

# Roberto Montemanni

Curriculum Vitae et Studiorum  
(October 2021)

## PROFESSIONAL INFORMATION

Department of Science and Methods for Engineering  
University of Modena and Reggio Emilia  
Via Amendola, 2 (pad Morselli), 42122 Reggio Emilia, Italy

E-mail: roberto.montemanni@unimore.it

## PERSONAL INFORMATION



## EMPLOYMENT HISTORY

- **Full Professor** (of Operations Research)  
**Mar 2019 -**  
Department of Sciences and Methods for Engineering (DISMI)  
University of Modena and Reggio Emilia (UNIMORE), Italy
- **Professor**  
**Dec 2011 - Feb 2019**  
Department of Innovative Technologies (DTI)  
University of Applied Sciences of Southern Switzerland (SUPSI), Switzerland
- **Senior Researcher**  
**May 2007 - Feb 2019**  
Dalle Molle Institute for Artificial Intelligence (IDSIA)  
Department of Innovative Technologies (DTI)  
University of Applied Sciences of Southern Switzerland (SUPSI), Switzerland
- **External Research Advisor**  
**Nov 2014 -**  
Faculty of Informatics  
Università della Svizzera Italiana (USI), Switzerland
- **Lecturer**  
**Sep 2008 - Sep 2014**  
Faculty of Informatics  
Università della Svizzera Italiana (USI), Switzerland

- **Lecturer-Researcher (Docente-Ricercatore)**  
**Jan 2009 - Dec 2011**  
Department of Innovative Technologies (DTI)  
University of Applied Sciences of Southern Switzerland (SUPSI), Switzerland
- **Lecturer**  
**Sep 2004 – Dec 2008**  
Department of Innovative Technologies (DTI)  
University of Applied Sciences of Southern Switzerland (SUPSI), Switzerland
- **PostDoc Researcher**  
**Nov 2001 - Apr 2007**  
Dalle Molle Institute for Artificial Intelligence (IDSIA)  
Department of Innovative Technologies (DTI)  
University of Applied Sciences of Southern Switzerland (SUPSI), Switzerland

## EDUCATION

- **Ph.D. in Applied Mathematics**  
**Jan 2002**  
University of Glamorgan, United Kingdom
- **Laurea degree in Computer Science (with honors)**  
**Mar 1999**  
Alma Mater Studiorum, University of Bologna, Italy

## GRANTS / PROJECTS

- **Project leader and author of the proposal** for the project “Machine learning for Industrial Optimization”. A project of one year (2021) supported by the University of Modena and Reggio Emilia concerning the hybridization of Machine Learning and Monte Carlo sampling for industrial optimization problems. (EUR 24 000)
- **Project leader and co-author of the proposal** for the project “Machine learning and sampling-based metaheuristics for stochastic vehicle routing problems”. A Swiss National Science Foundation (SNSF) project of four years (2018-2022) concerning the hybridization of Machine Learning and Monte Carlo sampling for different optimization problems. (CHF 352 000)
- **Co-author of the proposal and investigator** for the project “SocialCar: open social transport network for urban approach to carpooling”. A Horizon 2020 EU project of three years (2015-2018) concerning the development of tools for urban mobility.
- **Co-author of the proposal and investigator** for the project “Symbiotima: human-mimetic approach to the integrated monitoring, management and optimization of a symbiotic cluster of smart production units”. A Horizon 2020 EU project of three years (2015-2018) concerning the development of tools factories interaction and optimization.
- **Project leader and co-author of the proposal** for the project “Robust Optimization for Home Health Care”. A Swiss National Science Foundation (SNSF) project of two

years (2015-2017) concerning the development of a theory for robust optimization and its applications to real problems in home health care. (CHF 122 000)

- **Co-author of the proposal** of the project “Hybrid Sampling-based metaheuristics for Stochastic Optimization Problems with Deadlines”. A Swiss National Science Foundation (SNSF) project of three years (2015-2017) concerning the development of heuristic algorithms based on Monte Carlo sampling for different optimization problems. (CHF 180 000)
- **Local project leader and co-author of the proposal** for the project “Steiner Trees for Functional Analysis in Cancer System Biology”. A Swiss National Science Foundation (SNSF) project of four years (2013-2017) concerning the development of mathematical models and algorithms for functional analysis in cancer system biology. (CHF 211 000)
- **Project leader and author of the proposal** for the project “Matheuristic approaches for robust optimization”. A Hasler Shiftung project of ten months (2013-2014) concerning the development of matheuristic methods for robust optimization. (CHF 48 000)
- **Project leader and author of the proposal** for the project “Robust Optimization II: applications and theory”. A Swiss National Science Foundation (SNSF) project of three years (2012-2015) concerning the development of a theory for robust optimization and its applications to real problems in telecommunication and transportation. (CHF 171 000)
- **Project leader and author of the proposal** for the project “Heuristics for the Design of Codes”. A Hasler Shiftung project of nine months (2012) concerning the development of heuristic approaches for coding theory problems. (CHF 50 000)
- **Project leader and author of the proposal** for the project “Robust Optimization: from theory to applications”. A Swiss National Science Foundation (SNSF) project of three years (2009-2012) concerning the development of a theory for robust optimization and its applications to real problems in telecommunication and transportation. (CHF 152 000)
- **Project leader and principal investigator** for the contract agreement “Ottimizzazione della mobilità scolastica” (“Optimization of the students mobility”) with Municipality of Capriasca (Switzerland) (2011). The work concerned the development of optimization tools to plan students mobility. (CHF 18 000)
- **Co-author of the proposal and principal investigator** for the project “EcoLogTex: Tool for Ecologic-Economic Supply Chain Analysis and Optimization in the Textile Industry”. A Swiss Innovation Promotion Agency (CTI) project of two years (2011-2013) concerning the development of a set of tools for the optimization of supply chains in the textile industry. The commercial partner is Hugo Boss Ticino SA, Coldrerio. (CHF 251 000)
- **Co-author of the proposal and investigator** for the project “WHAT IF: Wagon Handling based on Ant Theory for Intermodal Freight”. A Swiss Innovation Promotion Agency (CTI) project of two years (2010-2012) concerning the development of a commercial tool for wagons dispatching on a railway network. The commercial partner is HUPAC SA, Chiasso. (CHF 417 000)

