



Association for Women in Mathematics (AWM) at WPI

AWM Fall Seminar Series



DANIELA CALVETTI

**FRIDAY, SEPT. 21
@ 3:00 PM
in SH 202**

*Dr. Daniela Calvetti
The James Wood Williamson Professor
Department of Mathematics, Applied Mathematics and Statistics
Case Western Reserve University*

"Inverse Problems, The Brain and My Mathematical Journey"

In this talk I will outline how understanding how the human brain works requires a good understanding of inverse problems and the development of the right tools to solve them by showing how mathematics can help understand cerebral electrical activity, blood flow and metabolism. The casting of an inverse problem as a Bayesian inference problem is particularly effective in any application with a priori knowledge about the solution in qualitative rather than quantitative terms. One personal note, it was the work on the brain to convince me of the power of Bayesian inverse problems, back in the days before uncertainty quantification when probability and computational math were thought to have little to do with each other.

**Join us for pizza, drinks,
and good conversation!**

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