Flexible Informative Rank-Based Inference

Presented by Professor Olivier Thas, Data Science Institute, I-BioStat, Hasselt University, Belgium, Department of Data Analysis and Mathematical Modelling, Ghent University, Belgium and National Institute for Applied Statistics Research Australia (NIASRA), University of Wollongong, Australia.

Half day workshop commencing 10.00am
Tuesday 4 February 2020
SMART Building 6, Room 105
University of Wollongong Campus

In this workshop Prof Thas will demonstrate how the classical rank tests, such as the Wilcoxon rank sum test, Kruskal-Wallis test, Friedman test, can be embedded within a semiparametric class of models (Probabilistic Index Models, PIM). The advantage of this approach is that the tests also come with informative parameter estimates. Another advantage of this formulation is that the models can be extended to include continuous covariates (e.g. confounders) or other design factors (e.g. blocking factor), which is generally not possible with the classical rank tests. This flexible method allows the data analyst to define a statistical model in very much the same way as defining a linear regression / anova model for a given study design. The tests that come out of our procedures are the classical rank tests and generalisations of them. Furthermore, the tests, estimators and confidence intervals have very good small sample properties. All methods have been implemented in the pim R package.

Prof Thas will introduce the basics of the methods, without going too deep into the theory, but with emphasis on building the models. Interpreting the parameters and test results, and on using the pim R package. This workshop can be seen as a modern treatment of a traditional course on nonparametric statistics that goes far beyond what was possible with the classical rank tests. Many examples will be given, and all R code will be available.

External Fee	SSAI Members	Staff or Students of UOW/ASEARC members & Retirees	NIASRA & SMAS members
$225	$200	$75	Free

Registration will include lunch and is strictly limited

To register and for further information please contact Michele Boatswain on
micheleb@uow.edu.au or visit the NIASRA website at niasra.uow.edu.au