- **Local leader** for the research collaboration on Bioinformatics between IDSIA and the National Research Council of Canada (Memorandum of Understanding dated February 2010).
- **Co-author of the proposal and principal investigator** for a contract agreement with HUPAC SA, Chiasso. The work concerned the statistical analysis of the train compositions and had a duration of 6 months, in 2009. (CHF 60 000)
- **Investigator** for the project “Approximation Algorithms for Machine Scheduling Through Theory and Experiments II”. A Swiss National Science Foundation (SNSF) project of three years (2006-2009) concerning the development of heuristic and approximation algorithms for scheduling problems.
- **Investigator** for the project “Approximation Algorithms for Machine Scheduling Through Theory and Experiments”. A Swiss National Science Foundation (SNSF) project of three years (2003-2006) concerning the development of heuristic and approximation algorithms for scheduling problems.
- **Investigator** for the project “BISON: Biology-Inspired techniques for Self Organization in dynamic Networks”. A European Commission (FET) project of three years (2003-2006) concerning the development of bio-inspired approaches for problems arising in ad-hoc and wireless sensor networks.
- **Investigator** for the project “MOSCA: Decision Support System For Integrated Door-To-Door Delivery: Planning and Control in Logistic Chain”. A European Commission (IST) project of two years (2001-2003) concerning the development of a decision support system based on exact and heuristic algorithms for optimization problems arising in transportation.
- **Investigator** (PhD student) for the project “Optimisation techniques in radio frequency assignment”. A project of two years (1999-2001) funded by the University of Glamorgan (UK) concerning the development of algorithms for some optimization problems arising in telecommunication.

## PATENTS

- I. Kwee, M. Akhmedov and **R. Montemanni**. “Method for integrating and analysing heterogeneous multi-omics data using path analysis in multilayer networks”. Submitted to Ufficio Italiano Brevetti, no 102017000125434 (pending).

## SUPERVISING ACTIVITIES

- **PhD project** “TBD”  
Jafar Jamal. University of Modena and Reggio Emilia, Nov 2019 - ?  
**Research Advisor**
- **PhD project** “Machine Learning for Combinatorial Optimization”  
Umberto Junior Mele. Università della Svizzera Italiana, Feb 2019 - ?  
**Research Advisor**
- **PhD project** “Hybrid Sampling-based metaheuristics for Stochastic Optimization Problems with Deadlines”

Xiaochen Chou. Università della Svizzera Italiana, Nov 2016 - Dec 2020

**Research Advisor**

- **PhD project** “Steiner Trees and Multilayer Networks for Functional Analysis and Integration of High-throughput Omics Data in Cancer Systems Biology”  
Murodzhon Akhmedov. Università della Svizzera Italiana, Sep 2013 - Oct 2018  
**Research Advisor**
- **PhD project** “Robust Optimization: applications and theory”  
Thi Viet Ly Nguyen. Università della Svizzera Italiana, Apr 2013 - Apr 2019  
**Research Advisor**
- **PhD project** “Efficient combinatorial optimization algorithms for logistic problems”  
Vassilis Papapanagiotou. Università della Svizzera Italiana, Aug 2012 - Sep 2018  
**Research Co-advisor**
- **PhD project** “Robust Optimization: from theory to applications”  
Nihat Engin Toklu. Università della Svizzera Italiana, Oct 2009 - Nov 2014  
**Research Co-advisor**
- **PhD project** “Stochastic Vehicle Routing Problems: Optimization Methods based on Monte Carlo Sampling and Theoretical Foundations”  
Dennis Weyland. Università della Svizzera Italiana, Aug 2009 - May 2013  
**Research Co-advisor**
- **Master project** “A decision support tool for the exploration of the optimization space of a green supply chain”  
Nicola Vermes, Università della Svizzera Italiana, 2014 (Final mark: 8.0/10)  
**Co-supervisor**
- **Master project** “Matheuristics for the Sequential Ordering Problem”  
Marco Mojana, Università della Svizzera Italiana, 2011 (Final mark: 10.0/10)  
The work received a mention of honors as one of the best projects of the academic year  
**Co-supervisor**
- **Master project** “Metaheuristics for the construction of constant weight binary codes”  
Indusha Neelakandan, Università della Svizzera Italiana, 2010 (Final mark: 10.0/10)  
**Supervisor**
- **Master project** “DNA strands design with thermodynamic constraints”  
Athos Ghiggi. Università della Svizzera Italiana, 2010 (Final mark: 9.5/10)  
**Supervisor**
- **Master project** “Metaheuristics for DNA codes design”  
Nikhil Koul. Università della Svizzera Italiana, 2010 (Final mark: 8.0/10)  
**Co-supervisor**
- **Bachelor project** “Vehicle Routing per l’ambiente” (“Vehicle routing for the environment”)  
Alessio Gurnari, University of Applied Sciences of Southern Switzerland, 2014 (Final mark: 5.0/6)  
**Co-supervisor**

