Department of Mathematical and Statistical Sciences

COLLOQUIUM ANNOUNCEMENT

Direct Image Reconstruction and Applications in Electrical Impedance Tomography

Dr. Peter Muller
Department of Mathematics and Statistics
Villanova University

2:00 p.m., Friday, March 6, 2020

Cudahy Hall, Room 401

Abstract

Electrical impedance tomography (EIT) is an imaging modality that measures currents and voltages on the surface of a body to image the electrical conductivity within the body. Image reconstruction in EIT is a severely ill-posed, nonlinear inverse problem. In this talk, I will present two direct reconstruction methods based on complex geometrical optics solutions: Calderón's method and Nachman's D-bar method. Both methods provide a point-wise reconstruction of the image. Calderón's method is a linearized approach while the D-bar method solves the fully non-linear inverse problem. I will present both methods and their ability to address clinical application concerns.
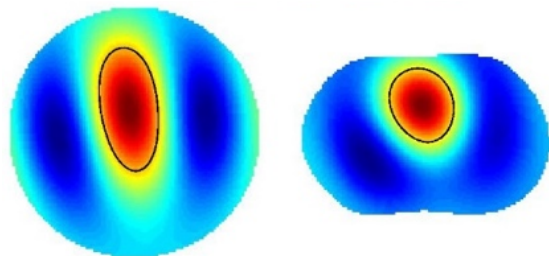
1313 W. Wisconsin Avenue, Cudahy Hall, Room 401, Milwaukee, WI 53201-1881.

For further information https://www.marquette.edu/mathematical-and-statistical-sciences/colloquium.php
or contact Dr. Sarah Hamilton at #414-288-6343, sarah.hamilton@marquette.edu

Post-Colloquium refreshments served in Room 342 after 3:00 p.m.