

ISFUROS 2017 Keynote Talk

“From Decision to Optimization via Information”

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Abstract

The importance that decision-making problems and optimisation problems have in all aspects of life today is beyond all doubt. In this talk, optimisation problems are presented, principally those of Mathematical Programming, as particular cases of decision problems, which are described as a direct function of the type of information available. This becomes an essential element of the definition of a decision problem. To do so, the starting point is a General Decision Problem, understood as a sextet (X, E, I, f, \leq, K) that includes actions, states, information, rewards, order relation and the frame of conduct. Then, depending on the characteristics that each of those elements acquire, different optimisation problems arise and, particularly, those of Fuzzy Mathematical Programming: both those already known as well as other new ones in the fuzzy context.

Short Bio

José Luis Verdegay received the M.S. degree in mathematics and the Ph.D. degree in sciences from the University of Granada, Granada, Spain, in 1975 and 1981, respectively. He is a full Professor at Department of Computer Science and Artificial Intelligence (DECSAI), University of Granada, Spain, member of the Models of Decision and Optimization (MODODO) Research Group and Coordinator of the Master on Soft Computing and Intelligent Systems between University of Granada and University of Computer Sciences (Cuba). He has published twenty nine books and more than 350 scientific and technical papers in leading scientific journals, and has been Advisor of 20 Ph.D. dissertations. He has served on many international program committees and has attended numerous national and international conferences, congresses, and workshops. He has been Principal Researcher in a variety of national and international research and educational projects, and currently is leading a research project on “Models of Optimization and Decision: Applications and Solutions at 3 Different Environments” and coordinating the Ibero-American research network in Decision and Optimization models (iMODA).

He has a long experience in the evaluation of the quality of academic institutions. He has been member and President of a number of committees with the European Training Foundation and the Spanish Ministry of Education. He also is a member of the Editorial Board of several international leading journals, as for instance Fuzzy Sets and Systems, Fuzzy Optimization and Decision Making, IJUFKS or Memetic Computing. He has been Chairman of DECSAI (1990–1994), President (founder) of the Spanish Association for Fuzzy Logic and Technologies (1990–1996), Advisor for Intelligent Technologies of the Spanish Science Inter-Ministry Commission (1995–1996), Director of International Affairs at the University of Granada (1996–2000) and Delegate of the Rector for ICT in University of Granada (2008-2015).

Professor Verdegay is an IFSA fellow, IEEE Senior member and Honorary member of the Cuban Academy of Mathematics and Computation. Besides he has the Featured Position of “Invited Professor” at the Technical University of Havana (CUJAE, Cuba), Central University of Las Villas (Santa Clara, Cuba) and University of Holguín (Cuba). He is also a “Distinguished Guest” of the National University of Trujillo (Perú). His current scientific interests are on Soft Computing, fuzzy sets and systems, decision support systems, metaheuristic algorithms, nature inspired systems and all their applications to real world problems.