

The School of Mathematics, Statistics and Computer Science

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Public Research Talk

Numerical Optimization by Differential Evolution - An Introduction

by

Ponnuthurai Nagaratnam Suganthan
Nanyang Technological University, Singapore



Date:

Monday, 27 February 2017

Venue:

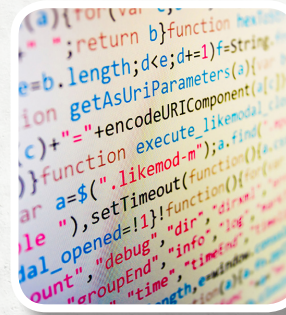
Science and Technology Education Centre, Building H1, Westville Campus

Time:

12h00 - 13h00

ENQUIRIES: Mr L. Vorster 031-2601037 or email vorsterl@ukzn.ac.za

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ABSTRACT

In this talk, some general concepts of numerical optimization will be presented. Differential evolution (DE) and its basic operators will be introduced. Superior performance of DE will be highlighted and explained. Potential generic future research directions will be presented. The context is bound constrained single objective optimization.



About the Speaker

Ponnuthurai Nagaratnam Suganthan received the B.A degree, Postgraduate Certificate and M.A degree in Electrical and Information Engineering from the University of Cambridge, UK in 1990, 1992 and 1994, respectively. After completing his PhD research in 1995, he served as a pre-doctoral Research Assistant in the Dept of Electrical Engineering, University of Sydney in 1995-96 and a lecturer in the Dept of Computer Science and Electrical Engineering, University of Queensland in 1996-99. He moved to NTU in 1999. He is an Editorial Board Member of the Evolutionary Computation Journal, MIT Press. He is an associate editor of the IEEE Trans on Cybernetics (2012 -),

IEEE Trans on Evolutionary Computation (2005 -), Information Sciences (Elsevier) (2009 -), Pattern Recognition (Elsevier) (2001 -) and Int. J. of Swarm Intelligence Research (2009 -) Journals. He is a founding co-editor-in-chief of Swarm and Evolutionary Computation (2010 -), an SCI Indexed Elsevier Journal. His co-authored SaDE paper (published in April 2009) won "IEEE Trans. on Evolutionary Computation" outstanding paper award in 2012. His former PhD student, Dr Jane Jing Liang, won the IEEE CIS Outstanding PhD dissertation award, in 2014. IEEE CIS Singapore Chapter won the best chapter award in Singapore in 2014 for its achievements in 2013 under his leadership. His research interests include swarm and evolutionary algorithms, pattern recognition, big data, deep learning and applications of swarm, evolutionary & machine learning algorithms. His SCI indexed publications attracted over 1000 SCI citations in each calendar years 2013, 2014, 2015 and 2016. He was selected as one of the highly cited researchers by Thomson Reuters in 2015 and 2016 in computer science, also known as the World's Most Influential Scientists-2015, -2016. He served as the General Chair of the IEEE SSCI 2013. He has been a member of the IEEE (S'90, M'92, SM'00, F'15) since 1990 and an elected AdCom member of the IEEE Computational Intelligence Society (CIS) in 2014-2016