CURRICULUM VITAE of PAOLO TOTH

Paolo Toth, born in Zara (Italy) on December 29, 1941, took his **degree in Electronic Engineering** at the University of Bologna in the academic year 1964-65.

From 1968 to 1972 and from 1972 to 1980 he was, respectively, Assistant Professor and Associate Professor of "Computer Science" at the Faculty of Engineering of the University of Bologna.

From November 1980 to October 1983 he was Full Professor of "Automatic Control" at the Faculty of Engineering of the University of Florence.

From November 1983 he is **Full Professor of "Combinatorial Optimization"** (Operational Research area) **at DEIS** (Dipartimento di Elettronica, Informatica e Sistemistica), **Faculty of Engineering of the University of Bologna**.

From August to October 1987 he was Visiting Professor of "Routing and Scheduling Problems" at the Graduate School of Industrial Administration of the Carnegie Mellon University, Pittsburgh, USA.

From January 2009 he is "Extraordinary Professor" at the Department of Logistics of the University of Stellenbosch (South Africa).

From April 2005 to November 2008 he was the Director of the PhD School in "Information Sciences and Engineering" (with about 150 PhD students) of the University of Bologna. From February 2010 to March 2011 he was the Coordinator of the PhD Course in "Automatica e Ricerca Operativa" (Automatic Control and Operational Research) of the University of Bologna.

From February 2011, he is a member of the Academic Senate of the University of Bologna.

His current **main research interests** include Operational Research and Mathematical Programming methodologies and, in particular, the design and implementation of effective exact and heuristic algorithms for Combinatorial Optimization and Graph Theory problems, and their application to real-world Transportation, Logistics, Loading, Routing, Crew Management, Railway Optimization problems.

He is author of **more than 140 papers** published in international journals and of the book "Knapsack Problems: Algorithms and Computer Implementations" (coauthor S. Martello; J. Wiley, Chichester, 1990). He is also Editor of the books "Combinatorial Optimization" (coeditors N. Christofides, A.Mingozzi, C. Sandi; J. Wiley, Chichester, 1979), "FORTRAN Codes for Network Optimization" (coeditors B. Simeone, G. Gallo, F. Maffioli, S. Pallottino; Annals of Operations Research, 1988), "Advanced Methods in Transportation Analysis" (co-editor L. Bianco; Springer, Berlin, 1996) and "The Vehicle Routing Problem" (coeditor D. Vigo, SIAM Monographs on Discrete Mathematics and Applications, Philadelphia, 2002).

On April 7, 2011, his **h-index** is **49**, his **g-index** is **95**, his number of **citations** is **9404**.

He was Chairman of the Organizing Committee of EURO VII (Seventh European Conference on Operational Research, Bologna, June 1985). He was Co-Chairman of the Program Committee of the Conference TRISTAN II (Triennial Symposium on Transportation Analysis, Capri, June 1994). He was Chairman of the Scientific Committee of the EURO Summer Institute on Locational Analysis (Tenerife, June 1995). He was Chairman of the Programme Committee of IFORS'99 (the Triennial Conference of IFORS, Beijing, China, August 1999). He was Co-Chairman of the Program Committee of ROUTE 2005 (Third International Workshop on Vehicle Routing and Intermodal Transportation, Bertinoro, Italy, June 2005). In addition, he was

member of the Program Committee and of the Organizing Committee of several national and international Conferences.

From 1982 to 1988 he was Editor in Chief of the journal “Ricerca Operativa”.

He was Area Editor for Transportation of the journal “Operations Research” for the years 2000-2002.

He is currently member of the **Editorial Boards** of the journals "Transportation Science", "Networks", "Journal of Heuristics", "Journal of the Operational Research Society", "European Journal of Operational Research", "Discrete Optimization", "Discrete Applied Mathematics", "International Transactions in Operational Research", “EURO Journal on Transportation and Logistics”, "Algorithmic Operations Research", “Journal of Operations and Logistics”, “Public Transport”, “ORiON”, “Pesquisa Operacional”.

He has been invited as Plenary Speaker at many international Conferences and Schools. In particular, in December 2008 at the ALIO-EURO Workshop in “Applied Combinatorial Optimization”, Buenos Aires, Argentina, and in December 2009 at the TRANSLOG Workshop in Renaca, Chile).

