

IEM SEMINAR SERIES

TUESDAY
OCTOBER 27th, 2015



Institute for
Engineering in Medicine

UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

Electrical Impedance Tomography for Functional Pulmonary Imaging

DR. JENNIFER L. MUELLER

Graduate Director
Professor, Department of Mathematics
School of Biomedical Engineering
Colorado State University



FREE event, no registration
required.

Pizza and drinks will be
provided.

12:00PM - 1:00PM
Nils Hasselmo Hall
Room 4-101

For additional information on
Dr. Mueller's presentation,
please contact:
scot0353@umn.edu

The Institute for Engineering in Medicine (IEM) is pleased to announce the upcoming IEM Seminar Series by Dr. Jennifer L. Mueller, "Electrical Impedance Tomography for Functional Pulmonary Imaging."

Electrical impedance tomography is a non-invasive, non-ionizing imaging technique for visualizing the time varying electrical properties of human tissue in vivo. In this talk, the hardware and software of the ACE 1 Electrical Impedance Imaging System at Colorado State University for pediatric pulmonary imaging will be described. Dynamic images reflecting changes in complex impedance in the lung will be shown for data collected on patients at the Children's Hospital of Colorado during tidal breathing and during pulmonary function tests. A brief introduction to the direct reconstruction algorithm behind the images will also be presented.

Dr. Jennifer Mueller is a Professor of Mathematics and Biomedical Engineering at Colorado State University. Her research interests are focused on inverse problems in medical imaging, motivated strongly by clinical applications. Her NIH supported work involves close collaborations with mathematicians, engineers, and physicians in the U.S. and abroad. She has been at Colorado State University since 2000, and founded the Electrical Impedance Imaging lab, which involves postdocs, graduate students, and undergraduates in mathematics and biomedical engineering. She serves as an associate editor of the SIAM Journal on Applied Math and is the co-chair for the 2017 SIAM Annual Meeting. She has advised ten PhD students, seven MS students, and three postdocs. She is co-author with Samuli Siltanen of the book "Linear and Nonlinear Inverse Problems with Practical Applications", SIAM, 2012.

For more information on IEM Seminar Series, visit
www.iem.umn.edu/SeminarsLectures/Seminars_index.html

