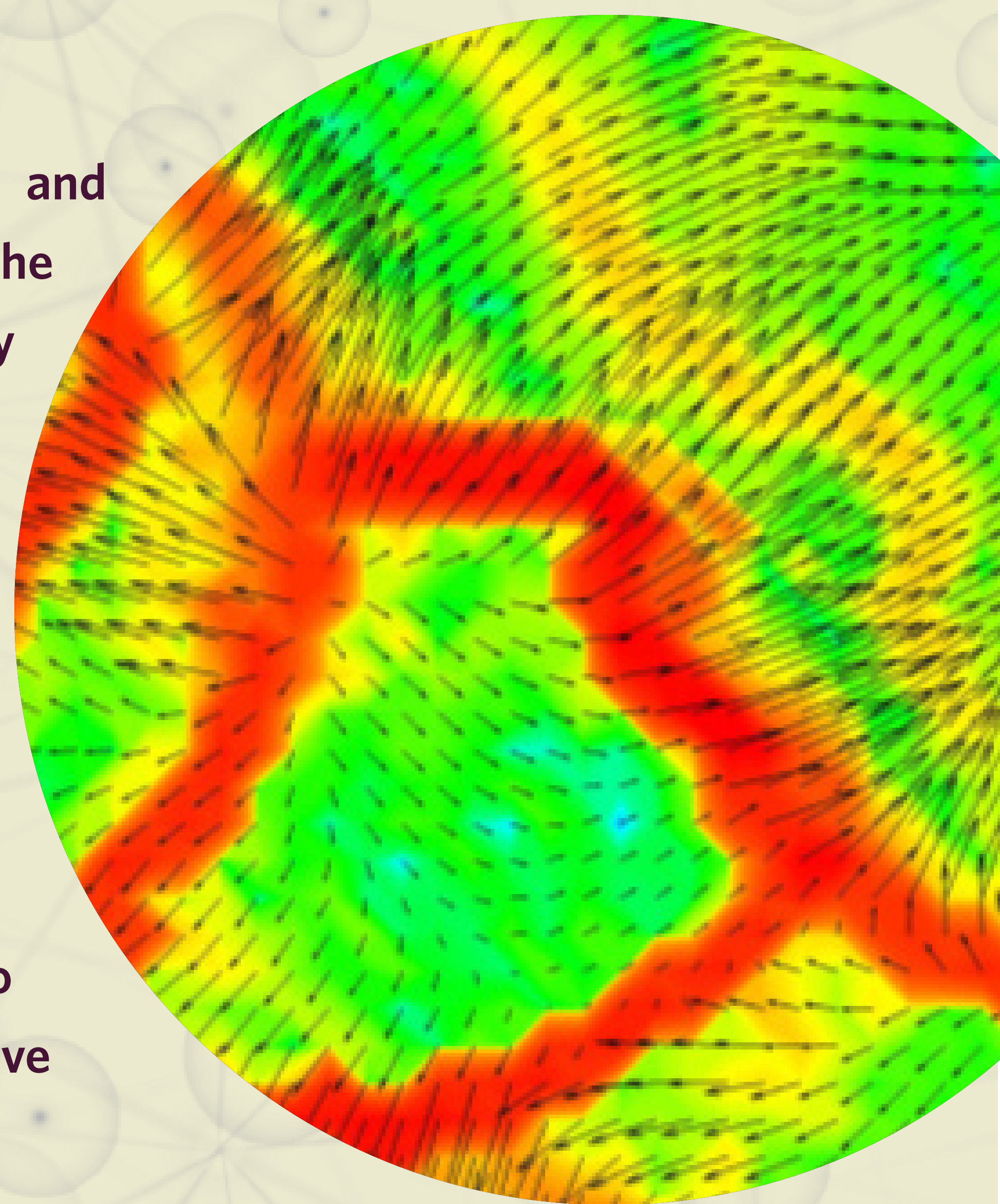


MECHANICAL ENGINEERING

Dating back more than 130 years, the Department of Mechanical Engineering offers advanced instruction and research opportunities across the cutting edge of the field. Our full range of degree programs explore an array of specialties including biomechanics, mechanics of materials, fluid mechanics, heat transfer, control and robotics, manufacturing, energy systems, microelectromechanical systems (MEMS), and nanotechnology. Through partnerships with the Lamont-Doherty Geological Laboratory, the Columbia University Medical Center, and other departments at the Engineering School, the Department strives to develop interdisciplinary expertise to confront and solve many of the great challenges of our time.



