University of Macau

Faculty of Science and Technology

Department of Computer and Information Science

Session 3: Mathematical Analysis of Metaheuristic Algorithms

Session 4: Model Selection and Fitting: What is the Best Model?

By

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Date: 27 January 2015 (Tuesday)

Time: 2:30pm – 5:00pm

Venue: E12-G003

Abstract

Topic 3:

Mathematical Analysis of Metaheuristic Algorithms

Nature-inspired metaheuristic algorithms usually work well in practice, but it is difficult to analyze them. This talk analyzes algorithms using Markov chain theory and Monte Carlo perspectives, and also highlights some issues concerning convergence and parameter tuning.

Topic 4:

Model Selection and Fitting: What is the Best Model?

For a given data set, different models can be used to explain the same dataset. Which is the best model? How to choose a suitable model among multiple models. This talk provides some rules based on information criteria and Bayesian methods for model selection.

Biography

Xin-She Yang is Reader in Computational Modelling and Simulation at School of Science and Technology, Middlesex University. He is the winner of Shaanxi Province Distinguished Talented Professorship award at Xi'an Polytechnic University in 2011. He is an Adjunct Professor of Reykjavik University, Iceland, and a Guest Professor of both Harbin Engineering University and Shandong University, China. He is also a Visiting Professor at Megatrend University Belgrade, Serbia. Before he joined Middlesex University, he was a Senior Research Scientist at UK's National Physical Laboratory and Cambridge University after obtaining his DPhil in Applied Mathematics from University of Oxford.

He has authored/edited 19 books with Wiley, Elsevier, World Scientific, Dunedin Academic and Springer, and published more than 200 papers. His h-index is 35 with more than 7776 citations. He is the Editor-in-Chief of Int. J. Mathematical Modelling and Numerical Optimization (IJMMNO, Inderscience), serves as an editorial board member of several international journals, including Elsevier's Journal of Computational Science (JoCS), ISRN-Applied Mathematics, IJAI, SJI and Int. J. Bio-Inspired Computation, and the editor of OCP Science book series. He is also the Chair of the IEEE CIS task force on Business Intelligence and Knowledge Management, and Director of International Consortium for Optimization and Modelling in Science and Industry (www.iCOMS.org). He is the Editor-in-Chief of the journal: Int. Journal of Mathematical Modelling and Numerical Optimization (IJMMNO).

All are Welcome