New faculty members

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The college welcomes new faculty members

One new faculty member brings skills in computational modeling to better understand heart diseases.

Another has an interest in high performance computing and applications of parallel computing.

Yet another will design for the environment, ensuring products are environmentally, economically and socially sustainable.

And another is interested in Mobile Health (mHealth), which seeks patient-centric personalized healthcare.

Here are some of the new faces and talents welcomed to the MSU College of Engineering recently.

**H. Metin Aktulga**

Hasan Metin Aktulga joined the Department of Computer Science and Engineering as an assistant professor in August 2014. His research interests are in high performance computing and applications of parallel computing.

He works on the design and development of parallel algorithms, numerical methods and software systems that can harness the full potential of state-of-the-art computing platforms to address challenging problems in large scale scientific computations and big-data analytics problems. His specific research topics include molecular modeling and simulation, computational nuclear physics, and N-body computations in machine learning.

Since 2012, his PhD work on parallel reactive molecular dynamics simulations has consistently been recognized by ScienceDirect among the Top 25 articles published in the Parallel Computing journal. His conference publications have been nominated for best paper awards at HPCS 2011 and SC 2013 conferences.

Originally from Turkey, he received his bachelor’s degree from Bilkent University (2004), and master’s (2009) and doctorate (2010) degrees from Purdue University, all in computer science. Prior to joining MSU, he was a postdoctoral researcher in the Scientific Computing Group at the Lawrence Berkeley National Laboratory.

**Annick Anctil**

Annick Anctil joined the Department of Civil and Environment Engineering as an assistant professor in August 2014. Her research focuses on designs for the environment to ensure that all stages of the life cycle of a product or system are environmentally, economically, and socially sustainable.
She uses proactive sustainability assessment to reduce the environmental impact of new technologies. Process based life-cycle assessment (LCA) is used to identify critical steps in current technologies and guide greener alternatives by combining theoretical environmental assessment and experimental work.

Evaluating the environmental impact of commercialized and future solar photovoltaics technologies constitutes the core of her research. Because solar energy is perceived as a green technology, any harmful environmental issues arising from its manufacture, use or disposal will be detrimental to solar energy’s long-term success.

In addition to photovoltaics, she has research projects related to battery, nanomaterials production, and wastewater treatment.

She earned a bachelor’s degree in materials engineering from Ecole polytechnique de Montreal (2005), and a master’s degree in materials science and engineering (2007), and a PhD in sustainability (2011) from the Rochester Institute of Technology.

**Roozbeh Dargazany**

Roozbeh Dargazany joined the Department of Civil and Environmental Engineering as an assistant professor in April 2014.

His research interests are in the area of the micro-mechanics of soft and bio-inspired materials. He is particularly interested in the mechanics of nano-composites such as elastomers, gels, biological tissues, and ultra-tough materials.

His research focuses on the understanding of the multi-scale, multi-paradigm mechanics of materials with large deformations and its implementation on development of new constitutive methods to predict the response of these materials. By incorporating concepts from structural engineering, materials science and biology, his goal is to bridge the understanding in different scales ranging from molecular to macro-scales to provide a complete picture of the hierarchical mechanisms that characterize the material performance. Development of such an understanding is fundamental in engineering of many advanced materials, structures and devices.

Prior to joining Michigan State University, he worked as the material specialist in a leading tire manufacturing company and also served as the supervisor of a research Group on polymers in RWTH Aachen University.

He received his PhD in mechanical engineering from the RWTH Aachen University in Germany and did his postdoctoral work at the Department of Material Science and Engineering at MIT.

**Shanelle Foster**
Shanelle N. Foster joined the Department of Electrical and Computer Engineering as an assistant professor in January 2014.

Her research interests include analysis, control, reliability and manufacturability of linear and rotating electric machines and drives.

From 2009 to 2013, she served as project manager in the Electrical Machines and Drives Laboratory at Michigan State University.

She earned her bachelor’s (1996), master’s (1998) and PhD (2013), from Michigan State University, all in electrical engineering.

Laura Genik

This new faculty member has a familiar face. Laura Genik’s faculty appointment moved from fixed term to continuing in fall 2014.

She joined the College of Engineering in January 2007 as a visiting faculty member in the Department of Mechanical Engineering (ME), transitioning to a fixed term appointment in ME in 2008. She was ME’s Withrow Award winner for teaching in 2012.

Recently, she has been teaching in the Applied Engineering Science degree program, as well as the Cornerstone and Residential Experience as part of the Undergraduate Studies Office.

Genik is one of only 77 in the nation selected for this year’s National Academy of Engineering’s Frontiers of Engineering Education (FOEE) symposium. Innovative educators from around the country come together for a 2 1/2-day event, where they share ideas and best practices in engineering education. The symposium is Oct. 26-29 in Irvine, Calif. She will be joined at FOEE by Carl Lira, an associate professor of chemical engineering and materials science at MSU.

Genik earned bachelor’s, master’s and PhD degrees in mechanical engineering from MSU and held faculty positions at the University of Portland and Wayne State University, prior to returning to her alma mater in fall 2014.

Anthony Ingle

Anthony Ingle joined the Department of Civil and Environmental Engineering as an instructor in January 2014.

His specialty is traffic and transportation engineering including geometric design, traffic flow and control, and traffic safety; traffic simulation modeling and applications for planning and operational decision making. His research interests include the emerging field of intelligent transportation systems (ITS) applications to transportation.

Prior to joining MSU, he worked as a project engineer for RS Engineering in Lansing for more than six years, developing roadway design projects, traffic engineering services and safety studies for the state of Michigan.