1768 John Stevens, who goes on to play an important role developing steamship and locomotive engines, as well as U.S. patent law, graduates King's College, the forerunner of Columbia.

1897 Frederick R. Hutton serves as founding chair of a new Department of Mechanical Engineering, which welcomes four students into a four-year program.

1913 On the eve of World War I, the Department begins a post-graduate program for naval officers led by Charles Edward Lucke. Franklin Roosevelt, Assistant Secretary of the Navy, later sends congratulations for helping win the war.

1941 Victor Paschkis, a pioneer of the direct analog computer, launches the Heat and Mass Flow Analyzer Laboratory. He goes on to become an outspoken nuclear critic and receive the Founders Award from ASME.



1949 After Columbia Engineering opens to women in 1942, Anna Longobardo BS'49, MS'52 is the first woman to receive a BS in mechanical engineering from Columbia. She later becomes the first woman to win the Egleston Medal for distinguished engineering achievements as an executive at Unisys Corp.

1964 Carl F. Kayan '24, a pioneer in the fields of heat transfer and refrigeration cycle technology, receives the American Society of Heating, Refrigerating and Air-Conditioning Engineers' (ASHRAE) prestigious E. K. Campbell Award.

1975 Prof. Theodore Baumeister EngScD'22, becomes editor of Marks' Standard Handbook for Mechanical Engineers, now in its 11th edition. He is awarded the Egleston Medal in 1975 for his work in metals and machinery.

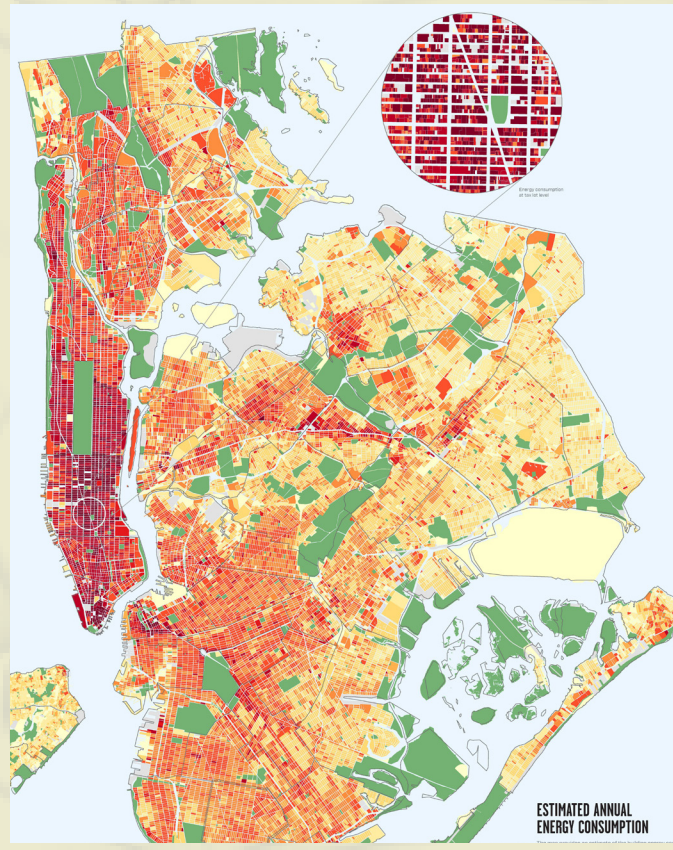
1991 W. Michael Lai world renowned researcher in constitutive modeling of articular cartilage, formulates "triphasic theory" for modeling charged hydrated biological tissues, for which he is recognized in 2001 with the ASME Lissner Medal.



of Salt Lake City's Olympic Medals Plaza in the 2002 Winter Olympics.

