Seminar
Prof. Carlos A. Coello Coello (IEEE Fellow)
CINVESTAV-IPN, Mexico.

Venue: Building 15, Room 152, UNSW Canberra
Time: 2:30-3:30 pm, Tuesday 08 September 2015
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Recent Results and Open Problems in Evolutionary Multiobjective Optimization

Abstract: Evolutionary algorithms (as well as a number of other metaheuristics) have become a popular choice for solving problems having two or more (often conflicting) objectives (the so-called multi-objective optimization problems). This area, known as EMOO (Evolutionary Multi-Objective Optimization) has had an important growth in the last 15 years, and several people (particularly newcomers) get the impression that it is now very difficult to make contributions of sufficient value to justify, for example, a PhD thesis. However, a lot of interesting research is still under way. In this talk, we will review some of the research topics on evolutionary multi-objective optimization that are currently attracting a lot of interest (e.g., handling many objectives, hybridization, indicator-based selection, use of surrogates, etc.) and which represent good opportunities for doing research. Some of the challenges currently faced by this discipline will also be delineated.

Carlos Artemio Coello Coello received a PhD in Computer Science from Tulane University (USA) in 1996. He is currently full professor with distinction at CINVESTAV-IPN in Mexico City, Mexico.

He has published over 400 papers in international peer-reviewed journals, book chapters, and conferences. He has also co-authored the book "Evolutionary Algorithms for Solving Multi-Objective Problems", which is now in its Second Edition (Springer, 2007) and has co-edited the book "Applications of Multi-Objective Evolutionary Algorithms" (World Scientific, 2004). His publications currently report over 28,000 citations, according to Google Scholar (his h-index is 67).

He received the "2007 National Research Award" (granted by the Mexican Academy of Science) in the area of "exact sciences" and, since January 2011, he is an "IEEE Fellow" for "contributions to multi-objective optimization and constraint-handling techniques." He is also the recipient of the prestigious "2013 IEEE Kiyo Tomiyasu Award" and of the "2012 National Medal of Science and Arts" in the area of "Physical, Mathematical and Natural Sciences" (this is the highest award that a scientist can receive in Mexico). He also serves as associate editor of the IEEE Transactions on Evolutionary Computation, Computational Optimization and Applications, Pattern Analysis and Applications, Journal of Heuristics, Evolutionary Computation and Applied Soft Computing.

He has served as Vice-Chair and Chair of the IEEE CIS Evolutionary Computation Technical Committee and is currently the Chair of the IEEE CIS Distinguished Lecturers Committee. He was also the General Chair of the 2013 IEEE Congress on Evolutionary Computation, which took place in Cancún, Mexico.