He earned a bachelor’s degree in civil engineering (2004) from MSU and a master’s degree in civil engineering (2005) from Virginia Tech.

Linos Jacovides

Linos Jacovides joined the Department of Electrical and Computer Engineering as a professor in January 2014.

His research expertise includes electric propulsion, automotive electrical systems, alternative fuels and energy.
His innovations span more than 40 years and include the development of a 1,000-horsepower induction motor drive and a 4,000 horsepower generator for locomotives. He and his team also introduced automotive electronic systems including exhaust oxygen sensors, micromechanical accelerometers, fuel injectors, electric power steering and permanent magnet motors for propulsion. The design tools he developed during the 1970s are still in use for producing drives for today’s electric/hybrid vehicles.

In June, he became the first recipient of the IEEE Transportation Technologies Award. IEEE is the world’s largest technical professional association.

Lik Chuan Lee

Lik Chuan Lee joined the Department of Mechanical Engineering as an assistant professor in August 2014.

His research interests lie broadly in computational mechanics, with a current research focus in computational cardiovascular mechanics.

Lee’s overarching research goal is to translate physics-based computational modeling to clinical medicine, in particular, to solve problems associated with cardiology. His research includes the development of predictive computational (finite element) models of the heart to simulate complex physical phenomenon, such as electromechanical coupling and tissue remodeling, as well as applying these models to further our understanding on both heart diseases and their treatments.

He earned a bachelor’s degree in mechanical engineering from the National University of Singapore (2002), a master’s degree in high performance computation for engineered systems at the Singapore-MIT Alliance Program (2003) and a PhD in mechanical engineering at the University of California Berkeley (2010).

From 2010-2014, he was a postdoctoral scholar in the Department of Surgery at the University of California, San Francisco.

Kevin Liu

Kevin J. Liu joined the Department of Computer Science and Engineering as an assistant professor in August 2014.

His research develops efficient and accurate computational algorithms and tools for large-scale comparative genomics, and then applies the insights enabled by his new approaches to create new biological and biomedical discoveries.

He received his PhD in computer science from the University of Texas at Austin, where he was supervised by Tandy Warnow in the Department of Computer Science and C. Randal Linder in the Department of Integrative Biology.

From 2011 to 2014, he was a National Institutes of Health postdoctoral fellow working with Luay Nakhleh in the Department of Computer Science and Michael H. Kohn in the Department of Ecology and Evolutionary Biology at Rice University.

Weiyi Lu

Weiyi Lu joined the Department of Civil and Environmental Engineering as an assistant professor in August 2014.

His research is focused on advanced nanomaterials and composites, new mechanisms of protection, high-strain-rate behavior of materials, and multifunctional engineering materials/structures.

Before joining MSU, he was a postdoctoral scholar in the Department of Structural Engineering at University of California - San Diego, where he received his PhD degree.
Yadu Pokhrel

Yadu Pokhrel joined the Department of Civil and Environment Engineering as an assistant professor in August 2014, with expertise in hydrology and water resources; and hydrologic and climate modeling. His research interests are focused on improving the understanding of the changes in the global/regional terrestrial water cycle in response to the combined effects of human activities and climate change. In particular, the changes in various components of the hydrological cycle, as caused directly by human activities such as reservoir operation and large-scale diversion of water, irrigation, and groundwater pumping, constitute the foundation of his research interest. The primary focus of his research is on representing these human factors into global/regional hydrologic, climate, and earth system models in order to develop integrated hydrological/water resources assessment models. He integrates various in-situ and satellite-based observations within these models to address problems related to climate change and water resources sustainability.

He earned a PhD in civil engineering (2011) at the University of Tokyo, Japan. Prior to joining MSU, he worked as a postdoctoral fellow at Hokkaido University, Japan for six months before moving to Rutgers University, where he worked as a research associate from April 2012 to March 2014 and then as an assistant research professor from April-August 2014.

Sara Roccabianca

Sara Roccabianca joined the Department of Mechanical Engineering as an assistant professor in August 2014. Her research at MSU will focus on skin mechanics, melanoma growth and remodeling. She will be working to understand the fundamental mechanisms that correlate the mechanical environment and biological process of growth in the early development of melanoma. Her goals are also to develop a micro-structurally motivated mechanical model to describe the non-linear elastic behavior of skin and develop a stress-mediated model of skin adaptive response.

Originally from Verona, Italy, she received bachelor’s and master’s degrees in civil engineering, and her PhD in mechanical engineering (2011), all from the University of Trento, Italy. Most recently, she was a postdoctoral fellow at Yale University’s Department of Biomedical Engineering, working on cardiovascular mechanics.

Mi Zhang

Mi Zhang joined the Department of Electrical and Computer Engineering as an assistant professor in August 2014.

His research interests and efforts span the areas of ubiquitous computing, mobile sensing, wearable computing, embedded systems, pattern recognition, and applied machine learning. He is particularly interested in developing intelligent mobile sensing and ubiquitous computing technologies with a special focus on health care and medical applications. His interests fit well with the fast-evolving research field of Mobile Health (mHealth), which aims to revolutionize current healthcare industry into patient-centric personalized healthcare.

He is the director of the Human Sensing Lab and a Trifecta Intellectual Leader of the Trifecta initiative at MSU. Trifecta’s goal is to catalyze interdisciplinary research to advance health research and improve health outcomes.

He earned his PhD in computer engineering from the Ming Hsieh Department of Electrical Engineering at University of Southern California and his bachelor’s in electrical engineering from Peking University. Before joining MSU, he was a postdoctoral associate in Computing and Information Science at Cornell University and has conducted research at Qualcomm Research San Diego.
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