



# RUTGERS - CAMDEN MATH SEMINAR

11:20 AM - 12:20 PM

MONDAY, OCTOBER 24TH, BSB-117

ALSO AVAILABLE ON ZOOM:  
[HTTPS://TINYURL.COM/9NRNVEUR](https://tinyurl.com/9nrnveur)

## Dr. Andi Q. Wang

University of Bristol



Title: Comparison of Markov chains via weak Poincaré inequalities with application to pseudo-marginal MCMC

Abstract: I will discuss the use of a certain class of functional inequalities known as weak Poincaré inequalities to bound convergence of Markov chains to equilibrium. We show that this enables the straightforward and transparent derivation of subgeometric convergence bounds. We will apply these to study pseudo-marginal methods for intractable likelihoods, which are subgeometric in many practical settings. We are then able to provide new insights into the practical use of pseudo-marginal algorithms, such as analysing the effect of averaging in Approximate Bayesian Computation (ABC) and to study the case of lognormal weights relevant to Particle Marginal Metropolis--Hastings (PMMH) for state space models. Joint work with Christophe Andrieu, Anthony Lee and Sam Power.