- **Bachelor project** “Uno strumento per l’ottimizzazione delle catene logistiche” (“An optimization tool for supply chain optimization”)
 

Fabio Mastromatteo, University of Applied Sciences of Southern Switzerland, 2013 (Final mark: 6.0/6; TalenThesis prize for the best Bachelor thesis)

**Co-supervisor**
- **Bachelor project** “Mobilità scolastica” (“Students mobility”)
 

Catia Guidi, University of Applied Sciences of Southern Switzerland, 2011 (Final mark: 5.0/6)

**Co-supervisor**
- **Bachelor project** “General Scheduling Problems”
 

Fabio Crivaro, University of Applied Sciences of Southern Switzerland, 2007

**Co-supervisor**
- **Bachelor project** “General Vehicle Routing Problems”
 

Daniele Albani, University of Applied Sciences of Southern Switzerland, 2007

**Co-supervisor**
- **Bachelor project** “Interfaccia WEB per progetto MOSCA” (“WEB interface for the MOSCA project”)
 

Andrea Cauzza, University of Applied Sciences of Southern Switzerland, 2002

**Co-supervisor**
- **Term project** “Algoritmi per l’ordinamento sequenziale con vincoli di precedenza” (“Algorithms for the sequential ordering problem”)
 

Diego Frei and Filip Klisic, University of Applied Sciences of Southern Switzerland, 2006

**Co-supervisor**
- **Research activities** of the SUPSI/DTI Lecturer-Researcher Janos Barta.
 

University of Applied Sciences of Southern Switzerland, Sep 2004 - Dec 2011, Sep 2012-?

**Coordinator**
- **Research visit** of Prof. Gloria Cerasela Crisan, University of Bacau, Romania
 

Project “Large area transportation models with GIS features”. Jan 2017- Feb 2017

**Coordinator**
- **Research visit** of Dr. Valeria Leggieri, Università del Salento, Italy
 

Project “Exact algorithms for minimum power multicast in wireless sensor networks”. Dec 2008- Feb 2009

**Coordinator**

## **SIGNIFICANT INVITED EVENTS**

### **Visiting Professor**

- South China University of Technology (SCUT), School of Computer Science & Engineering
 

Guangzhou (China), March-April 2015

## Keynote addresses

- Machine Learning and Optimisation in Logistics  
ICITT 2019, The 3rd International Conference on Intelligent Traffic and Transportation  
Amsterdam (The Netherlands), Sep 2019
- Machine Learning, Algorithms and Logistics  
ICTLE 2019, The 7th International Conference on Traffic and Logistic Engineering  
Paris (France), Aug 2019
- ICT and AI for healthcare and rescuing technologies  
ICTSST 2019, The International Conference on Tourism and Social Support Technologies  
Lamego (Portugal), Mar 2019
- Integrating Carpooling into Existing Mobility and Public Transportation Systems  
ICITT 2018, The 2nd International Conference on Intelligent Traffic and Transportation  
Stockholm (Sweden), Sep 2018
- On the integration of Carpooling into Existing Mobility and Public Transportation Systems  
ICTLE 2018, The 6th International Conference on Traffic and Logistic Engineering  
Bangkok (Thailand), Aug 2018
- Decision making under uncertainty in the transportation sector  
ICITT 2017, The International Conference on Intelligent Traffic and Transportation  
Zurich (Switzerland), Sep 2017
- SocialCar: integrating carpooling into existing mobility and public transportation systems  
ICTTE 2017, The 6th International Conference on Traffic and Transportation Engineering  
Honk Kong (Hong Kong), Jul 2017
- Robustness and matheuristics: a study on vehicle routing problems  
ICTTE 2016, The 5th International Conference on Traffic and Transportation Engineering  
Luzern (Switzerland), Jul 2016
- ICT for Healthcare: challenges and solutions  
IEEE ICOICT 2016, The 4th International Conference on Information and Communication Technology  
Bandung (Indonesia), May 2016
- Robustness and Matheuristics: a study on vehicle routing problems  
ICAOR 2015, The 7th International Conference on Applied Operations Research  
Vienna (Austria), July 2015
- The traveling salesmen problem with precedence constraints: theory and practice  
ICTTE 2015, The 4th International Conference on Traffic and Transportation Engineering  
Madrid (Spain), May 2015

