The AAE Spring 2017 Colloquium Series
Presents
Planning for Information Gathering:
Formulations and Solution Schemes

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Abstract
This talk addresses planning of (networked) sensing agents to gather maximum/best possible information about the system of interest. Mutual information-based metrics that can quantify the uncertainty reduction of the quantity of interest due to the measurement choice are first introduced; several problem formulations such as sensor scheduling, active sensing, and persistent sensing are presented to represent different levels of abstraction of the decision space, followed by key solution schemes for the presented formulations. Distributed decision mechanisms based on the theory of potential games will then be presented, pointing out key challenges in this decentralization. The talk will conclude with remarks on linkage between informative planning and planning under uncertainty.

Bio
Han-Lim Choi is an Associate Professor of Aerospace Engineering at KAIST (Korea Advanced Institute of Science and Technology), and a Visiting Scholar in the School of Aeronautics and Astronautics at Purdue University. He received his B.S. and M.S. degrees in Aerospace Engineering from KAIST, Daejeon, Korea, in 2000 and 2002, respectively, and his PhD degree in Aeronautics and Astronautics from Massachusetts Institute of Technology (MIT), Cambridge, MA, USA, in 2009. He then worked at MIT as a postdoctoral associate until he joined KAIST in 2010. His current research interests include planning and control of multi-agent systems, planning and control under uncertainty, resource management in radars, and Bayesian inference for large-scale systems. He (together with Dr. Jonathan P. How) is the recipient of Automatica Applications Prize in 2011.