BME Seminar
Friday, August 30th, 2013
ROWE 320 at Storrs & Videoconference to UCHC-Low Learning Center
12:20-1:10 pm

MEET THE NEW PROFESSORS

Yong-Jun Shin, Assistant Professor of BME/CSE
Although biological or living systems show unique features, they are fundamentally governed by the same physical laws that rule non-living systems. For example, molecular dynamics (statistical mechanics) and density functional theory (quantum mechanics) can be used to model not only carbon nanotubes but also protein or DNA molecules. However, what is often neglected is that some engineering tools can complement conventional physics-based approaches when modeling unique biological features, such as adaptation or robustness, that exhibit intelligence. Prof. Shin is interested in using various engineering tools, including adaptive filtering (e.g., the Kalman filter) and feedback control, for modeling intelligent features of biological systems.

Guoan Zheng, Assistant Professor of BME/ECE
Dr. Guoan Zheng's research focuses on the development of novel imaging solutions for addressing some contemporary biomedical challenges. His current research interests include the development of billion-pixel high-throughput imaging technology, the development of optofluidics and related lab-on-a-chip technologies, and lensless imaging solutions. He is a recipient of the Lemelson-MIT Caltech Student Prize and Caltech Demetriades Thesis Prize.

Kevin Brown, Assistant Professor of BME/CE
Dr. Kevin Brown is a systems biologist and systems neuroscientist. He studies complex biological systems, employing methodology from dynamical systems, Bayesian and nonparametric statistics, computational biology, and statistical signal processing. His work has focused heavily on inverse problems: inferring network and model structures from cellular time series measurements, protein sequences, and high-dimensional brain data. His work is strongly connected to experimental data, and he continues to have many productive collaborations with experimentalists. Although Dr. Brown is a theorist, he has substantial laboratory experience in yeast genetics and mammalian cell biology.

David Pierce, Assistant Professor of Mechanical Engineering
Dr. David Pierce studies theory, development and application of pragmatic computational methods for physical problems of practical importance using computational and experimental solid (bio) mechanics, finite element methods, applied mathematics, and corollary programming/software. His recent work focuses on the biomechanics of cartilage and arteries, and fracture prediction methodologies for single-crystal microelectromechanical systems.