2002 Inventor, designer and visionary toymaker Chuck Hoberman MS'85 builds the Hoberman Arch, the striking centerpiece

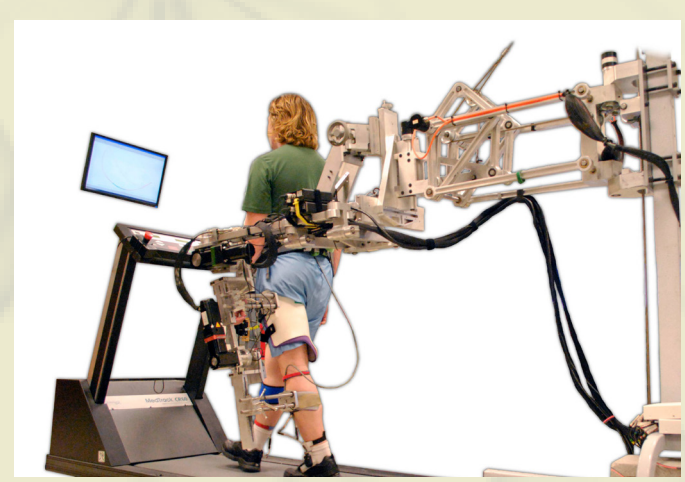
2005 Vijay Modi leads the U.N. Millennium Project's Energy Services Task Force to improve rural infrastructure and promote global development.



2007 Arvind Narayanaswamy and his research group demonstrate nano- and microscale effects in thermo-fluid conversion and electronics cooling.

2010 Xerox CEO Ursula M. Burns MS'81 is appointed Chairman, becoming the first African-American woman to lead a Fortune 500 company and, according to Forbes, one of the most powerful women in business.

2012 Chee Wei Wong, recipient of the DARPA Young Faculty Award and the NSF CAREER Award, is featured in Nature Photonics for developing graphene-silica optoelectronics that promise to enable faster, ultra-efficient devices.

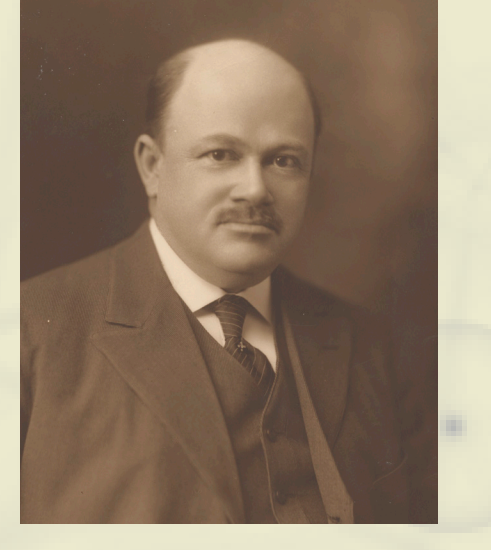


2013 Sunil K. Agrawal, recipient of a NSF Presidential Faculty Fellow Award, founds the Robotics and Rehabilitation Laboratory (ROAR) to design cutting-edge intelligent machines, such as robotic exoskeletons, to help people with neural impairment.

1882 18 years after Columbia's School of Mines opens, Frederick R. Hutton PhD '81 teaches the school's first courses in mechanical engineering.

