

NUMERICAL ANALYSIS AND SCIENTIFIC COMPUTING  
SEMINAR

*An optimal Bayesian estimator for a stochastic problem in  
Diffuse Optical Tomography*

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**Abstract:** Studying coefficient inverse problems in a stochastic setting has increasingly gained in prominence in the past couple of decades. In this talk, we will present some results that were obtained for a Bayesian estimator built from the noisy data obtained in a simplified one-parameter Diffuse Optical Tomography (DOT) Model. We establish the rate of convergence of such an estimator in the supremum norm loss and show that it is optimal. This work extends the approach proposed by Abraham and Nickl in a recent article (On Statistical Calderon problems) and applies it to the problem in DOT setting. We also present some preliminary numerical simulations in support of our theoretical findings. This is joint work with Dr. Taufiqar Khan (UNCC) and Dr. Thilo Strauss (Robert Bosch GmbH).

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MATHEMATICS  
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