Allegato 8 alla Domanda

Versione del curriculum vitae scientifico professionale, priva di dati di cui non è opportuna la pubblicazione (dati anagrafici, codice fiscale, numero di telefono, indirizzo mail, residenza anagrafica), redatta in modo da garantire la conformità del medesimo a quanto prescritto dall'art. 4 del Codice in materia di protezione dei dati personali e dall'art. 26 del D. Lgs. 14 marzo 2013, n. 33, al fine della pubblicazione, e contrassegnata per la destinazione "ai fini della pubblicazione".

Procedura valutativa di chiamata per n. 1 posto di Ricercatore a tempo determinato RTT
Dipartimento di Scienze Statistiche
Facoltà Ingegneria dell'Informazione, Informatica e Statistica
Settore Scientifico Disciplinare MAT/09, Settore Concorsuale 01/A6
Codice Concorso 2023RTTR019
Bando emanato con D.R. n. 984/2023 del 20/04/2023

Candidata Lavinia Amorosi

Curriculum Vitae

Part I – General Information

omessi in modo da garantire la conformità del Curriculum Vitae a quanto prescritto dall'art. 4 del Codice in materia di protezione dei dati personali e dall'art. 26 del D. Lgs. 14 marzo 2013, n. 33, al fine della pubblicazione, e contrassegnata per la destinazione "ai fini della pubblicazione"

Spoken Languages	Italian (mother tongue) and English (B2 level)

Part II – Education

IIA

Type	Year	Institution	Notes (Degree, Experience,…)
University graduation	2012	Sapienza University of Rome	Bachelor in Math (Grade 110/110)
Post-graduate studies	2014	Sapienza University of Rome	Master in Statistical and Decision Sciences (Grade 110 cum laude/110)
PhD	2018	Sapienza University of Rome	PhD in Operational Research (Grade Ottimo cum laude)
Licensure	2023	Ministero dell'Università e della Ricerca	National Scientific qualification as associate professor for the disciplinary field of 01/A6 - Operations research

IIB - Courses and PhD schools

Type	Year	Institution	Notes (Degree, Experience,…)
Course	2015	CINECA	Course on "Introduction to Parallel Computing with MPI and OpenMP"
PhD School	2015	University of Brescia and EURO	"EURO PhD School on Routing and Logistics"
PhD School	2015	Zuse Institute of Berlin	PhD School on "Combinatorial Optimization at Work" (CO@work)
PhD School	2016	EURO	Winter PhD School on Network Optimization (NetOpt2016)

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
01-04-2018	31-03-2019	Sapienza University of Rome	1-year Post-doc position

08-04-2019	07-04-2022	Sapienza University of Rome	RtdA position
08-04-2022	07-04-2024	Sapienza University of Rome	2-years extension of the RtdA position

IIIB – Other Appointments

Start	End	Institution	Position
01-11-2017	31-03-2018	Consorzio Nazionale Interuniversitario per le Telecomunicazioni	5-months Researcher position

Part IV – Teaching experience

IVA – Ph.D level

Year	Institution	Lecture/Course
2020	PhD Program in Statistics Sapienza University of Rome	10 hours course "La Ricerca Operativa incontra la Statistica"
2020	PhD Program in Math University of Seville	10 hours course "Multi-Objective Optimization"
2022	PhD Program in Math, Physics and Applications, University of Salerno	10 hours course "Multi-Objective Optimization"

IVB – MBA level

Year	Institution	Lecture/Course
2017-2018	Postgraduate level II master in "Data intelligence e strategie decisionali", Sapienza University of Rome	Teaching assistant in the lab activities
2021-2023	Postgraduate level II master in "Data intelligence e strategie decisionali", Sapienza University of Rome	20 hours course on "Optimization of Complex Systems"

2022-2023	Postgraduate level II master in "Data intelligence e strategie decisionali", Sapienza University of Rome	15 hours course on "Interpretable AI"