- Vehicle Routing and Ant Colonies  
ICTTE 2014, The 3rd International Conference on Traffic and Transportation Engineering  
Lisbon (Portugal), Apr 2014
- Ant Colonies and Vehicle Routing  
FORS40, Finnish Operations Research Society 40th Anniversary Workshop  
Lappeenranta (Finland), Aug 2013
- Scheduling problems with precedence constraints: models and algorithms  
ESM 2012, 26th European Simulation and Modelling Conference  
Essen (Germany), Oct 2012
- Ant Colony Optimization: Theory and Application to Vehicle Routing Problems  
ICAOR 2012, 4th International Conference on Applied Operational Research  
Bangkok (Thailand), Jul 2012

## **Tutorials**

- Optimization approaches for the design of DNA codes  
IEEE ICOICT 2016, The 4th International Conference on Information and Communication Technology  
Bandung (Indonesia), May 2016
- Transmission power optimization in wireless sensor networks: models and algorithms  
MobiCONA 2012, 2nd Annual Conference on Mobile Communication, Networking and Applications  
Singapore, Jun 2012
- Metaheuristic algorithms: theory and applications (with Prof. L.M. Gambardella)  
ACM-SAC 2012, ACM Symposium on Applied Computing  
Riva del Garda (Italy), Mar 2012

## **Seminars**

- Machine Learning and Monte Carlo sampling for the Probabilistic Orienteering Problem  
University of Brescia, Dipartimento di Economia e Management  
Brescia (Italy), Oct 2018
- SocialCar: integrating carpooling into existing mobility and public transportation systems  
Future Cities Laboratory, ETHZ  
Singapore (SG), Apr 2018
- Robustness and Matheuristics - An Application to Vehicle Routing Problems  
University of Modena and Reggio Emilia, Dipartimento di Scienze e Metodi dell'Ingegneria  
London (UK), Feb 2018



- Robustness and matheuristics: a study on vehicle routing problems  
Queen Mary University of London, School of Mathematical Sciences  
Reggio Emilia (IT), Mar 2016
- Ant colonies and vehicle routing  
South China University of Technology, School of Computer Science & Engineering  
Guangzhou (China), Apr 2015
- Vehicle routing, data uncertainty and metaheuristic algorithms  
ODAM 2013, Olomoucian Days of Applied Mathematics  
Olomouc (Czech Republic), Jun 2013
- The sequential ordering problem: recent advances  
SINTEF  
Oslo (Norway), Dec 2012
- The Robust Traveling Salesman Problem with Interval Data  
Università del Salento, Dipartimento di Matematica  
Lecce (Italy), Jan 2008
- Robust optimization with interval data  
ETH Zurich, Institut für Operations Research  
Zurich (Switzerland), Nov 2005
- Power topology problems in wireless networks  
Università di Lecce, Dipartimento di Matematica  
Lecce (Italy), Mar 2005
- The robust shortest path problem with interval data: an overview  
Politecnico di Milano, Dipartimento di Elettronica e Informazione  
Milano (Italy), Nov 2004.
- The minimum power broadcast problem in wireless networks: a simulated annealing approach  
Zentrum für informationsdienste und Hochleistungsrechnen. Technische Universität  
Dresden  
Dresden (Germany), Mar 2004.
- A lower bounding technique for the fixed spectrum frequency assignment problem  
Dalle Molle Institute for Artificial Intelligence  
Lugano (Switzerland), Sep 2001.

## Talks

- Artificial Intelligence for healthcare and rescuing technologies  
Workshop on Artificial Intelligence, Robotics and Employment Relations  
Florence (Italy), Mar 2019
- Urban mobility – current and future challenges  
EUI Workshop on Regulation of Artificial Intelligence in Transport, Supply Chain Management and Logistics  
Florence (Italy), Feb 2018

