

Victorian Centre for Biostatistics**Seminar****Thursday 28th November****9.30am to 10.30am****Seminar Room 2, Level 5****Alfred Centre****99 Commercial Road, Prahran****DEPTH: A Novel Algorithm for Feature Ranking with Application to Genome-Wide Association Studies.****Dr Enes Makalic**
Melbourne University

Variable selection is a common problem in regression modelling with a myriad of applications. This talk will present a new feature ranking algorithm (DEPTH) for variable selection in parametric regression based on permutation statistics and stability selection. DEPTH is: (i) applicable to any parametric regression model, (ii) designed to be run in a parallel environment, and (iii) adapts naturally to the correlation structure of the predictors. The empirical performance of DEPTH will then be discussed with application to a genome-wide association study of breast cancer. Here, DEPTH found evidence that there are variants in a pathway of candidate genes that are associated with a common sub-type of breast cancer, a finding which would not have been discovered by conventional analyses.

Dr Enes Makalic received the Bachelor of Computer Science (Honors) degree in 2002 and the Ph.D. degree in 2007, both from Monash University, Australia. His research interests include statistical genetics and information theoretic model selection using Minimum Message Length (MML) and Minimum Description Length (MDL) theories of statistical inference. He currently holds a Postdoctoral position with the Centre for Epidemiology and Biostatistics at the University of Melbourne.

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