MSU creates Academy for Global Engagement

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Five faculty members from the College of Engineering have been named among the first nine fellows of the Academy for Global Engagement at Michigan State University.

"The Global Academy involves the creation of the next generation of researchers with international engagements at Michigan State University," said Leo Kempel, acting dean of the College of Engineering. "Their development and the continued growth of interdisciplinary work is critical to meeting our long-range goals related to growing international research; building strategic partnerships; and helping to strengthen MSU's global programs."

All five fellows in the College of Engineering are assistant professors. They are:

- David Hodge, Department of Chemical Engineering and Materials Science and the Department of Biosystems and Agricultural Engineering;
- Nizar Lajnef, Department of Civil and Environmental Engineering;
- Wen Li, Department of Electrical and Computer Engineering;
- Peter Lillehoj, Department of Mechanical Engineering and
- Xiaoming Liu, Department of Computer Science and Engineering.

The College of Engineering; College of Agriculture and Natural Resources (CANR); International Studies and Programs; and the Office of the Provost joined together in the fall of 2013 to create this three-year pilot project.

The academy was designed to build a growing cohort of faculty members who will participate in global activities and view their scholarship through a global lens, said Satish Udpa, MSU executive vice president for administrative services. "Our goal is to bring more global awareness and discourse to international research and elevate MSU's global mission. We hope to utilize campus resources in international programming while we also leverage external partnerships."

Fellows engage in monthly seminars on topics related to enhancing their capabilities and networks. They will receive support in finding appropriate funding sources and help in establishing global networks of collaborators to further their research.

Read more on the five fellows from the college in the new Academy for Global Engagement:

David Hodge

Hodge's research addresses the challenges associated with the conversion and fractionation of plant cell wall

biopolymers as well as food crops to renewable energy and fuels. One theme underlying this research is how improved characterization of the chemical, structural, and physical changes to the plant cell wall and the

spectrum of compounds solubilized from the cell wall can better inform technologies for plant cell wall deconstruction and conversion to renewable fuels and chemicals.

As a Global Academy fellow, Hodge hopes to build on his research successes and his network of MSU and international collaborators in Sweden, Denmark and Germany to enhance MSU's capabilities for performing high-impact research on biomass conversion to fuels and chemicals.

Nizar Lajnef

Lajnef is interested in sensors designed for civil infrastructure and biomechanical systems as well as self-powered sensors and smart materials and systems. He is working on the design and implementation of a smart continuous-monitoring system for asphalt and concrete pavement structures as well as the design and implementation of a sub-microwatt, self-powered sensor.

As a Global Academy fellow, Lajnef hopes to investigate in-field installation procedures and check long-term performances under real field conditions. His goal is to jump start a collaboration with research groups in France that are currently testing smart sensing technologies. Another aspect of his research is related to the development of multifunctional materials as power transducers for the sensing system.

Wen Li

Li uses biomedical microelectronmechanical systems (bioMEMS) and neural engineering to develop innovative, miniaturized neuroprosthetic devices and systems for seamless interfacing with brain networks.

 In order to fully implement her research ideas, a large-scale infrastructure and synergistic collaboration across disciplines is necessary.

While Li has developed collaborations at MSU and with partners in China, Germany and Singapore, she believes the project needs broader collaborations and support at the regional, national and global levels. She hopes that the resources of the academy can help establish these. Li has a passion for international research collaborations and would like to explore collaborative opportunities at institutes in the Asian Pacific region.

Peter Lillehoj

Lillehoj's research is aimed at exploring creative solutions to current and emerging grand challenges in the 21st century including human healthcare, food/water safety, biosecurity and sustainable energy. His global research interests include the development of innovative biomedical and micro-/nanotechnologies for various applications including: point-of-care clinical diagnosis and prognosis; rapid, *in situ* biosensing and bioanalysis; and low cost sample preparation and bioprocessing.

As a fellow of the academy, Lillehoj is eager to work with academy staff members to locate new funding sources, meet with program managers and prepare grant proposals that are aligned with his international research interests as well as interacting with other fellows, which could potentially lead to future collaborations for new international research projects. His current research involves developing projects with partners in both India and Malawi.

Xiaoming Liu

Liu's research intrests focus on designing advanced algorithms for computer vision and applying them to a variety of applications. He is particularly interested in face recognition, biometrics, human sensing and visual analysis for agriculture and medical imagine analysis.

One issue that Liu would like to address in all of these areas is whether the computer can be smart enough to fully understand the visual world in the massive image and video data and extract useful information from it. Liu hopes to collaborate with a wide range of researchers in this area to find answers that will apply in the 21st century and beyond.

Four faculty members, all assistant professors from CANR, were also named to the academy as fellows. They are:

- Meredith Gore, Department of Fisheries and Wildlife
- Adam Lock, Department of Animal Science;
- Laura Schmitt Olabisi, Department of Community Sustainability;

Related Website: [The MSU Academy for Global Engagement](#)
[Read more on the fellowship program](#)
[Global Engineering](#)
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