

The Salesman and the Postman: Frontiers and Gateways in Combinatorial Optimization



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Abstract : Combinatorial optimization has recently witnessed new and also simultaneous applications of probability theory, information theory, algebra, geometry, number theory, semidefinite programming, etc. This lecture aims to showcase some interactions between combinatorics and other branches of mathematics and also beyond the mathematical realm or between some pillars of combinatorics itself.

The presentation plans to explore frontiers and gateways through various examples with the Traveling Salesman Problem (TSP) and the Chinese Postman Problem serving as primary threads. A potential side-effect of these explanations may be to share some concrete recent ideas related to the TSP itself, and to some other combinatorial problems, including some contributions of the lecturer.

The history of the TSP demonstrates how generic methods may predict new phenomena, stimulate the development of adapted specialized solutions, and how a synthesis of several methods finally leads to breakthroughs.

András Sebő obtained his Ph.D. from Eötvös Loránd University in 1984 and Candidate's Degree from the Hungarian Academy of Sciences in 1989. He worked at the Hungarian Academy of Sciences from 1979 to 1988, and joined the University of Grenoble in 1988, where he advanced to the position of CNRS Director of Research in 1996. He has held visiting positions at various leading institutions, including Research Institute for Discrete Mathematics in Bonn (as John von Neumann Professor), DIMACS, Fields Institute, Hausdorff Center for Mathematics, University of Waterloo, Tokyo University, and Tel Aviv University.

His research interests cover a wide spectrum of combinatorial optimization and discrete mathematics, such as algorithm design, polyhedral combinatorics, graph structures, and multicommodity flows. He has accomplished a series of fundamental results in these research areas.

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地点：中国科学院数学与系统科学研究院南楼219

主办单位：中国科学院数学与系统科学研究院应用数学研究所

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