

## OBITUARY



Beginning 2024, we had the news of the death of **Prof. Dr. Bernd Bank**, who was member of our Editorial board.

Prof. Bernd Bank studied Applied Mechanics at the Magdeburg University of Technology, where in 1969, received his doctorate. Then he moved to the Humboldt University of Berlin. Working as a research assistant and lecturer in the mathematics section, in 1977 he completed his habilitation with a thesis on Qualitative Stability Studies of Pure and

Mixed Integer Linear Parametric Optimization Problems. From 1993 Bernd Bank held the professorship of the Chair of Mathematics and Discrete Mathematics until his retirement.

During the re-unification of Germany, he played an important role in the changes that occurred within his university and during the period 1992-1995 was First Vice President of the Humboldt University of Berlin.

During his fruitful life, Bank developed his research, mainly in Optimization and Numerical Mathematics. Bernd was visiting professor at universities of Latin America (Havana, Caracas, Montevideo), Graz, Pisa and Montreal. He also collaborated in research at Universidad de Cantabria in Santander, Buenos Aires, Mathematical Sciences Research Institute (MSRI) at the University of California, Berkeley and at the École Polytechnique in Palaiseau.

In the 70's of the last Century, perfecting Mathematical Skills was an aim of the Educational Cuban system. Primary and Secondary Schools, as well as the universities, received visiting professors from German institutions. The professors from Humboldt University promoted the research in the areas of Statistics, Optimization and Numerical Analysis. Back then, Prof. Bank supervised the doctoral thesis of the now Editor in Chief of Revista Investigación Operacional, Sira Allende in the area of Optimization. This was the beginning of the long-lasting scientific cooperation between the Optimization group he was member and the emerging Optimization group of the University of Havana. Bernd supported the development of Optimization in Cuba: he read many courses on Discrete and Parametric Optimization, supported postgraduate students, participated in international events that took place in the island, research projects and he was a member of the Program Committee of the International Conferences and Workshops on Operations Research series since their beginning, organized special session and was part of the Editorial Board of Revista Investigación Operacional since the 80s.

Bernd Bank always promoted the exchanges among Cuban and German researchers. During the challenging 90s, his support was crucial for the uninterrupted relationship between University of Havana and Humboldt University. Already retired, he still worked for fostering joint research and to this aim, he visited Cuba short before the pandemic.

It was emblematic seeing him walking into the Poey building with his splendorous large hair and black pullover. Students nicknamed him “the Beetle looking German professor”. He was a very intelligent man, able to do very good Mathematics, learn Spanish by himself and repair mechanical devices for his friends. He was very friendly, close and had a good sense of humor. Mathematics lost a distinguished mathematician and Cuba a good collaborator, a good friend.

## OBITUARY



The year ends with another terrible lost: **Prof Dr. Carlos Narciso Bouza Herrera**, secretary of *Revista Investigación Operacional* passed away on December 10<sup>th</sup>.

Carlos Bouza was born in Havana on October 29<sup>th</sup>, 1942. In 1959 he started working at the Cuban Telephone Company and few years later he started to work on the compilation of data of the, by then, nationalized enterprise. Motivated by this work, he starts the career of Mathematics of the University of Havana and specializes in Statistics. He was one of the few that in that period in Cuba worked and studied in a regular course of the University. In 1971 he got his Bachelor degree and started his long and fruitful work at the University of Havana.

Since the very beginning Bouza combined his teaching duties with research. He was one of the pioneers that in the 70s started to apply Statistics in practical problems related with sugar cane production, harvesting, etc. In 1978 he gets his Ph.D. in Statistics in Belgrade University applying sampling techniques to harvesting sampling.

As professor of the University of Havana, he was the lecturer of many bachelor and post-graduate courses on Statistics Inference, Sampling, Hypothesis test for Mathematics, Computer Scientists and Social Scientists students. He also conceived the programs of these subjects and wrote books and monographies that are still used by students and recommended by professors and researchers. Carlos Bouza also dictated courses at the University of Informatic Sciences, the University of Camaguey and the University of Cienfuegos, in Cuba and gave short courses at the Autonomous University of Guerrero, Autonomous University of Tabasco, Benemérita University of Puebla, University of Veracruz in México, Simon Bolivar University in Venezuela and University of Panamá. He has supervised more that 50 students of bachelor, master and doctoral programs. At his death, he coordinated the specialty of Probability and Statistics of the Master program of Mathematics of the University of Havana and the Statistics courses for Social Sciences and Geography. He organized the CIMPA Schol of Spatial statistics and extreme values that took place in 2017. At the University of Havana, he served as second head of the department of Applied Mathematics and member of the Doctoral committee.

