UNIVERSITÀ DEGLI STUDI DI PADOVA

DIPARTIMENTO DI SCIENZE STATISTICHE

PHD COURSE IN STATISTICS

Specialist Course | Cycle XXXIII

March, 2018 | Campus S. Caterina

Variational Approximations in Statistics

Matt Wand

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Tuesday	**March 27**	**10.30 – 12.30**	**Asid 17**
Wednesday	**March 28**	**10.30 – 12.30**	**Asid 17**
Thursday	**March 29**	**14.30 – 16.30**	**Asid 17**

Abstract

www.stat.unipd.it/fare-ricerca/courses-201718-xxxiii-cycle

Matt Wand | *University of Technology Sydney*

Variational Approximations in Statistics

Abstract

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 continuing 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 are assumed.

Participant requirements: Computer with R installed, writing materials.