sick Dean of Engineering at the Rice's George R. Brown School of Engineering. He formerly was chair of the School of Civil and Environmental Engineering at the Georgia Institute of Technology.



Rajiv "Raj" Dewan, PhD, has been named dean of Syracuse University's School of Information Studies (iSchool). Dewan, who also will be professor of computers and information systems, most recently served as the Xerox Professor of Business and director of the highly ranked M.S. in business analytics program at the University of Rochester's Simon Business School.



Anne E. Dorrance, PhD, now occupies the top leadership post at Ohio State University's Wooster campus. Earlier this month, the plant pathologist began a four-year term as director for the campus, associate dean of Ohio State's College of Food, Agricultural, and Environmental Sciences, and associate director for the Ohio Agricultural Experiment Station.



David S. Ebert, PhD, the Silicon Valley Professor of Electrical and Computer Engineering at Purdue University, will lead the university's Integrative Data Science Initiative. Announced in 2018, the initiative is intended to advance data science research and foster data literacy in all Purdue students, regardless of discipline. Ebert has been a member of Purdue's faculty since 2003.



Mario Garcia, PhD, has been named inaugural director of the Institute for Cybersecurity at Southeast Missouri State University. He'll also serve as professor of cybersecurity in the university's Harrison College of Business and Computing. Before taking on the new role January 1, Garcia was associate dean for academics in the College of Science and Engineering at Texas A&M University-Corpus Christi.



Mark F. Green, PhD, has been named provost and vice principal for academics at Queen's University in Kingston, Ontario, Canada. Green, an expert in sustainable engineering technologies, currently serves as vice dean for graduate studies and recruitment for the university's Faculty of Engineering and Applied Science. He will assume his new role on March 1, succeeding Interim Provost Tom Harris.



Jeffrey Grossman, PhD, the Morton and Claire Goulder and Family Professor in Environmental Systems and a MacVicar Faculty Fellow at MIT, has been named head of the Department of Materials Science and Engineering, succeeding Christopher A. Schuh, PhD. After joining MIT's faculty in 2009, Grossman developed a research program known for its contributions to energy conversion and storage.



Norberto Grzywacz, PhD, has been appointed provost and chief academic officer of Loyola University Chicago, effective February 1. Since 2014, Grzywacz has served as dean of the Graduate School of Arts and Sciences at Georgetown University. He previously was Dwight C. and Hildagarde E. Baum Chair of the Department of Biomedical Engineering at the University of Southern California.



Angela Gunder, PhD, has been named vice president for learning at the Online Learning Consortium, a professional organization devoted to advancing the quality of digital learning worldwide. Before assuming her new responsibilities this month, Gunder was director of instructional design and curriculum development in the University of Arizona's Office of Digital Learning.



James Herbsleb, PhD, JD, has been named director of the Institute for Software Research at Pittsburgh's Carnegie Mellon University. Herbsleb has been serving in an interim capacity since August. The institute, one of seven departments within the School of Computer Science, conducts research and offers educational programs in software engineering, societal computing, and privacy and security engineering.



Paul E. Jensen, PhD, has begun his tenure as interim provost at Philadelphia's Drexel University. Jensen joined Drexel's faculty in 1997 and became dean of the university's LeBow College of Business in 2018. Before entering the academy, Jensen, who holds a master's degree in mechanical engineering, worked as an engineer in the power generation division of General Electric.



Meline Kevorkian, EdD, has been appointed dean of its College of Computing and Engineering at Florida's Nova Southeastern University (NSU). She had been interim dean since July 2018. Kevorkian is also a professor in NSU's Abraham S. Fischler College of Education and School of Criminal Justice, where she maintains an active research portfolio in STEM student success, with an emphasis on cyberbullying.



Eric Kolaczyk, PhD, a professor of mathematics and statistics at Boston University, has been named director of Boston University's Rafik B. Hariri Institute for Computing and Computational Science & Engineering. Kolaczyk succeeds founding Hariri Institute Director Azer Bestavros, PhD, who was recently appointed associate provost of the university's new Faculty of Computing and Data Sciences.



Ka Yee C. Lee, PhD, vice provost for research at the University of Chicago, will become the institutions' provost on February 1. Lee joined the university's faculty in 1998 as an assistant professor in the Department of Chemistry. A recognized authority in membrane biophysics and a fellow of the American Physical Society, she is the author or co-author of more than 125 scholarly publications.



Mark S. Lundstrom, PhD, will be acting dean of the Purdue University College of Engineering while Dean Mung Chiang serves a one-year appointment with the U.S. State Department in Washington, D.C. Lundstrom, a member of the National Academy of Engineering and an expert in nanoscale transistors, is the Don and Carol Scifres Distinguished Professor of Electrical and Computer Engineering.



John J. Myers, PhD, a professor of civil, architectural and environmental engineering and associate dean for academic affairs at the College of Engineering and Computing at Missouri S&T, is stepping away from his administrative post. Myers, who has held the position since 2015, will assume new duties as deputy director of the Missouri Center for Transportation Innovation. He joined the school's faculty in 1999.



Harriet B. Nembhard, PhD, the Eric R. Smith Professor of Engineering and head of the School of Mechanical, Industrial and Manufacturing Engineering at Oregon State University in Corvallis, has been named dean of the University of Iowa College of Engineering. Nembhard will assume the position on June 29, succeeding Alec B. Scranton, PhD, who announced last year that he would step down.



Francisca Oboh-Ikuenobe, PhD, has been named interim associate dean for academic affairs at the College of Engineering and Computing at Missouri S&T, succeeding John J. Myers, PhD, who's stepping down. In her new role, Oboh-Ikuenobe, a professor of geology and geophysics, will oversee all matters related to curriculum and instruction, including a forthcoming strategic plan.



