March 2018 Media Report

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March 2018 Media Report - A monthly look at the MSU College of Engineering

Engineers have been working for years to develop a more convenient way to monitor blood pressure. Now, researchers at MSU and the University of Maryland appear to have succeeded. Research led by senior author Ramakrishna Mukkamala, professor of electrical and computer engineering, has devised a smart way to detect hypertension sooner with a new blood pressure app. Anand Chandrasekhar, electrical and computer engineering doctoral student, is the lead author.
Paving the way for high-performance - "Epitaxial growth has long since revolutionized the study of many electronic materials including silicon, oxide perovskites, and III-V semiconductors," Richard Lunt, an associate professor of chemical engineering and materials science, tells Nanowerk. "There is very little known about the epitaxial growth of halide perovskites, but these exciting materials hold enormous potential."

Women lose out to men even before they graduate from college --
Garth Motschenbacher, director of employer relations at MSU’s College of Engineering, says the female undergraduate students he advises tend to look for jobs that give them more lifestyle flexibility to accommodate someday raising a family - which many engineering corporations fail to offer. “I used to espouse, at age 26, that my male colleagues and I would be the change, and we didn’t do it,” he said. “It’s very disappointing to see that inclusion has yet to happen within companies and the corporate culture.”

Jeffrey Nanzer will use a five-year, $500,000 NSF CAREER Award to develop dynamic antenna arrays for radar and remote sensing. He is the Dennis P. Nyquist assistant professor in the Department of Electrical and Computer Engineering and the 15th Engineering faculty member to receive the prestigious award since 2010 – and the second CAREER Award in 2018.

Research by Erin Purcell, assistant professor of biomedical engineering and electrical and computer engineering, and PhD student Joseph Salatino, revealed that brain implants and the support cells that they interface with have a more important role in determining device function than previously thought. The finding has earned their research a Top 10 designation in Nature Biomedical Engineering Journal.

A reversible adhesive created at MSU is among the “Manufacturing Ideas to Watch,” says the Alliance for Manufacturing Foresight. The multi-material joining adhesive was created by an MSU research team led by Mahmoodul Haq, assistant professor of civil and environmental engineering.
University Distinguished Professor Anil Jain, Computer Science & Engineering --
• As Visa gets serious about using biometric fingerprints, Anil Jain tells Voice of America News – New York: “No security system is foolproof. The idea is to make it as difficult (as possible) for an imposter to use.”
  Voice of America
• Security concerns, along with increased use of connected sensors, are making biometrics a more popular method of authentication, says Anil Jain. “Biometrics really link an ID to a body.”
  EdTech
• Apple launched iPhone X with facial recognition technology known as Face ID, which uses various sensors to map the face of a person in 3-D. Anil Jain has been studying biometric recognition and computer vision technology, outlined that Apple’s technology uses structured light to determine features in three dimensions. This technology was employed in 1980s for object recognition.
  HiTech News Daily
• Police in the U.S. routinely use dead people’s fingerprints to unlock their iPhones in investigations, according to a new Forbes report. A logic step … after a 2016 collaboration with an MSU biometrics expert to fabricate the fingerprints of a murder victim in order to unlock his phone.
  Find Biometrics

Robert Ofoli, associate professor of chemical engineering and materials science, has been elected a fellow of the American Institute of Chemical Engineers.
  Fox 47 News Lansing
  MSUToday

Professor of Biomedical Engineering Xuefei Huang is among the MSU scientists who are engineering a virus-like particle to generate anti-cancer immune responses in the body and potentially be used as a new vaccine for the treatment of cancer.
  EurekAlert
  Futurism
  Medical XPress
  MSUToday
2018 Starting Salaries for Co-op Students and Recent College Graduates –
Statistically, the top five in-state institutions the responding companies actively recruit from are: 1) Michigan State University; 2) University of Michigan; 3) Wayne State University; 4) Oakland University; 5) Michigan Technological University.

Automation Alley

Additive metal techniques will go far beyond a few specialized uses and disrupt the way aircraft engines and some other aircraft parts are made, says Udo Burggraf, business development manager for GE Additive and its subsidiary Concept Laser. In a webinar sponsored by MSU’s Department of Mechanical Engineering, Burggraf provided the reasoning behind his expectation that these factors will have powerful knock-on effects on engine and aviation aftermarkets.

Aviation Week

Aspirations in Computing – Computer Science and Engineering Professor Laura Dillon and Teresa VanderSloot were among those hosting this year’s Aspirations in Computing ceremony with NCWIT on March 24. Among those honored was Laura Albrant of Fenton High School.

Tri-County Times

Mechanical engineering doctoral student Berk Can Duva and his advisor, assistant professor Elisa Toulson, designed and constructed a constant volume combustion chamber for use in MSU’s Alternative Fuels and Combustion Lab. The equipment investigates combustion characteristics of potential renewable and alternative fuels for internal combustion engine and gas turbine applications.

MSU Today: Glimpse

Erik Liedholm traces his roots back to his time in East Lansing … and working with Michigan State’s University Distinguished Professor Kris Berglund of the Department of Chemical Engineering, who oversees an artisan distilling program at the university.

Herald Net (Everett, Washington)

Applied Research Associates, a New Mexico engineering and tech firm, is expanding to the University Corporate Research Park to advance autonomous research in object recognition, data fusion, control systems, and artificial intelligence.

Tech Transfer Central

Xconomy

Current Students

David Ackley, a junior in computer science, is on an entrepreneurial team that is among eight finalists at SXSW for “Coolest College Startups.” They created Smart Staffing, a sort of Uber for Nurses, which helps with in-home scheduling of care.

Inc. Magazine

Alumni

Happy 100th birthday to Arthur W. Cooper of Auburn, Alabama, who received a PhD in agriculture engineering in 1956. During a long career, he visited 27 countries and served as director of the National Tillage Machinery Laboratory for the U.S. Department of Agriculture. He developed tractor cleats for the U.S. military.

Auburn Villager

Todd Dishman (MECH EGR ’02), an attorney at Brooks Kushman, has been named a 2018 Fellow of the Leadership Council on Legal Diversity. This innovative program identifies, trains, and focuses on the development of the industry’s next generation of leaders.

Automation Alley

MSU Pride Point

• March 6 – The Academy for Global Engagement has 12 new fellows, who are working to become MSU’s next
generation of international research experts.

- **March 22** – A research team led by Mahmod Haq of civil and environmental engineering created a reversible adhesive that is among the “Manufacturing Ideas to Watch.”
- **March 26** - Jeffrey Nanzer will use a $500,000, five-year NSF CAREER Award to develop dynamic antenna arrays for radar and remote sensing. Nanzer is the 15th Spartan Engineer to receive an NSF Career Award since 2010. He is the Dennis P. Nyquist assistant professor in the Department of Electrical and Computer Engineering.
- **March 28** - Lalita Udpa, professor of electrical and computer engineering, is one of only nine women in the country featured in a story on "Women in NDT" in the March edition of "Materials Evaluation," the scientific journal of the American Society for Nondestructive Testing.

Related Website: Communications contact: Patricia Mroczek