

**IEEE CIS Seminar Prof. Sanaz Mostaghim** Otto von Guericke University, Magdeburg, Germany



School of Engineering & Information Technology Time: 2:45pm –3:45pm, 17 May 2018 Venue: LT05 (Lecture Theatre South), UNSW Canberra

## Multi-Objective Optimization and Decision Making in Dynamic Environments

**Abstract:** This talk is about multi-objective optimization and decision-making algorithms in technical systems. It will give an overview about the design issues for multi-objective optimization algorithms using evolutionary algorithms. Moreover, the challenges of multi-objective optimization in real-time applications such as in robotics and computer games will be discussed. In most of such applications, the decision maker have to find and select one possible optimal solution in a very limited time frame. This is very challenging, when the environment dynamically changes as the decision maker needs to reoptimize and decide on the fly. Multi-objective decision making algorithms in dynamically changing environments will be addressed and applications in computer games and robotics using flying robots will be presented.



**About the speaker:** : Sanaz Mostaghim is a full professor of computer science at the Otto von Guericke University Magdeburg, Germany. She holds a PhD degree (2004) in electrical engineering from the University of Paderborn, Germany. Sanaz has worked as a postdoctoral fellow at ETH Zurich in Switzerland (2004-2006) and as a lecturer at Karlsruhe Institute of Technology (KIT), Germany (2006-2013), where she received her habilitation degree in applied computer science in 2012. Her research interests are in the area of evolutionary multi-objective optimization, swarm intelligence, and applications in robotics and science.

Sanaz is an active member of IEEE Computational Intelligence Society (CIS) and serves as a member of the CIS Administration Committee (AdCom). She is associate editor of IEEE Transactions on Evolutionary Computation, IEEE Transactions on Emerging Topics in Computational Intelligence, IEEE Transactions on Cybernetics, IEEE Transactions on Systems, Man and Cybernetics (Systems) and member of the editorial board of springer Journal on Complex and Intelligent Systems.