

## SEMIPARAMETRIC REGRESSION

A short course by

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### Overview

Semiparametric regression is concerned with the flexible incorporation of nonlinear functional relationships in regression analyses.

Assuming only a basic familiarity with ordinary regression, this short-course explains the techniques and benefits of semiparametric regression in a concise and modular fashion. Spline functions, linear mixed models and Bayesian hierarchical models are shown to play an important role in semiparametric regression. There will be a strong emphasis on implementation in R and BUGS. The short-course is based on the book 'Semiparametric Regression' by D. Ruppert, M.P. Wand and R.J. Carroll (Cambridge University Press, 2003).

### Schedule

#### Tuesday, 19 February, 2008

Session 1: 10:00 – 11:00 Spline smoothing and generalised additive models  
Session 2: 11:30 – 12:30 Linear mixed model approach

#### Wednesday, 20 February, 2008

Session 3: 10:00 – 11:00 Bayesian hierarchical model approach  
Session 4: 11:30 – 12:30 Additive mixed models

#### Thursday, 21 February, 2008

Session 5: 10:00 – 11:00 Bivariate smoothing  
Session 6: 11:30 – 12:30 Non-standard semiparametric regression

### About the presenter

Matt Wand is a Research Professor in Statistics at the University of Wollongong, Australia. He has held faculty appointments at Harvard University, Rice University, Texas A&M University and University of New South Wales. Professor Wand is an elected Fellow of the Institute of Mathematical Statistics and the American Statistical Association, and has served as an associate editor for 'Journal of the American Statistical Association' and 'Biometrika'. He is a winner of the P.A.P. Moran Medal for statistical research from the Australian Academy of Science.