YCCSA Seminar Series
Autumn 2019

An interdisciplinary seminar series hosted by the York Cross-disciplinary Centre for Systems Analysis aimed at researchers from all disciplines

Genes, Brains, and Ecosystems: Bayesian Networks for Biological Discovery

Dr V Anne Smith

University of St Andrews

Friday, 22 November 2019
Computer Science, CSE/102&103 at 13:30

Abstract:
Bayesian networks are a type of probabilistic graphical model; they can capture multiple types of interactions between measured variables, including stochastic and nonlinear relationships. However, often these interactions are unknown and must be learnt from observational data. Here, I present our work in developing algorithms for this task, known as the network inference problem, and in advancing Bayesian networks for use in biological systems across a range of levels of organisation: molecular, neural, and ecological. I provide examples of how we use inferred networks to enhance biological discovery across these many types of complex biological systems.

The seminar includes a refreshment break to fuel interdisciplinary discussion

Ron Cooke Hub is on Heslington East Campus – accessible by free bus services
Nos. 66 and UB1 running at frequent intervals from Heslington West.