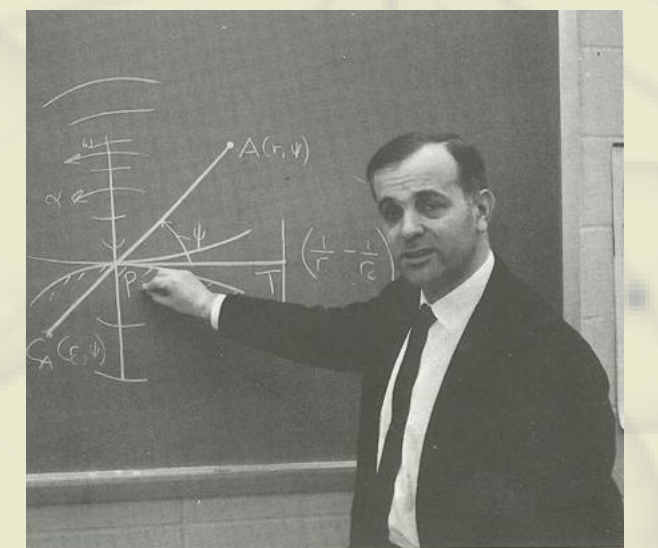


1903 Charles Edward Lucke PhD '02, an authority in internal combustion engines, joins the Department. In 48 years at Columbia, he files 120 patents and publishes extensively in power generation and engineering thermodynamics.



1963 Guy Longobardo BS'49, MS'50, PhD '62 teaches the first bioengineering course on physiological control systems. He later wins the Egleston Award for his pioneering work on unstable respiratory disorders.

1971 Prof. Dudley D. Fuller MS'46, world renowned tribologist and inventor of the hydrostatic bearing, receives the ASME Mayo D Hersey Award for research contributions in fluid lubrication and, in 1978, is awarded the Tribology Gold Medal from the Institution of Mechanical Engineers" in recognition of his research in the field of fluid lubrication."



1979 Higgins Professor Ferdinand Freudenstein, the "father of modern kinematics," is elected to the National Academy of Engineering. During his 40-year career at Columbia, he mentored many students and his academic family consists of more than 600 PhD students.

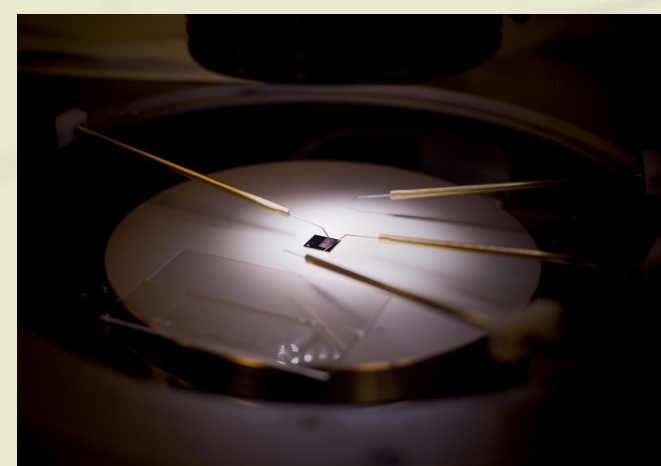
1994 Harold G. Elrod, a respected member of the Department since 1955, receives ASME's Hersey Award for his contributions to hydrodynamic lubrication and the development of compressible fluid bearings.

2001 Albert Pisano BS'76, MS'77, PhD'81 is elected to the National Academy of Engineering for his pioneering work in micro-electro-mechanical systems. He receives Egleston Medal in 2009 and goes on to become dean of the UC San Diego Jacobs School of Engineering in 2013.

2003 Gerard Ateshian BS'86, MS '87, PhD '91, head of the Musculoskeletal Biomechanics Laboratory, collaborates with Clark Hung to engineer the first human patella tissue construct.

