Report on the visit of IEEE Computational Intelligence Society Distinguished Lecturer Professor Carlos A. Coello Coello to the Rio de Janeiro Chapter

During his visit, Professor Carlos Coello gave the first in-person lecture after the COVID-19 pandemic. Details on this event are presented below.

- **Distinguished Lecture**

  Date: November 3rd, 2022, 4:10 PM to 5:30 PM (Rio de Janeiro time)

  Organizers: Harold Dias de Mello Junior (Chair of the CIS/IEEE Rio de Janeiro Chapter) and Marley Vellasco (Vice President for Conferences)

  Location of presentation: Room 401-L of the Electrical Engineering Department at Pontifical Catholic University of Rio de Janeiro (PUC-Rio)

  Title: Recent Results and Open Problems in Evolutionary Multiobjective Optimization: A Personal Perspective

  Abstract: In this talk, some research topics that are worth exploring (from the personal perspective of the speaker) in evolutionary multiobjective optimization will be briefly discussed. Such topics include scalability of multiobjective evolutionary algorithms (both in objective and in decision variable space), indicator-based selection, hyper-heuristics, parallelism, and scalarizing functions. In the final part of the talk, some personal thoughts about the future of the field will also be briefly discussed.

  Description: This event was announced on the Rio Chapter's Website: https://r9.ieee.org/rdj-cis/cis-distinguished-lectures-program-recent-research-topics-in-multiobjective-optimization-a-personal-perspective-nov-3rd-2022-400-pm-gmt-3/

  Previously, all Chapter members were notified by e-mail.

  The event was also publicized on the Chapter's social networks and e-mail lists with the following folder:

The lecture was attended by 23 attendees, including undergraduates, graduates, professors, and researchers, of which 10 are active members of the IEEE.

In a comprehensive approach, Dr. Carlos Coello initially presented fundamental multiobjective optimization concepts to introduce the taxonomy of multiobjective evolutionary algorithms (MOEA). Basically, there are three main types of MOEAs in current use: Pareto-based MOEAs, Decomposition-based MOEAs, and Indicator-based MOEAs. Next, he explained the main limitations of these methods, the common practice of today's research, and the new ideas. He then presented recent results from work addressing scalability and parallelism. The lecture concluded with the challenges of the area.

The 60 minutes talk was very well received and gave rise to some participants' questions, with about 20 minutes of detailed answers by the DL. The Rio de Janeiro Chapter kindly thanks professor Carlos Coello and IEEE CIS DL Program.
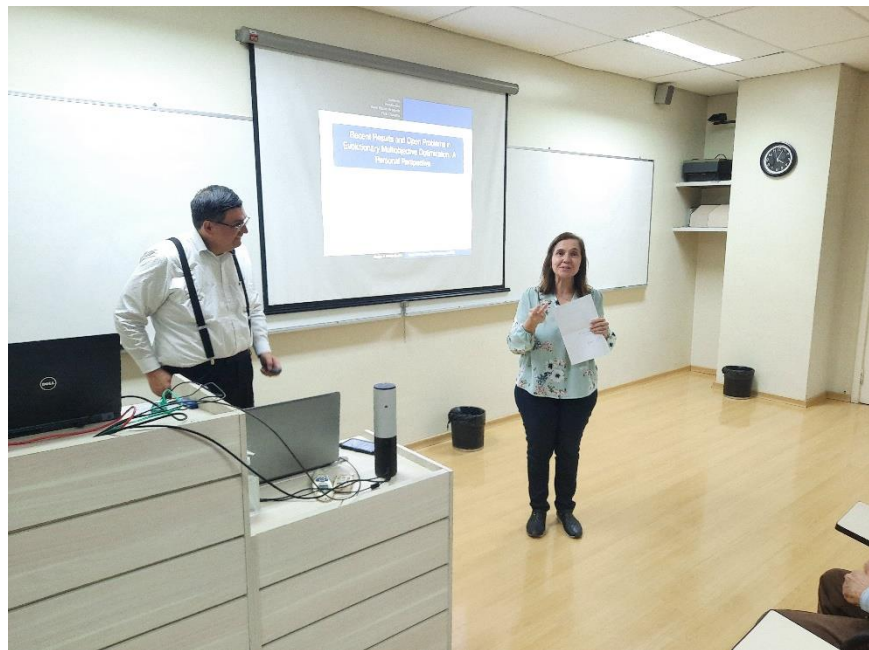
Some photos of the meeting are included below.

Professor Carlos Coello, before the talk

Some participants, before the lecture

Professor Marley introduces professor Carlos

Professor Carlos is talking.