IVC – Master level

Year	Institution	Lecture/Course
2015-2017	Master in “Scienze Statistiche” Sapienza University of Rome	Decision Support Models Lab (3 CFU)
2019-2021	Master in “Statistical Methods and Applications” Sapienza University of Rome	Module I on “Integration in Decision Modeling” for the course of "Case Studies and Statistical Consulting”
2021-2022	Master in “Scienze Statistiche” Sapienza University of Rome	- Data Driven Decision Making (6 CFU) - Data Driven Decision Making Lab (3 CFU)

IVD – Bachelor’s level

Year	Institution	Lecture of the Course
2016-2018	Bachelor in “Statistica Gestionale” Sapienza University of Rome	Logistic Lab (3 CFU)
2017-2018	Bachelor in “Computer, Control, and Management Engineering”, Sapienza University of Rome (Latina)	Operational Research (6 CFU)
2018-2019	Bachelor in “Computer, Control, and Management Engineering”, Sapienza University of Rome	Operational Research (9 CFU)
2019-2021	Bachelor in “Statistica Gestionale” Sapienza University of Rome	- Logistic Lab (3 CFU) - Operational Research Lab (3 CFU)

2020-2021	Bachelor in “Statistica Gestionale” Sapienza University of Rome	Methods and Models for Logistic (6 CFU)
2022-2023	Bachelor in “Statistica Gestionale” Sapienza University of Rome	- Operational Research (9 CFU) - Operational Research Lab (3CFU)

IVE – Supervised theses

Role	Theses Type	Number
Co-supervisor	Master	9
Supervisor	Master	2
Co-supervisor	Bachelor	3
Supervisor	Bachelor	8

Part V –Roles and Organizational Activities within the Department of Statistical Sciences – Sapienza University of Rome

Role	Description	Year
Member	“Commissione Orientamento in ingresso”	2019-2022
Member	“Commissione Internazionalizzazione”	2023
Member	“Giunta di Facoltà dell’Informazione, Informatica e Statistica – Rappresentante dei Ricercatori”	2023

Part V - Society memberberships, Conference Organization and Editorial Activities

Year	Description
2016	**Co-founder** of AIROYoung, the youth chapter of the Italian Operational Research Association (AIRO).
2017	**Workshop Organiser**, together with Alberto Maria Santini, of the 1st AIRO Young Workshop, on the theme "Emerging Optimization Problems on Complex Networks", Rome, February 16-17, 2017.
2018	**Co-founder** of EUROYoung, a group of young OR scientists from EURO member countries.
2018-2021	**Coordinator**, together with Martina Fischetti, of AIROYoung.
2019	**Chair of the Organising Committee** of the 3rd AIROYoung Workshop + 1st AIROYoung PhD school on the theme "Advanced Methods in Optimization and Data Science", Rome, March 26-29, 2019.
2019	**Member of the Organising Committee** of the 1st EURO Young Workshop, Seville, May 2-3, 2019.
2019	**Co-chair** of the AIROYoung session at EURO2019 with the title "Young Researchers in CO" for the stream Combinatorial Optimization, Dublin, June 23-26, 2019.
2020	**Member of the Organising Committee** of the 4th AIROYoung Workshop on the theme "New Advances in Optimization, Machine Learning and Data Science", Bozen, February 5-7, 2020.
2020	**Guest editor**, together with Martina Fischetti, of the special issue "The AIROYoung Experience: Operations Research for Young Enthusiasts" on Springer Nature Operations Research Forum, Vol. 1 (15), 2020.
2021	**Co-chair** of the AIROYoung session at EURO2021 with the title "(AIRO) Young Researchers in OR" for the stream Combinatorial Optimization, Athens (and online), July 11-14, 2021.
2021	**Member of the Organizing Committee** of the 1st Hybrid and the 50th AIRO International Conference in Optimization and Decision Sciences (ODS2021) on the theme "Optimization in Artificial Intelligence and Data Science", Rome, September 14-17, 2021.