As researcher, Bouza is a well-known scientist in the area of Sampling. In particular he has had important results in Ranked Set Sampling. He was visitor researcher at the Autonomous University of Guerrero, Autonomous University of Tabasco, the Benemérita University of Puebla, the Veracruzana in México, the University of Ceara in Brasil, the Simon Bolivar University in Venezuela, the University of Panamá, in Latin America; the University of La Coruña, the University of Granada, the University of Lleida, the University of Paris I, Humboldt University of Berlin, the University of Hasselt, the University of Konstance in Europe and the University of Kolkata and the Academy of Sciences of China in Asia, these last two supported by UNESCO. He gave talks at the research seminars of the University of Malaga, the University of Bergen, the University of Birmigham, the University of Hong-Kong, among others. He has also collaborated with scientists of Colombia, Chechen Republic, Yugoslavia, Oman and Jordania. Carlos has published more than 217 papers, most of them in high impact journals and had given more than 500 talks at international conferences, some of them as invited speaker. He has published an author book in Springer and was editor of other 7 research books in important topics such as human wealth fare and mathematics models applied to problems related with Covid-19. He was a member of the Scientific Council Board of the faculty until his death. He was among the founders of the Cuban Mathematical Society, now Cuban Society of

Mathematics and Computer Sciences, and member of many international societies such as the Bernoulli Society (the Netherlands), the Biometric Society (USA).

Carlos understood in the 70s the importance of inter-disciplinarity and collaboration in research. He had been part of more than 66 projects. Since their first calls he applied successfully to university and national projects. He also headed international projects with Germany, Spain, France, Belgium, China; India, Mexico and Brazil. He was also a member of research networks as the Environment Research Network of the University of Havana and coordinator of the Cuban node of the Ibero-American network of agro-bigdata and decision support systems.

Bouza conceived and coordinated until his death the Ibero-American Network of Applied Quantitative Studies (RIDECA, in Spanish). It has nodes in universities and research centers of Brazil, Colombia, Cuba, Mexico and Spain. The joint work was published in 4 research books.

Carlos organized together with his wife and colleague, Sira Allende, the series of International Conferences and Workshops on Operations Research (ICOR), since the 90s. These events were the beginning of fruitful relations that lead to the participation of Cuban students in international schools and in postgraduate programs. Many research and educational projects were born during ICOR or IWOR sessions

His job as secretary of Investigación Operacional was enormous, specially managing the correspondence of the journal. With Sira as president, their house was also an IO office. They talked among them and with other colleagues about the strategies for improving the rank of the journal. Thanks to that, the editorial board includes important specialists of applied mathematics, numbers of high level were edited, the journal was included in important databases such as Zentralblatt fuer Mathematics, MathSciNet, Copernicus and Scopus and it has also a web site in Paris 1, where the articles can be downloaded, increasing their visibility. Their goal for next year was to do the needed steps for the inclusion of IO in the Web of Sciences.

Bouza have worked for more than 50 years at the Department of Applied Mathematics. He has obtained many prizes at the Faculty and the University. He got the Medal for the Cuban Education; the Pepito Tey Medal, the Rafael María de Mendive Distinction, the Distinction for the Lifetime Scientific Work and the Frist and Second-Degree Frank País Medal, 295 Anniversary of the University of Havana Distinction for his years as professor and researcher. He is also Eméritus Professor of the University of Havana.

Bouza was not only a good professional. Those who met him knew his profound life philosophy and his cultural level. He was able to talk of the most serious topics with a fine sense of humor and give you the best advice without imposition. He shared his experience and his thoughts freely. You could have a different opinion but never quarrel to him. We will always remember the man that went to work after invasive tests and wanted to work as long as he had a life. We will always remember his optimism, his strength, his loyalty to his ideals and friends, his sense of duty. Rest in peace dear Carlos N. Bouza Herrera