

## IEEE CIS Distinguished Lecture: Evolutionary Multi-Objective Optimization using Hybrid Approaches

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**Date:** Thursday 17 August 2017

**Time:** 18:00 – 19:00 (refreshment from 17:30)

**Venue:** 14.08.07 Open Lounge (Building 14, Level 8, Room 07), RMIT City Campus

### Abstract:

The use of evolutionary algorithms for solving multi-objective optimization problems has become increasingly popular, mainly within the last 15 years. From among the several research trends that have originated in recent years, one of the most promising is the use of hybrid approaches that allow to improve the performance of multi-objective evolutionary algorithms (MOEAs). In this talk, some of the most representative research on the use of hybrid approaches in evolutionary multi-objective optimization will be discussed. The topics discussed will include multi-objective memetic algorithms, hybridization of MOEAs with gradient-based methods and with direct search methods, as well as multi-objective hyperheuristics. Some potential paths for future research in this area will also be briefly discussed.

### Biography of the speaker:

Carlos Artemio Coello Coello received a PhD in Computer Science from Tulane University (in the USA) in 1996. His PhD thesis was one of the first in a field which is now called “evolutionary multiobjective optimization”. He currently has over 450 publications which report over 34,000 citations in Google Scholar (his h-index is 74). Dr. Coello has been a Senior Research Fellow in the Plymouth Engineering Design Centre (in England) and a Visiting Professor at DePauw University (in the USA). He is currently full professor with distinction (Investigador Cinvestav 3F) at the Computer Science Department of CINVESTAV-IPN in Mexico City, Mexico.



He currently serves as associate editor of several journals, including “IEEE Transactions on Evolutionary Computation”, “Evolutionary Computation”, “Journal of Heuristics”, “Pattern Analysis and Applications”, “Applied Soft Computing” and “Computational Optimization and Applications”. He has received several national awards, including the “National Research Award” from the Mexican Academy of Science (in 2007), the “Medal to the Scientific Merit” from Mexico City’s Congress, the “Ciudad Capital: Heberto Castillo 2011 Award” in Basic Science, the “2012 Scopus Award” (Mexico’s edition), and the “2012 National Medal of Science in Physics, Mathematics and Natural Sciences” from Mexico’s Presidency (this is the most important award that a scientist can receive in Mexico). He has also received several international awards, including the prestigious “2013 IEEE Kiyoo Tomiyasu Award” and the “2016 Third World Academy of Sciences (TWAS) Award in Engineering Sciences”. Since January 2011, he is an IEEE Fellow for his “contributions to multi-objective optimization and constraint-handling techniques”.

### Further information:

Please contact Professor Xiaodong Li (email: [xiaodong.li@rmit.edu.au](mailto:xiaodong.li@rmit.edu.au); or phone: 99259585) for further information.