Sunil Prabhakar, PhD, inaugural director of Purdue University's Integrative Data Science Initiative and professor of computer science, left the post last month. The initiative, announced in 2018, is intended to foster data literacy in all Purdue students, regardless of discipline. Prabhakar will return to his research in data management, with an emphasis on database integrity.



Samuel L. Pardue, PhD, dean of the University of Georgia's College of Agricultural and Environmental Sciences since 2016, will step down on June 30. Pardue told the *Athens Banner-Herald* that he's giving up his administrative post "for a lot of personal reasons." He added that his resignation is a step toward retirement and a return to North Carolina, where he attended school and formerly taught.



Kenny Rigler, PhD, associate professor of applied technology at Kansas' Fort Hays State University (FHSU), has been named assistant dean of the College of Education. He will assume his new responsibilities in June. Rigler, who holds two degrees from FHSU, joined the school's staff in 2006 as a technology integration specialist in the Center for Teaching Excellence and Learning Technologies.



Brian Rigling, PhD, has been named dean of the College of Engineering and Computer Science at Wright State University in Dayton, Ohio. He had been serving on an interim basis since July 2018. Rigling joined Wright State's faculty in 2004, after spending four years as a senior systems engineer for Northrop Grumman Corp. He chaired the university's Department of Electrical Engineering from 2014 to 2018.



Andy Schofield, PhD, has been appointed vice chancellor of Lancaster University in Lancashire, England. He'll assume his new responsibilities on May 1. Schofield, who taught at Rutgers University in the 1990s, is currently pro-vice chancellor and head of the College of Engineering and Physical Sciences at the University of Birmingham. He's also a professor of theoretical physics.



Bentley Wallace, EdD, dean of the School of Technical and Professional Studies at the University of Arkansas-Pulaski Technical College, will become president of South Arkansas Community College (SouthArk) at El Dorado on February 1. Wallace formerly served as director of business and transportation technology at Arkansas State University-Newport.



Kimberly Wallin, PhD, associate dean of research and graduate programs at the University of Vermont's Rubenstein School of Environment and Natural Resources, has been named dean of the College of Science and Mathematics at North Dakota State University. Wallin will assume her new role on or about March 31, succeeding Scott Wood, PhD, who's returning to teaching.



Joy K. Ward, PhD, associate dean for research and a professor of ecology and evolutionary biology at the University of Kansas (KU), will become dean of the College of Arts and Sciences at Cleveland's Case Western Reserve University on July 1. Ward, a biologist who joined KU's faculty in 2003, is recognized internationally for her work on how plants adapt to environmental changes.



A. Scott Weber, PhD, has been appointed provost and executive vice president for academic affairs at the University at Buffalo (UB). He had been serving in an interim capacity since October 1, when Charles Zukoski left for the University of Southern California. Weber, a UB faculty member since 1983, previously chaired the Department of Civil, Structural and Environmental Engineering.



Marcia G. Welsh, PhD, president of East Stroudsburg University of Pennsylvania since 2012, plans to retire on July 31. She began her academic career in 1978 as an assistant professor of anatomy at the University of South Carolina School of Medicine. She later served as senior vice president for academic affairs and provost of Adelphi University and provost of Towson University.



Beverly Wendland, PhD, the James B. Knapp Dean of the Krieger School of Arts & Sciences at Johns Hopkins University, has been appointed provost of Washington University in St. Louis, effective July 1. Wendland, a neuroscientist whose research has focused on fundamental cellular processes, has been a faculty member in Johns Hopkins' Department of Biology since 1998.



Sonya Williams, PhD, has been appointed vice president of education and chief academic officer at Illinois' College of Lake County. Williams, a neurobiologist, previously served as dean of the Arts and Sciences Division at Joliet Junior College in suburban Chicago. Before that, she was dean of the Chemistry and Biological Sciences Division at Oklahoma City Community College.



Dongyan Xu, PhD, the Samuel D. Conte Professor of Computer Science at Purdue University, will lead the university's Center for Education and Research in Information Assurance and Security (CERIAS). Xu, who joined Purdue in 2001, spent two years as the center's interim director. His research focus is the development of virtualization technologies for computer system security.



Guangyu Xu, PhD, a member of the faculty at the University of Massachusetts Amherst since 2016, has been appointed to the Dev and Linda Gupta Professorship in the university's College of Engineering for a five-year term. The professorship is meant to encourage entrepreneurial pursuits within the college's Department of Electrical and Computer Engineering.

Our headlines

University at Buffalo enlists Harris Search Associates to guide the search for the director of the school's Institute for Computational Data Sciences

Harris Search Associates recruits North Carolina Central University's Mildred A. Pointer, PhD, as chair of the Department of Biology at Howard University

University of North Texas Health Science Center turns to Harris Search Associates to find its next associate dean for academic affairs

Harris Search Associates recruits Michael Markiewicz, DDS, MD, as chair of the Department of Oral and Maxillofacial Surgery at the University at Buffalo

Harris Search Associates recruits Ernest Minton, PhD, as dean of agriculture and director of research and extension at Kansas State University

Harris Search Associates recruits William A. Prescott Jr., PharmD, as chair of the Department of Pharmacy Practice at the University at Buffalo



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Last word



The themes we're choosing — we're trying to be relevant to kids today. So it's not just, 'Hey, learn about motions and forces,' but let's try and use inventions, and *then* try and teach them motions and mechanics."

— **Sid Muthyala, senior concept lead for LEGO Education**, explaining the thinking behind the toy company's newest product line, Spike Prime, designed to introduce engineering and robotics to children in grades 6 through 8



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