



Dept. of Electrical and Computer Eng.

Colloquium

Sponsor: IEEE Columbus Chapter Signal Processing Society

Waveform Design for Radar Imaging

Margaret Cheney - RPI

Friday, May 11, 3:30pm

Dreese Laboratory Room 260, 2015 Neil Avenue, OSU Campus



Abstract: Many modern radar systems generate waveforms digitally and are therefore capable of transmitting arbitrary waveforms. But which waveforms should we transmit? This talk will discuss the subtle issues involved in designing waveforms for imaging, and will outline some approaches to address this problem.

Biography: Margaret Cheney is a Professor of Mathematics at Rensselaer Polytechnic Institute. Her 1982 Ph.D. in mathematics is from Indiana University; after a postdoc at Stanford University, she spent 3 years as assistant professor at Duke University before moving to RPI. She has held visiting appointments at NYU's Courant Institute (1987-1988) at the Minnesota Institute for Mathematics and Its Applications (1994-1995 and 1997), the Berkeley Mathematical Sciences Research Institute (2001), the Naval Air Warfare Center Weapons Division (2002), the UCLA Institute for Pure and Applied Mathematics (2003), and the Air Force Research Laboratory (2007). Most of her work has been on the inverse problems that arise in quantum mechanics, acoustics, and electromagnetic theory. Cheney has received several awards, including the Office of Naval Research Young Investigator Award in 1986, a National Science Foundation Faculty Award for Women in Science and Engineering in 1990, and the Lise Meitner Visiting Professorship at Lund Institute of Technology in 2000. She was a member of the Rensselaer Impedance Imaging team that received the 1993 ComputerWorld Smithsonian award in the Medicine category. She is a Fellow of the Institute of Physics, and has served on the SIAM Board of Trustees. Dr. Cheney has served as Editor-in-Chief of the SIAM Journal of Applied Mathematics; she is currently a member of the editorial board of Inverse Problems, of the SIAM Journal on Imaging Science, and of Inverse Problems and Imaging. She has 4 patents and roughly 90 publications, and she has given over 100 research lectures in the U.S. and Europe.