The 2010 Kambourides Fellow: Chad Lieberman

The third-year AeroAstro graduate student has been awarded the Kambourides Fellowship in Computational Engineering

School of Engineering
February 18, 2010

Chad Lieberman

Third-year Department of Aeronautics and Astronautics graduate student Chad Lieberman has been awarded the Kambourides Fellowship in Computational Engineering. Lieberman's master's thesis introduced new methods for simultaneously reducing model size and parameter dimension in statistical inverse problems. His research focuses on the development of scalable numerical algorithms for inferring unknown physical properties using data collected in the field. Applications for his work could include nuclear waste storage planning, medical imaging and deep hydrocarbon exploration.

Lieberman's work is, "nothing short of exceptional," and a significant contribution to the field says Karen Willcox, professor of aeronautics and astronautics and co-director of the Center for Computational Engineering, which helps administer the Kambourides fellowship. Youssef Marzouk, Boeing Assistant Professor in AeroAstro, says Leiberman has "an instinct for numerical experimentation, supported by theory, which is very much in the spirit of computational engineering." Lieberman has co-published four articles, given numerous talks, was runner up for the Bavarian Graduate School of Computational Engineering (BGCE) student paper prize, and was recipient of the AeroAstro Admiral Luis de Florez Award.

The Kambourides Graduate Fellowship in Computational Engineering was established in 2008 through the generous support of Miltos Kambourides, S.B. 1996, S.M. 1997. MIT's first doctoral fellowship in computational engineering, the Kambourides Fellowship is awarded competitively based on short proposals. Emphasis is placed on fundamental research with potential long-term substantial impact on the foundations of computational engineering, and student accomplishments, quality, growth potential and communication skills. The fellowship award provides a 12-month stipend, tuition and fees; with possible renewal for a second year upon review. The fellowship is part of a series of coordinated activities across the School of Engineering in the emerging field of computational engineering.

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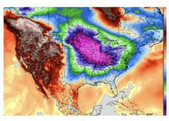

Decoding the Arctic to predict winter weather
With the help of AI, MIT Research Scientist Judah Cohen is reshaping subseasonal forecasting, with the goal of extending the lead time for predicting impactful weather.

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Meet the 2011 Kambourides Fellow

EECS graduate student Yi-Chieh Wu has been awarded the Kambourides Fellowship in Computational Engineering

Kathleen Smakula Zorzos | School of Engineering
April 27, 2011

Yi-Chieh "Jessica" Wu

Department of Electrical Engineering and Computer Science (EECS) graduate student Yi-Chieh "Jessica" Wu has been awarded the Kambourides Fellowship in Computational Engineering. Wu's research interests span a range of areas related to biological systems, including nanocrystals for drug delivery, retinal implants for the blind, genetics and genomics.

EECS Professor John L. Wyatt Jr. describes Wu as "certainly the best programmer I have ever supervised as a graduate student — a young superstar [who will be] in great demand wherever she goes."

Wu is particularly interested in topics that apply engineering tools to biological problems. Her PhD work centers on the study of computational biology, with a focus on domain evolution within the field of phylogenomics. She develops models for evolution and algorithms for reconstructing gene histories across multiple species, with a goal of discovering how genes form and function. Wu believes with the continued development of computational phylogenomic methods, researchers can address important biological questions, and in general provide a better picture of evolution at the sub-gene level while improving understanding of how new genes and functions arise. Her PhD advisor, EECS Associate Professor Manolis Kellis describes Wu's work as "distinguished in its broad range and its depth and originality" and says Wu, "has demonstrated outstanding potential and excellent capability to conduct first-rate research in developing and applying computational methods to address critical biological problems."

Wu serves on the EECS Graduate Student Association. She maintains one of the EECS blogs and has worked to address the gender gap in science, technology, engineering and mathematics (STEM) through several outreach programs, including volunteering at the Sally Ride Science Festival and teaching elementary school girls at an after-school program as part of Science Club for Girls. She has also served as a teaching assistant and tutor during the school year.

The Kambourides Graduate Fellowship in Computational Engineering was established in 2008 through the generous support of Miltos Kambourides '96, SM '97 and Marina Kambourides. The Kambourides Fellowship, MIT's first doctoral fellowship in computational engineering, is awarded competitively based on short proposals. Emphasis is placed on fundamental research with potential long-term impact on the foundations of computational engineering, as well as student accomplishments, growth potential and communication skills. The fellowship award provides a 12-month stipend, tuition and fees. It is part of a series of coordinated activities across the School of Engineering in the field of computational engineering.

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A grid-like patch sits on top of a human head. It sends blue light to a tiny part of the brain.

This new tool could tell us how consciousness works
Researchers propose a roadmap for using transcranial focused ultrasound, a noninvasive way to stimulate the brain and see how it functions.

Taylor Hampson, wearing jeans and a light jacket, sitting outdoors on concrete steps with trees and a brick building in the background

Fueling research in nuclear thermal propulsion
Master's student Taylor Hampson is modeling the behavior of an unconventional rocket engine that will heat propellant using nuclear energy.

MIT's Dome with snow and ice on the lawn in front

MIT named to prestigious 2026 honor roll for mental health services
Princeton Review recognizes MIT as one of 30 institutions with a strong commitment to mental health and well-being.

Priya Donti

3 Questions: How AI could optimize the power grid
While the growing energy demands of AI are worrying, some techniques can also help make power grids cleaner and more efficient.

Wide shot of a stage. Two presenters demonstrate a device designed for rescue divers while three others look on.

2.009 mechanical engineering students embrace "cycles"
Six MIT student teams pitched products during the annual capstone course prototype launch event.

A United States map with a brightly colored overlay highlighting temperature differences across various states and regions.

Decoding the Arctic to predict winter weather
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