- Ant colonies and uncertainty: the vehicle routing problem case  
Emergence and Self-Organization in Living Systems Symposium  
Zurich (Switzerland), Nov 2017
- Hybrid Sampling-based Metaheuristics for the Orienteering Problem with Stochastic Travel and Service Times  
OR 2014, Annual Conference of the German Operations Research Society  
Aachen (Germany), Sep 2014
- A Matheuristic Approach for the Sequential Ordering Problems  
AIRO 2011, XXXXII Annual Conference of the Italian Operational Research Society  
Brescia (Italy), Sep 2011
- An exact algorithm for the minimum power multicasting problem in wireless sensor networks  
ISCO 2010, International Symposium on Combinatorial Optimization  
Hammamet (Tunisia), Mar 2010
- Ant Colony Systems for large Sequential Ordering Problems  
AIRO 2007, XXXVIII Annual Conference of the Italian Operational Research Society  
Genova (Italy), Sep 2007
- The robust traveling salesman problem with interval data  
Third Joint Operations Research Days, IBM Research Lab  
Zurich (Switzerland), Sep 2005
- The robust traveling salesman problem with interval data  
AIRO 2005, XXXVI Annual Conference of the Italian Operational Research Society  
Camerino (Italy), Sep 2005
- Robust shortest path problems with constrained interval data  
IFORS 2005, International Federation of Operational Research Societies Triennial Conference  
Honolulu (USA), Jul 2005
- City logistics in Padova: from research to a concrete implementation  
IFORS 2005, International Federation of Operational Research Societies Triennial Conference  
Honolulu (USA), Jul 2005

## **JOURNALS - EDITORIAL (ADVISORY) BOARDS MEMBERSHIP**

- Algorithms (Editorial Board, 2021- ; Topic Editor, 2021)
- VNL Journal Logistics Innovation 2018-
- Applied Mathematics 2014-
- Engineering Management 2014-
- Journal of Applied Operational Research (Area Editor for Supply Chain and Logistics) 2012-2017
- Journal of Transport Engineering and Management 2013-

## JOURNALS - GUEST EDITOR FOR SPECIAL ISSUES

- Journal of Applied Operational Research 6(2), 2014: Special Issue on Optimization Methods in Logistics
- Operations Research Spectrum, to appear: Special Issue on Combinatorial Optimization and Machine Learning

## CONFERENCES - COMMITTEES MEMBERSHIP/ORGANIZING ACTIVITIES

- ICIEA – International Conference on Industrial Engineering and Applications **Organizer of the session “Machine Learning and Combinatorial Optimization”** 2021
- ICOMITEE – International Conference on Computer Science, Information Technology, and Electrical Engineering **Chair** 2021
- ICSPCS – International Conference on Signal Processing and Computer Science **Chair** 2021
- ICCSIT – International Conference on Computer Science and Information Technology **Publicity Co-Chair** 2021
- ICORES – International Conference on Operations Research and Enterprise Systems **Program Committee** 2021, 2022
- ICACR – International Conference on Automation, Control and Robots **Technical Program Committee** 2021
- ICOAI – International Conference on Artificial Intelligence **Technical Program Committee** 2020
- ICMSTTL – International Conference on Mathematics, Science and Technology Teaching and Learning **Technical Program Committee** 2020
- EECSI – International Conference on Electrical Engineering, Computer Science and Informatics **Technical Program Committee** 2020
- MEPE – International Conference on Mechanical Engineering and Power Engineering **Chair** 2020
- ICIEA – International Conference on Industrial Engineering and Applications **Program Chair** 2020
- IEIM – International Conference on Industrial Engineering and Industrial Management **Program Chair** 2020
- ICIEA – International Conference on Industrial Engineering and Applications **Publicity Chair** 2019
- ICACS – International Conference on Algorithms, Computing and Systems **Technical Committee** 2019, 2020
- ICRAS – International Conference on Robotics and Automation Sciences **Technical Committee** 2017, 2018, 2019, 2020
- ISPECE – 018 International Symposium on Power Electronics and Control Engineering **Program Committee** 2018

- ICITT – International Conference on Intelligent Traffic and Transportation **Chair** 2017, 2018, 2019
- ICIIL – International Conference on Innovation and Industrial Logistics **Chair** 2017, 2018, 2019
- ICTLE – International Conference on Traffic and Logistic Engineering **Chair** 2018, 2019
- ICCT – IEEE International Conference on Communication Technology **Technical Committee** 2017
- ICTTE – The International Conference on Traffic and Transportation Engineering **Chair** 2016, 2017, 2020
- ACM Workshop on Parallel and Distributed Evolutionary Inspired Methods (PDEIM) **Technical Committee** 2017, 2018, 2019, 2020, 2021
- ICAPM – International Conference on Applied Physics and Mathematics **Technical Committee** 2017, 2018, 2019, 2020, 2021
- ICCSCI – International Conference on Computer Science and Computational Intelligence **International Reviewers Committee** 2017
- NSAIS – North-European Society for Adaptive and Intelligent Systems Workshop **International Scientific Program Committee** 2016
- ICT-BDCS – Annual International Conference on ICT: Big Data, Cloud and Security **Program Committee** 2015
- WSCAR – World Symposium on Computer Applications & Research **Technical Program Committee** 2015
- SIMUL – The International Conference on Advances in System Simulation **Program Committee** 2015, 2016, 2017, 2018, 2019
- ISC – The Industrial Simulation Conference **International Program Committee** 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017
- ECEC – The European Concurrent Engineering Conference **Chair for the track “Engineering Process Management and Modelling”** 2011 **Program Committee** 2011, 2012, 2013, 2014, 2015
- IT4L – The Workshop on Information Technologies for Logistics (Logistic systems - Theory and practice) **Program Committee** 2014, 2015, 2016, 2017, 2018
- ICONS – The International Conference on Systems **International Program Committee** 2015
- SIMULTECH – The International Conference on Simulation and Modeling Methodologies, Technologies and Applications **International Program Committee** 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021
- EVO COMNET – The European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems **Program Committee** 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017