2021	**Member of the Program Committee** of the 1st Hybrid and 50th AIRO International Conference in Optimization and Decision Sciences (ODS2021) on the theme "Optimization in Artificial Intelligence and Data Science", Rome, September 14-17, 2021.
2021	**Editor of the book** "Optimization in Artificial Intelligence and Data Sciences - ODS, Rome, Italy, September 14-17, 2021" of the AIRO Springer Series.
2022	**Member of the Scientific Committee** of the 11th Triennial Symposium on Transportation Analysis (TRISTAN XI), Mauritius, June 19-25, 2022.
2023	**Organizer and Chair** of the “Recent advances in pure and mixed integer multi-objective optimization” session at the "IFORS2023", 23rd Conference of the International Federation of Operational Research Societies, Santiago del Chile, July 8-11, 2023.
2023	**Workshop Organiser** of "RAMOO 2023", 10th Workshop on Recent Advances in Multi-Objective Optimization, Sapienza University of Rome, September 14, 2023.

Part VI - Awards and Honors

Year	Title
2020	Winner of the YoungWomen4OR 2020 Award.

Part VII - Conferences, Seminars and Tutorials

Year	Description
2016	**Poster session** at "ODS2016", International Conference on Optimization and Decision Science, Trieste, September 6-9, 2016.
2017	**Speaker** at the "1st AIRO Young Workshop", on the theme "Emerging Optimization Problems on Complex Networks", Rome, February 16-17, 2017.
2018	**Speaker** at the "2nd AIRO Young workshop", on the theme "Logistics Optimization and Applied Operational Research", Cosenza, March 1-2, 2018.

2018	**Speaker** at "IEEE EE2018", International Conference on Environmental Engineering, Milan, March 12-14, 2018.
2018	**Speaker** at "ODS2018", International Conference on Optimization and Decision Science, Taormina, September 10-13, 2018.
2019	**Tutorial** at the "1st AIROYoung PhD school", on the theme "Advanced Methods in Optimization and Data Science", Rome, March 26-29, 2019.
2019	**Tutorial** at the "1st EUROYoung workshop", Seville, May 2-3, 2019.
2019	**Invited lecturer** at the "Training Course on Railway Optimization", Roma Tre University, Rome, May 27, 2019.
2019	**Session chair and speaker** at "EURO2019", 30th European Conference on Operational Research, Dublin, June 23-26, 2019.
2019	**Speaker** at "INFORMS2019", Seattle, October 20-23, 2019.
2019	**Invited speaker** at NASA Ames Research Center, Mountain View (Silicon Valley, CA), October 29, 2019.
2020	**Speaker** at "IWOLOCA2020", IMUS, Seville, January 23-24, 2020.
2020	**Invited seminar** at IMUS, Seville, February 18, 2020.
2020	**Invited seminar** at IMUS, Seville, October 30, 2020.
2021	**Session chair and speaker of 2 talks (1 in the YoungWomen4OR stream)** at "EURO2021", 31st European Conference on Operational Research, Athens, July 11-14, 2021.
2021	**Speaker** at "IFORS2021", 22nd Conference of the International Federation of Operational Research Societies (online), August 22-27, 2021.
2021	**Invited speaker** at "RAMOO 2021", 8th International Workshop on Recent Advances in Multi-Objective Optimization (online), September 23, 2021.
2021	**Invited speaker** at "Machine Learning NeEDS Mathematical Optimization", November 15, 2021.

2022	**Speaker** at "MCDM2022", 26th International Conference on Multiple Criteria Decision Making, Portsmouth, June 26 – July 1, 2022.
2022	**Session chair and speaker** at "EURO2022", 32nd European Conference on Operational Research, Espoo, July 3-6, 2022.
2022	**Session organizer and speaker** at "ODS2022", 51st AIRO International Conference in Optimization and Decision Sciences, Florence, August 30 - September 2, 2022.
2023	**Invited speaker** at "3SMINLP", 3rd Sevilla MINLP Workshop, Seville, March 30-31, 2023.
2023	**Session organizer and speaker** at "IFORS2023", 23rd Conference of the International Federation of Operational Research Societies, July 10-14, 2023, Santiago del Chile.

