Lavinia Amorosi

Curriculum Vitae

Position	PhD Student in Operational Research (Supervisor: Paolo Dell'Olmo)
Affiliation	Statistical Sciences Department, University of Rome, Sapienza, P.le Aldo Moro, 5 00185 - Rome, Italy

Education

MSc in Statistical and Decisional Sciences, *University of Rome, Sapienza*, Grade: 110/110 cum laude.

BSc in Mathematics, *University of Rome, Sapienza*, Grade: 110/110.

Clarinet Diploma, *Istituto Superiore di Studi Musicali, "G.Braga", Teramo*, Grade: 9/10.

Scientific Diploma, *Liceo Scientifico , "A.Meucci", Ronciglione*, Grade: 100/100.

Research Interests

Combinatorial Optimization

Multi-objective Programming

Network Optimization

Research Projects

2016-2019   Member of the PRIN project "Transportation and Logistics Optimization in the Era of Big and Open Data" that studies new optimization frameworks and models for transportation and logistics problems that arise from the technological advances and the data availability. Flexible on-demand transportation systems and car sharing systems are promising directions to reduce the number of cars. Coordinated routing of vehicles can reduce congestion. Carrier collaboration can reduce the number of trucks on road. Many classical logistics problems need to be revisited and new models developed to exploit the new dynamic and detailed dimensions of the information available.

2016-2017	Member of the DIAMETER Awards Project that studies new concepts, architectures and technologies in telecommunication networks by adopting lifetime-aware NDs. Differently from previous works, this project focuses on the joint design (e.g. which NDs to install) and the operation phases (e.g. how to manage power primitives for NDs) of lifetime-aware networks.
2014-2015	Member of the LIFETEL Awards Project that studies the impact of energy-savings mechanisms on the lifetime of telecommunication network devices. The goal of the project is to propose a new approach that targets the maximization of the entire network lifetime, while applying power-saving policies and with guaranteed Quality of Service for users.

Schools and Visiting Research Programs

April-June 2017	Visiting/Exchange research at the Institute of Mathematics of the University of Seville (IMUS), Seville (Spain), under the supervision of Prof. Justo Puerto.
February-July 2016	Visiting/Exchange research Management Science Program at the Lancaster University Management School (LUMS), Lancaster (UK), under the supervision of Prof. Matthias Ehrgott.
January 11-15 2016	NetOpt2016 PhD School on Network Optimization, Estoril.
September 28-October 10 2015	CO@Work PhD School on Combinatorial Optimization, Zuse Institute Berlin (ZIB), Berlin.
June 24-July 3 2015	EURO PhD School on Routing and Logistics, Department of Economics and Management, University of Brescia.
February 23-25th 2015	CINECA Course "Introduction to Parallel Computing with MPI and OpenMP", CINECA Rome.

Teaching and Academic Experience

March 2017-April 2017	University of Rome, Sapienza, Department of Statistical Sciences, Optimization Lab (4 CFU).
October 2016-January 2017	University of Rome, Sapienza, Department of Statistical Sciences, Logistic Lab (3 CFU).
October 2016-January 2017	University of Rome, Sapienza, Department of Statistical Sciences, Multi-criteria optimization Lab (3 CFU).
October 2015-January 2016	University of Rome, Sapienza, Department of Statistical Sciences, Multi-criteria optimization Lab (3 CFU).
February 2017	Workshop Organiser, together with Alberto Maria Santini (University of Bologna), of the 1st AIRO Young Workshop, on the theme "Emerging Optimization Problems on Complex Networks". Rome, 16-17 February 2017.

September 2016-March 2017	Co-supervisor for the Master Thesis (M. in Statistical and Decisional Sciences) of Sara Gioffré with title "A mathematical programming model for text information generation".
September 2016-January 2017	Co-supervisor for the Master Thesis (M. in Statistical and Decisional Sciences) of Stefania Cartolano with title "A mathematical programming model for the management of a 5G network".
September 2016-January 2017	Co-supervisor for the Master Thesis (M. in Statistical and Decisional Sciences) of Francesca Calafiore with title "A model of scheduling for the preventive maintenance of the high speed trains".
September 2016	Founder of AIRO Young, the youth chapter of the Italian Operational Research Association (AIRO).
September 2015-January 2016	Co-supervisor for the Master Thesis (M. in Statistical and Decisional Sciences) of Federico Clori with title "Experimental analysis for network flow models in telecommunications".
September 2015-January 2016	Co-supervisor for the Master Thesis (M. in Statistical and Decisional Sciences) of Tiziano Di Meglio with title "Implementation and experimentation of network design models in telecommunications".
September 2015-January 2016	Co-supervisor for the Master Thesis (M. in Statistical and Decisional Sciences) of Danila Ciufoli with title "Multi-cut problem: performance analysis in telecommunication networks".

Grants

2017	Fellowship for Ph.D research project with the title "A new approach to determine a complete set of Pareto optimal solutions for the bi-objective Minimum Spanning Tree Problem in Telecommunication Networks", granted by the University of Rome, Sapienza.
2017	3-month Fellowship for Ph.D. research project abroad granted by the University of Rome, Sapienza.
2015-17	3-year Ph.D. Fellowship won by national competitive written and oral examination and granted by the Italian Ministry for University and Research (MIUR).

Computer skills

Programming languages	C++, JAVA
Softwares	IBM CPLEX, GUROBI, SCIP, BENSOLVE, MATLAB, SAS
Operating Systems	Windows, Mac OS X, Linux

Certifications

November 2014	Certificate "SAS Certified Predictive Modeler using SAS Enterprise Miner", SAS Rome.
June 2006	European Computer Driving Licence (ECDL), Liceo Scientifico "A. Meucci" Ronciglione.

Languages

Italian	**Mothertongue**
English	**B2**

Publications

Chiaraviglio L., Amorosi L., Cartolano L., Blefari-Melazzi N., Dell'Olmo P., Shojafar M., Salsano S., "Optimal Superfluid Management of 5G Networks", 3rd IEEE Conference on Network Softwarization (IEEE NetSoft), 2017.

Amorosi L., Chiaraviglio L., Cianfrani A., Dell'Olmo P., Gutierrez J.A., Polverini M., Le Rouzic E., Listanti M., Liu W., "Lifetime-Aware ISP Networks: Optimal Formulation and Solutions", Transactions on Networking, 2017.

Amorosi L., Dell'Olmo P, Giacco G.L., "A Mathematical Programming Approach for Calendar Generation", Technical Report, DSS Sapienza University of Rome, 2016.

Amorosi L., Chiaraviglio L., Dell'Olmo P., Listanti M., "Optimal Sustainable Management of Backbone Networks", ICTON 2016 International Conference , July 2016, Trento.

Chiaraviglio L.,Amorosi L., Baiocchi A., Cianfrani A., Cuomo F., Dell'Olmo P., Listanti M., "LIFETEL: Managing the Energy-Lifetime Tradeoff in Telecommunication Networks", Communications Magazine Series on Green Communications and Computing Networks, 2016.

Amorosi L., Chiaraviglio L., Dell'Olmo P., Listanti M., "Sleep to stay alive: Optimizing Reliability in Energy-Efficient Backbone Networks, RONEXT 2015 International Workshop, July 2015, Budapest.

Amorosi L., Dell'Olmo P., Giacco G.L., "A new approach for train calendar description generation", MT-ITS 2015 International Conference, June 2015, Budapest.

Amorosi L., Dell'Olmo P., Giacco G.L, "A New Mixed Integer Linear Programming Formulation For A Maintenance Problem In Italian Railways", CASPT 2015 International Conference, July 2015, Rotterdam.