

SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
COLLEGE OF DESIGN AND ENGINEERING

Website: <https://cde.nus.edu.sg/ece>

Area: Power and Energy Systems (PES)

Host: Prof Dipti Srinivasan

Jointly organized by:

GEMS and IEEE Computational Intelligence Society (CIS) Singapore Chapter

TOPIC	:	Towards Evolutionary Multi-Objective Machine Learning: Challenges and Promises
SPEAKER	:	Professor Carlos Artemio Coello Coello Department of Computer Science CINVESTAV-IPN, Mexico City, Mexico
DATE	:	Monday, 4 November 2024
TIME	:	11.00AM to 12.00PM
VENUE	:	E4-05-39 ECE Conference Room

ABSTRACT

This lecture will explore the intersection of evolutionary multi-objective optimization and machine learning, focusing on the potential benefits and current challenges. It will discuss how evolutionary algorithms can enhance model performance by addressing multiple competing objectives while examining scalability and the balance between exploration and exploitation. Additionally, relevant research topics for future exploration will be highlighted, including dynamic problems, high dimensionality, and expensive objective functions. The talk will also provide a broader perspective on the field, sharing insights on the necessary research to shift from merely producing models to achieving a deeper understanding of their underlying mechanisms.

BIOGRAPHY

Carlos Artemio Coello Coello received a PhD in Computer Science from Tulane University (USA) in 1996. His research has mainly focused on the design of new multi-objective optimization algorithms based on bio-inspired metaheuristics (e.g., evolutionary algorithms), which is an area in which he has made pioneering contributions. He currently has more than 590 publications, including more than 200 journal papers and 50 book chapters. His publications currently report 75,632 citations in Google Scholar. According to Scopus, Dr. Coello has 30,586 citations, excluding self-citations and citations from all his co-authors. His h-index is 104, according to Google Scholar, 75, according to Scopus, and 67, according to Clarivate Analytics (known before as ISI Web of Science). In the Shanghai Ranking's Global Ranking of Academic Subjects 2016 developed by Elsevier, he appears as one of the 300 most highly cited scientists in the world in "Computer Science", occupying the first place in Mexico.

He has received several awards, including the National Research Award (in 2007) from the Mexican Academy of Science (in the area of exact sciences) 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). Additionally, he is the recipient of the 2013 IEEE Kiyo Tomiyasu Award, of the 2016 The World Academy of Sciences (TWAS) Award in "Engineering Sciences", and of the 2021 IEEE Computational Intelligence Society Evolutionary Computation Pioneer Award. Since January 2011, he is an IEEE Fellow. He is currently the Editor-in-Chief of the IEEE Transactions on Evolutionary Computation.

He is a Full Professor with distinction at the Computer Science Department of CINVESTAV-IPN in Mexico City, Mexico.

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