CELEHS Distinguished Lecture Series 2024
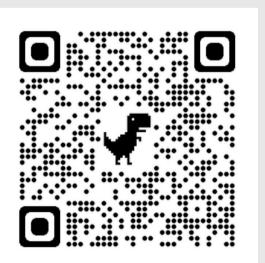
Title: Variational Approximations In Statistics Part I &Part II

Date & Time: 05/06 & 05/09 10-12 pm

Location: Countway Library room # CL1-032

Matt Wand, PhD
Distinguished Professor, University of Technology Sidney

Matt Wand is a distinguished Professor of Statistics at the University of Technology Sidney, Australia. During 1997-2022 he was an associate professor in the Department of Biostatistics at Harvard School of Public Health. He has also held faculty appoitments at Rice University, Texas A&M University, the University of New South Wales and the University of Wollongong. Professor Wand is an elected fellow of the Australian Academy of Science, the America Statistical Association and the Institute of Mathematical Statistics. He has co-authored more than 130 statistics journal articles and 10 R packages. About 40 of these papers and 3 R packages are concerned with Variational Approximations.

Variational approximations facilitate approximate inference for the parameters in complex statistical models and provide fast, deterministic alternatives to Monte Carlo methods. It is emerging as important body of methodology in an era in which data sets and models are continually becoming bigger. Much of the contemporary literature on variational approximations is in Computer Science rather than Statistics and uses terminology, notation, and examples from the former field. In this short-course we explain variational approximation in statistical terms. In particular, we illustrate the ideas of variational approximation using examples that are familiar to statisticians.

This short-course involves working through a series of mathematical and computing exercises. All of the computing exercises are in the R language, although expertise in R is not assumed. Familiarity with undergraduate-level distribution theory and matrices is assumed.

RSVP before May 1 !
"Limited seating"
Part 1 May 6
Part II May 9

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