- IEEE ICOICT – The International Conference on Information and Communication Technology  
**Program Committee** 2015, 2016, 2017 **Steering Committee** 2016
- LOGOPT – Optimization Methods in Logistics Workshop  
**Chair** 2013, 2014, 2015, 2016
- ICAOR – The International Conference on Applied Operational Research  
**Chair** 2013, 2014, 2016  
**Program Committee** 2012, 2013, 2014, 2015, 2016, 2017
- WorldCIST – World Conference on Information Systems and Technologies  
**Program and Ier Committee** 2013, 2014, 2015, 2016, 2017
- ICITT –The International Conference on Intelligent Traffic and Transportation  
**Chair** 2017
- SISN – Annual International Conference on Security, Information, System and Network  
**Program Committee** 2015
- ACM-SAC – ACM-Symposium on Applied Computing  
**Program and Reviewing Committee** 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021
- OR – The International Conference on Operations Research  
**Chair for the stream “Heuristics, Metaheuristics and Matheuristics”** 2021  
**Organizer of the session “Matheuristics and Scheduling”** 2021  
**Chair for the stream “Graphs and Networks”** 2015  
**Program Committee** 2015
- CMC GS – The Annual International Conference on Computational Mathematics, Computational Geometry and Statistic  
**Program Committee** 2015, 2016
- WICCN – The Winter International Conference of Communications and Networks  
**Technical Program Committee** 2013, 2014
- ANTS - The International Conference on Swarm Intelligence  
**Program Committee** 2010, 2012, 2014, 2016
- GECCO – Genetic and Evolutionary Computation Conference  
**Program Committee** 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021 (ECOM)
- ICIT – The ScienceOne International Conference on Information Technology  
**Program Technical Committee** 2014
- The International Scientific and Technical Conference “Logistics Systems - Theory and Practice”  
**Scientific Committee** 2014
- EU-ME Workshop on Metaheuristics and Engineering  
**Scientific Committee** 2014
- GAMEON ASIA – The annual Asian GAME-ON Conference on Simulation and AI in Computer Games  
**Program Committee** 2012, 2013, 2014

- CECNet – The International Conference on Consumer Electronics, Communications and Networks  
**Program Committee 2013**
- EURO-INFORMS - The European Conference on Operational Research  
**Organizer of the session “Logistics: modeling and optimization” 2013**
- FORS40 – Finnish Operations Research 40th Anniversary Workshop  
**International Scientific Program Committee 2014**
- SIMEX - Simulation Expo  
**International Program Committee 2013**
- IEEE WiCom 2013 – The 9th International Conference on Wireless Communications, Networking and Mobile Computing  
**Technical Program Committee**
- CGAT - The Annual International Conference on Computer Games, Multimedia and Allied Technologies  
**Special Track MobiCONA Technical Committee 2013, 2017**
- Bionetics – The International ICST Conference on Bio-Inspired Models of Network, Information, and Computing Systems  
**Program Committee 2012**
- MobiCONA – Mobile Communications, Networking and Applications Conference  
**Program Committee 2012**
- EUROMEDIA/COMTEC  
**International Program Committee 2008**
- IEEE SIS - The Swarm Intelligence Symposium  
**Program committee 2006, 2007**
- IFORS – International Federation of Operational Research Societies Triennial Conference  
**Organizer of the session “Routing Under Uncertain Information” 2005**
- ECCO – The conference of the European Chapter on Combinatorial Optimization  
**Local Organizing Committee 2002**

## REVIEWER ACTIVITIES

### International Journals

- Acta Mathematica - Academiae Paedagogicae Nyíregyháziensis
- Ad Hoc and Wireless Sensor Networks
- AI Communications (2x)
- American Mathematical Society - Mathematical Reviews (25x: MR2520410, MR2534771, MR2650136, MR2733567, MR2747270, MR2804045, MR2828002, MR2846286, MR2892971, MR2903097, MR2956438, MR2960535, MR2976783, MR2991512, MR2996477, MR3063484, MR3083745, MR3162283, MR3197842, MR3252293, MR3306088, MR3309039, MR3319485, MR3369300, MR3373033, MR3429745)