Part VIII - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Grant value
2014-2015	Investigator in LIFETEL Sapienza Awards Project	
2016-2017	Investigator in DIAMETER Sapienza Awards Project	
2017	Principal Investigator in Sapienza project “A new approach to determine a complete set of Pareto optimal solutions for the bi-objective Minimum Spanning Tree Problem in Telecommunication Networks”	
2016-2018	Investigator in Sapienza project "Mobility and Logistic Optimization Models in the New Perspective of Big Data Paradigm"	

2016-2019	Investigator in PRIN project "Transportation and Logistics Optimization in the Era of Big and Open Data"	(Department of Statistical Sciences unit)
2018-2023	Investigator in Sapienza project “Dynamic and Bi-Criteria Network Models for Smart City Logistics”	
2019-today	Principal Investigator in Sapienza project "Combinatorial Optimization Models for Highly Hybrid Fleet Distribution Systems"	
2020-today	Investigator in Sapienza project "Models and algorithms for partitioning problems on graph"	
2022-today	Principal Investigator in Sapienza project "Eco-routing decisions based on multiple objectives and limited memory"	
2023	Investigator in PRIN project “Time-dependent optimization for sustainable transportation”	(Department of Statistical Sciences unit)

Part IX – Visiting Professor Proposals and Funding

Year	**Title**	**Grant value**
2020	Proposer for one month research visit of Prof. Matthias Ehrgott with the research project “Two-phase algorithms for multi-objective network flow problems” funded by Sapienza University of Rome	
2021	Proposer for one month research visit of Prof. Justo Puerto with the research project “Truck-Drone Arc Routing Problems (ARPs)” funded by Sapienza University of Rome	

Part X – Research Activities

XA – Research Interests

Keywords	Brief Description
Multi-objective Programming	In this area the research focuses on multi-objective optimization both for classical combinatorial (graph) problems and for real life problems properly formalized like: - design and implementation of a new exact method for the bi-objective minimum spanning tree problem - multi-objective and multi-period management problem of energy storage and flows in residential building equipped with a solar panel system - mathematical models for multi-objective management problems in 5G networks
Routing and Network Optimization	In this area the research focuses on routing problems, also with drones, and network problems in telecommunications, like: - exact formulations and tailored matheuristic algorithm for coordinating drones with mothership vehicles in arc routing problem with graphs - models of coordination of an all-terrain vehicle and a multivisit drone - lifetime optimization of telecommunication networks
Mathematical Optimization for Statistics	Mathematical modeling and solution strategies for sparse canonical correlation analysis to improve quality of the solutions
Combinatorial Optimization	In this area methods of operation research are adopted to solve real life problems like: - customized set covering problems to optimally generate trains calendar in railways - integrated high-speed rolling-stock planning and maintenance scheduling problems - optimization models for the installation planning of offshore wind farms

XB – Research Visiting Periods

Year	Description

2016	Visiting research at the Lancaster University Management School (LUMS), Lancaster (UK), under the supervision of Prof. Matthias Ehrgott, February-July 2016.
2017	Visiting research at the Institute of Mathematics of the University of Seville (IMUS), Seville (Spain), under the supervision of Prof. Justo Puerto, April-June 2017.
2020	Visiting research at the Institute of Mathematics of the University of Seville (IMUS), Seville (Spain), invited by Prof. Justo Puerto and co-financed by IMUS, January- February 2020.