He has been involved in several research projects with foreign research centers, among which: Imperial College, London; Carnegie Mellon University, Pittsburgh, USA; Universite’ de Montreal; University of Maryland, College Park, USA; Ecole Politechnique Federale de Lausanne; Universidad de la Laguna, Spain; Universidad de Concepcion, Chile; Universidad de Buenos Aires, Erasmus University, Rotterdam; Technical University of Berlin; Universidade Federal de Rio de Janeiro; …

He is member of AIRO, INFORMS, Operational Research Society, Mathematical Programming Society.

In 2000 he was Chair of the Jury of the Dissertation Prize in Transportation Science of ORSA (currently INFORMS). In 2001, he was Chair of the EURO Gold Medal Jury. In 2006, he was Chair of the Jury of the TSL (Transportation Science and Logistics) Best Paper Award of INFORMS. In 2009, he is Chair of the EURO Distinguished Service Medal Jury. He was as well member of several international award juries.

From 1986 to 1990 he was Secretary of EURO (Association of the European Operational Research Societies).

From 1988 to 1995 he was **President of AIRO** (Italian Operational Research Society).

He was **President of EURO** for the period 1995-1996.

He was **President of IFORS** (International Federation of the Operational Research Societies) for the period 2001-2003.

At the INFORMS-CORS Meeting of Montreal, April 1998, he delivered the "**Harold Larnder Memorial Lecture**" (annual Award of CORS, the Canadian Operational Research Society, for his "Distinguished International Achievement in Operational Research").

In July 1998, he was conferred the "**EURO Gold Medal**", the highest distinction within Operational Research in Europe, “for a Remarkable Role Played in the Promotion of OR and for an Outstanding Contribution to the OR Science”.

In May 2003, the **University of Montreal** conferred him a "**Doctorate honoris causa**" in Operational Research.

In November 2005, the Transportation Science and Logistics Society of INFORMS conferred him the "**Robert Herman Lifetime Achievement Award in Transportation Science**" for "the fundamental and sustained contributions to transportation science and logistics, and the

influence on the field through writings, teaching, service, and nurturing of younger professional researchers".

In September 2006, AIRO awarded him the "**AIRO Fellowship**" for his contributions to the development of Operational Research in Italy.

In 1994 and in 1995, he was in charge of the Research Unit of DEIS - University of Bologna, winning the first prizes (60,000 Euros each) in the competitions FASTER and FARO organized by "Ferrovie dello Stato SpA" (the Italian Railway Company) and AIRO, for the design and implementation of effective heuristic algorithms for the solution of large scale Set Covering Problems and Crew Rostering Problems, respectively, arising in railway management optimization.

From 1997 to 1999 he was in charge of the CPR (Consorzio Padova Ricerche) Unit of the European Union Project EUROPE TRIO, in collaboration with "Ferrovie dello Stato SpA", for the development of effective algorithms, and the implementation of the corresponding computer codes, for the solution of the following large-scale problems: Locomotive Assignment, Crew Scheduling, Crew Rostering. The Locomotive Assignment package is currently used by TreniItalia (the Italian Train Operator Company) for the actual scheduling of the locomotives.

From 2004 to 2006 he was in charge of the Bologna University Unit of the European Union Project PARTNER (Path Allocation Reengineering of Timetable Networks for European Railways, 460,000 Euros), for the development of effective algorithms, and the implementation of the corresponding computer codes, for the solution of the Train Timetabling Problem. He was the leader of Work Package 3 (Capacity Management).

From 2005 to 2007 he was in charge of the Bologna University Unit of the European Union Project REORIENT (Implementing Change in the European Railway System, 450,000 Euros). He was the leader of Work Package 4 (Identification and Selection of Trans European Freight Corridors)

From 2005 to 2008 he was in charge of the Bologna University Unit of the European Union Project ALFA "Solution of Large Scale Real-World Combinatorial Optimization Problems", concerning the exchange of students between Latin America and Europe.

From 2006 to 2009 he was in charge of the Bologna University Unit of the European Union Project ARRIVAL (Algorithms for Robust and online Railway optimization: Improving the Validity and reliAbility of Large scale systems, 260,000 Euros).

He was as well in charge of the University of Bologna unit of several NATO, CNR and PRIN projects, and of industrial contracts (Rete Ferroviaria Italiana, Noemalife, Telesistemi Ferroviari, Mortara-Rangoni, Trenitalia, BiEsse, MAIOR, …).