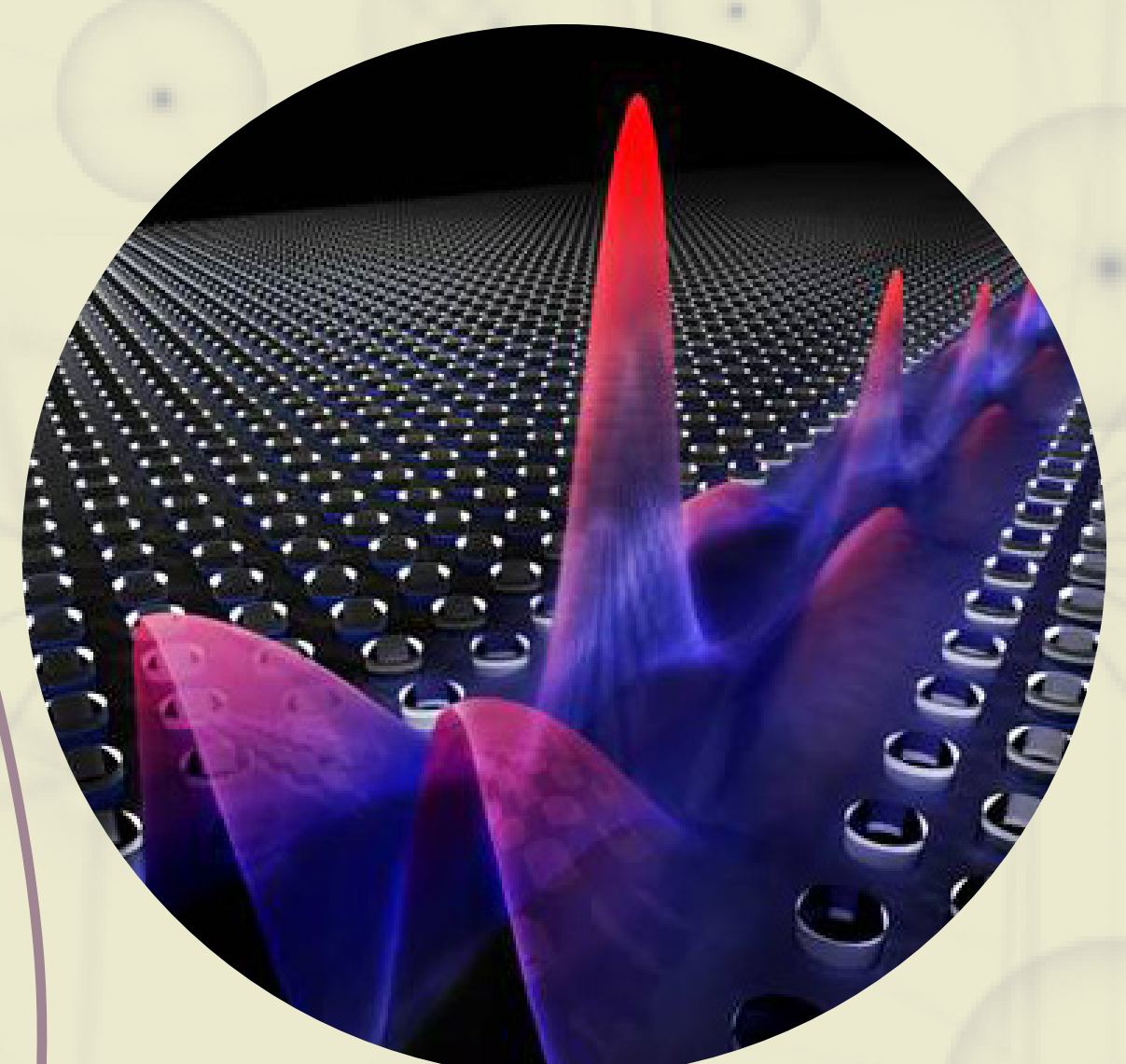
2006 Richard W. Longman receives Germany's Humboldt Award for Lifetime Research Achievements in recognition of his extensive contributions to time-optimal and high-precision robot control.

Y. Lawrence Yao, an authority in laser materials processing who directs the Advanced Manufacturing Laboratory, receives ASME's Blackall Machine Tool and Gage Award.



2008 James C. Hone and Jeffrey W. Kysar, along with their research groups, publish a widely-cited article in Science on graphene, an atomically thin carbon layer that they establish as the strongest material ever measured.

2011 Qiao Lin receives the Gold Prize at the 11th Annual Diabetes Technology Meeting for his pioneering work applying micro-electromechanical systems to glucose monitoring.



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The Fu Foundation School of Engineering and Applied Science

1864-2014