- Annals of Operations Research
- Applied Mathematics
- Applied Mathematics and Computation
- Applied Soft Computing
- Asia-Pacific Journal of Operational Research (2x)
- Central European Journal of Operations Research (2x)
- Computer Communications (2x)
- Computers and Electronics in Agriculture (2x)
- Computers and Industrial Engineering (5x)
- Computers and Operations Research (10x)
- Computer Networks
- Discrete Applied Mathematics (5x)
- Discrete Optimization (3x)
- Engineering Applications of Artificial Intelligence
- Engineering Optimization
- Environmental Modelling and Software
- EURO Journal on Transportation and Logistics
- European Journal of Operational Research (29x)
- GSTF Journal of Mathematics, Statistics and Operations Research (3x)
- IEEE Communications Letters
- IEEE Transactions on Broadcasting (2x)
- IEEE Transactions on Evolutionary Computation (8x)
- IEEE Transactions on Fuzzy Systems (2x)
- IEEE Transactions on Information Theory
- IEEE Transactions on Intelligent Transportation Systems
- IEEE Transactions on Mobile Computing
- IEEE Transactions on Systems, Man and Cybernetics, part A: Systems and Humans (2x)
- IEEE Transactions on Systems, Man, and Cybernetics, part B: Cybernetics
- IEEE Transactions on Vehicular Technology
- IIE Transactions
- Information Processing Letters
- Information Sciences (2x)
- INFORMS Journal on Computing (3x)
- International Journal of Applied Metaheuristic Computing (3x)
- International Journal of Computational Intelligence and Applications

- International Journal of Mathematics in Operations Research
- International Scholarly Research Network Communications
- International Scholarly Research Network Communications and Networking (13x)
- International Transactions in Operations Research (3x)
- Journal of Applied Operational Research (7x)
- Journal of Computational Chemistry (2x)
- Journal of Construction Engineering and Management
- Journal of Heuristics (6x)
- Journal of Manufacturing Systems
- Journal of Mathematical Modelling and Algorithms (2x)
- Journal of Scheduling
- Journal of the Operations Research Society of China
- Journal of Theoretical Biology
- Journal of Urban Technology
- Journal of Zhejiang University – Science A (Applied Physics and Engineering)
- Journal of Zhejiang University – Science C (Computers and Electronics)
- Mathematical Methods of Operations Research (2x)
- Mathematical Programming – Series A (2x)
- Networks (7x)
- Neural Processing Letters (2x)
- Omega Journal (2x)
- Operational Research (2x)
- Operational Research and Management Science Letters (4x, 1x as an Editor)
- Operations Research Letters (2x)
- Optimization Letters
- OR Spectrum (16x)
- Revista Facultad de Ingeniera de la Universidad de Antioquia (2x)
- Scientific Journal of Management Science and Engineering
- Sensors journal
- Swarm Intelligence (5x)
- Telecommunication Systems
- The Scientific World Journal
- Transportation Research Part C
- Transportation Science (3x)
- TOP - An Official Journal of the Spanish Society of Statistics and Operations Research
- Walailak Journal of Science and Technology (4x)



- Wireless Networks (2x)

## **Book Chapters**

- Dynamic fleet management: systems, algorithms and case studies (Zeimpekis et al. eds)
- Wireless sensor networks: theory and application (I.M.M. El Emary and S. Ramakrishnan eds)
- Lectures notes in logistics: Bridging the Gap (H. Zijm et al eds)

## **International Conferences**

- The 5th International Conference on Algorithms, Computing and Systems (ICACS) 2021
- The 10th International Conference on Operations Research and Enterprise Systems (ICORES) 2021 (2x)
- ACM-Symposium on Applied Computing (ACM-SAC) 2021
- The 8th International Conference on Industrial Engineering and Applications (ICIEA) EU 2021 (8x)
- The 11th International Conference on Applied Physics and Mathematics (ICAPM) 2021
- The 7th International Conference on Artificial Intelligence (ICOAI 2020) (3x)
- The 7th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI 2020)
- The 2nd African Electronics, Computer and Communication Conference (AECCC 2020)
- The 10th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH) 2020
- Genetic and Evolutionary Computation Conference 2020 (GECCO 2020) (5x)
- The 7th International Conference on Industrial Engineering and Applications (ICIEA) EU 2020 (4x)
- ACM-Symposium on Applied Computing (ACM-SAC) 2020 (2x)
- The 10th International Conference on Applied Physics and Mathematics (ICAPM) 2020 (2x)
- the 13th Mediterranean Conference on Information Systems and the 16th conference of the Italian Chapter of AIS (ITAIS and MCIS) 2019
- The 9th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH) 2019
- The 6th International Conference on Industrial Engineering and Applications (ICIEA) 2019 (3x)
- Genetic and Evolutionary Computation Conference 2019 (GECCO 2019) (4x)
- The 9th International Conference on Applied Physics and Mathematics (ICAPM) 2019 (3x)
- International Conference on Algorithms, Computing and Systems (ICACS) 2019