Part XI – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Scientific Papers [International journals]	11	Scopus	2016	2023
Educational Papers [International journals]	1	Scopus	2021	2021
Scientific Papers [Conference Proceedings]	9	Scopus	2015	2021
Editorials	2	Scopus	2020	2022
Book chapters	1	Scopus	2022	2022

Total Impact factor	39.431
Average Impact factor per Product	3.585
Total Citations	176
Average Citations per Product	8.38
Hirsch (H) index	8
Normalized H index*	1*

*H index divided by the academic seniority (computed from the 1st year of the PhD studies which is equivalent to the year of the 1st publication).

Part XII– Reviewer activity

Referee for the following international journals:

- International Transactions in Operational Research
- Networks
- Computers and Operations Research
- Transportation Research Part C
- Computational Optimization and Applications
- Computer Communications

Part XIII–Publications

Journal papers (under review)

1. Amorosi, L., Padellini T., Puerto J., Valverde C., "A Mathematical Programming approach to Sparse Canonical Correlation" (under review on Expert Systems with Applications Journal);
2. Amorosi, L., Fischetti, M., Paradiso, R., Roberti, R., "Optimization Models for the Installation Planning of Offshore Wind Farms"(under second review on European Journal of Operations Research).

Journal papers (in preparation)

1. Amorosi, L., Ehrgott, M., Weißing, B., "A new two-phase algorithm for the bi- objective integer minimum cost flow problem";
2. Amorosi, L., De Santis M., "A criterion space search algorithm for bi-objective mixed integer linear programs";
3. Wang, J. Y. T., Watling, D. P., Amorosi, L., Ehrgott, M., "Eco-routing decisions based on multiple objectives and limited memory".

Journal papers (published or accepted for publication)

1. Amorosi, L., Puerto, J., Valverde C., "A multiple-drone arc routing and mothership coordination problem" (accepted for publication the June 18th 2023, on Computers and Operations Research Journal, **IF** 2021 5.159);
2. Amorosi, L., Dell'Olmo, P., Giacco, G.L, "An Integrated Model for High-Speed Rolling-Stock Planning and Maintenance Scheduling". Engineering Optimization, 2023. (**IF** 2021 2.5 Citations 0);
3. Amorosi, L., Puerto, J., Valverde C., "An extended model of coordination of an all-terrain vehicle and a multivisit drone". International Transaction in Operational Research, 2022. In press. (**IF** 2021 3.61 Citations 0);
4. Amorosi, L., Puerto, J., "Two-phase strategies for the bi-objective minimum spanning tree problem". International Transaction in Operational Research, 29(6), pp. 3435–3463, 2022. (**IF** 2021 3.61 Citations 0);
5. Amorosi, L., Cedola, L., Dell'Olmo, P., Lucchetta, F., "Multi-objective mathematical programming to optimally sizing and managing battery energy storage for solar photovoltaic system integration of a multi-apartment building". Engineering Optimization, 54(1), pp. 81–100, 2022. (**IF** 2021 2.5 Citations 3);
6. Amorosi, L., Puerto, J., Valverde C., "Coordinating drones with mothership vehicles: The mothership and drone routing problem with Graphs". Computers and Operations Research, 136, 105445, 2021. (**IF** 2021 5.159 Citations 9);

7. Chiaraviglio L., Amorosi L. et al., "Minimum Cost Design of UAV-based 5G Networks for Rural Coverage: Formulation and Solutions", IEEE Transactions on Green Communications and Networking, 3(4), pp. 901–918, 2019. (**IF** 2021 3.525 Citations 13);
8. Amorosi L., Chiaraviglio L., Galán-Jiménez J., "Optimal Energy Management of UAV-based 5G Networks Powered by Solar Panels and Batteries: Formulation and Solutions", IEEE Access, 7, pp. 53698–53717, 2019. (**IF** 2019 3.745 Citations 30);
9. Amorosi L., Dell'Olmo P, Giacco, G.L., "Mathematical Models for On-Line Train Calendars Generation", Computers and Operations Research, 102, pp. 1–9, 2019. (**IF** 2019 3.424 Citations 4);
10. Chiaraviglio L., Amorosi L. et al., "Optimal Management of Reusable Functional Blocks in 5G Superfluid Networks", Wiley International Journal of Network Management, 29(1), e2045, 2019. (**IF** 2019 1.338 Citations 5);
11. Chiaraviglio L., Amorosi L., Dell'Olmo P., Liu W., Gutierrez J.A., Cianfrani A., Polverini M., Le Rouzic E., Listanti M., "Lifetime-Aware ISP Networks: Optimal Formulation and Solutions", Transactions on Networking, 25(3), pp. 1924–1937, 2017. (**IF** 2017 3.11 Citations 5);
12. 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, 54(11), pp. 150–157, 2016. (**IF** 2016 10.435 Citations 2).

Conference papers and Book chapters

1. Amorosi, L., Di Rocco, L., Ferraro Petrillo, U., "Scheduling K-mers Counting in a Distributed Environment". ODS2021, International Conference on Optimization and Decision Sciences, September 2021, Rome;
2. Bosi, T., D'Ariano, A., Amorosi, L., Giacco, G.L., "A Fast and Effective Greedy Heuristic for On-line Train Calendars Generation", MT-ITS 2021 International Conference, June 2021, on-line;
3. Chiaraviglio, L., Amorosi, L., Malandrino, F., Chiasserini, C.F, Dell'Olmo, P., Casetti, C., "Optimal Throughput Management in UAV-based Networks during Disasters", IEEE International Conference on Computer Communications (INFOCOM), 2019, Paris;
4. Jimenez, J.G., Chiaraviglio, L., Amorosi, L., Blefari-Melazzi, N., "Multi-Period Mission Planning of UAVs for 5G Coverage in Rural Areas: A Heuristic Approach", IEEE International Conference on the Network of the Future, (NOF), 2018, Poznań;
5. Chiaraviglio, L., Amorosi, L. et al., "Optimal Design of 5G Networks in Rural Zones with UAVs, Optical Rings, Solar Panels and Batteries", IEEE International Conference on Transparent Optical Networks (IEEE ICTON), 2018, Bucharest;
6. Amorosi, L., Chiaraviglio, L et al. "Energy-Efficient Mission Planning of UAVs for 5G Coverage in Rural Zones", IEEE International Conference on Environmental Engineering (IEEE EE), 2018, Milano;
7. 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, Bologna;
8. Amorosi, L., Chiaraviglio, L., Dell'Olmo, P., Listanti, M., "Optimal Sustainable Management of Backbone Networks", ICTON 2016 International Conference, July 2016, Trento;
9. 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;
10. Amorosi, L., Dell'Olmo, P., Giacco, G.L., "A new approach for train calendar description generation", MT-ITS 2015 International Conference, June 2015, Budapest.

Editorials and Educational Papers

1. Amorosi, L., Fischetti, M., “The New Generation of OR Enthusiasts: the AIROYoung Experiment”, SN OPERATIONS RESEARCH FORUM, 2020;
2. Amorosi L., Dell'Olmo P., Lari I., "Optimization in Artificial Intelligence and Data Sciences”, ODS First Hybrid Conference, Rome, Italy, 46 September 14-17, 2021;
3. Amorosi L., Cavagnini R., Dal Sasso V., Fischetti M., Morandi V., Raffaele A., “Women Just Wanna Have OR: Young Researchers Interview Expert Researchers”, SN OPERATIONS RESEARCH FORUM pp. 1-14, 2021.

Technical Reports

1. Amorosi, L., Padellini T., "A Mathematical Programming approach to Sparse Canonical Correlation", Technical Report, DSS Sapienza University of Rome, 2021;
2. Amorosi, L., Puerto, J., "Two-phase strategies for the bi-objective minimum spanning tree problem", Technical Report, DSS Sapienza University of Rome, 2018;
3. Amorosi, L., Dell’Olmo, P, Giacco, G.L., "A Mathematical Programming Approach for Calendar Generation", Technical Report, DSS Sapienza University of Rome, 2016.