- ACM-Symposium on Applied Computing (ACM-SAC) 2018
- The 10th International Conference on Advances in System Simulation (SIMUL) 2018
- The 7th Workshop on Information Technologies for Logistics (IT4L) 2018
- The 8th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH) 2018
- The 10th International Conference on Advances in System Simulation (SIMUL) 2018 (3x)
- The 11th International Conference on Swarm Intelligence (Ants) 2018
- Genetic and Evolutionary Computation Conference 2018 (GECCO 2018) (4x)
- The 5th International Conference on Industrial Engineering and Applications (ICIEA) 2018 (3x)
- The 8th International Conference on Applied Physics and Mathematics (ICAPM) 2018 (2x)
- The 14th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET 2017)
- ACM-Symposium on Applied Computing (ACM-SAC) 2017 (3x)
- The 9th International Conference on Advances in System Simulation (SIMUL) 2017
- The 9th International Conference on Modelling and Applied Simulation (MAS) 2017
- The 6th Workshop on Information Technologies for Logistics (IT4L) 2017
- International Conference on Robotics and Automation Sciences (ICRAS) 2017 (2x)
- The 7th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH) 2017 (2x)
- The 9th International Conference on Applied Operational Research (ICAOR) 2017
- Genetic and Evolutionary Computation Conference 2017 (GECCO 2017) (4x)
- The 4th International Conference on Information and Communication Technology (ICOICT 2017) (3x)
- The 14th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET 2017) (2x)
- World Conference on Information Systems and Technologies (WorldCIST) 2017 (3x)
- International Conference on Modelling and Applied Simulation (MAS) 2017
- ACM-Symposium on Applied Computing (ACM-SAC) 2017
- North-European Society for Adaptive and Intelligent Systems Workshop (NSAIS) 2016 (2x)
- The 8th International Conference on Advances in System Simulation (SIMUL) 2016
- The 6th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH) 2016
- The 5th International Conference on Traffic and Transportation Engineering (ICTTE 2016)

- The 10th International Conference on Swarm Intelligence (Ants) 2016 (2x)
- The 8th International Conference on Applied Operational Research (ICAOR) 2016 (6x)
- The 3rd International Conference on Information and Communication Technology (ICOICT 2016)
- Genetic and Evolutionary Computation Conference 2016 (GECCO 2016) (3x)
- The 13th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET 2016) (2x)
- World Conference on Information Systems and Technologies (WorldCIST) 2016 (3x)
- The Annual International Conference on Computational Mathematics, Computational Geometry and Statistic (CMCGS) 2016 (2x)
- ACM-Symposium on Applied Computing (ACM-SAC) 2016 (3x)
- The International Conference on Advances in System Simulation (SIMUL) 2015
- The 4th Workshop on Information Technologies for Logistics (IT4L) 2015 (3x)
- The 5th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH) 2015 (2x)
- The 4th International Conference on Traffic and Transportation Engineering (ICTTE 2015) (2x)
- The 7th International Conference on Applied Operational Research (ICAOR) 2015 (4x)
- Genetic and Evolutionary Computation Conference 2015 (GECCO 2015) (4x)
- The 22nd European Concurrent Engineering Conference (ECEC 2015) (2x)
- The Annual International Conference on Computational Mathematics, Computational Geometry and Statistic (CMCGS) 2015 (2x)
- The International Conference on Systems (ICONS) 2015 (2x)
- World Conference on Information Systems and Technologies (WorldCIST) 2015 (3x)
- The 12th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET 2015) (2x)
- International Conference on Informatics and Advanced Computing (ICIAC) 2014 (4x)
- The 6th Annual International Conference on ICT: Big Data, Cloud and Security (ICT-BDCS) 2015 (3x)
- The 4th International Conference on Electronics, Communications and Networks (CEC-Net) 2014 (2x)
- ACM-Symposium on Applied Computing (ACM-SAC) 2015 (2x)
- International Conference of Numerical Analysis and Applied Mathematics (ICNAAM) 2014
- The 4th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH) 2014 (3x)
- The 3rd Workshop on Information Technologies for Logistics (IT4L) 2014 (2x)
- The 6th International Conference on Applied Operational Research (ICAOR) 2014 (2x)

- The 9th International Conference on Swarm Intelligence (Ants) 2014
- The 21st European Concurrent Engineering Conference (ECEC 2014) (2x)
- Genetic and Evolutionary Computation Conference 2014 (GECCO 2014) (4x)
- The 15th EUME Workshop: Metaheuristic and Engineering (EUME 2014)
- The 3rd International Conference on Traffic and Transportation Engineering (ICTTE 2014) (2x)
- The 11th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET 2014) (2x)
- World Conference on Information Systems and Technologies (WorldCIST) 2014 (3x)
- ACM-Symposium on Applied Computing (ACM-SAC) 2014 (3x)
- The 3rd International Conference on Consumer Electronics, Communications and Networks (CECNet 2013) (3x)
- Simulation Expo 2013 (SIMEX) (2x)
- Finnish Operations Research 40th Anniversary Workshop (FORS 40) (2x)
- The 16th International IEEE Conference on Intelligent Transport Systems (IEEE ITSC 2013)
- The 10th Metaheuristics International Conference (MIC 2013)
- The 20th European Concurrent Engineering Conference (ECEC 2013) (2x)
- The 5th International Conference on Applied Operational Research (ICAOR) 2013 (4x)
- The industrial Simulation Conference (ISC) 2013 (3x)
- The 12th International Symposium on Experimental Algorithms (SEA 2013)
- The 10th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET 2013) (2x)
- World Conference on Information Systems and Technologies (WorldCIST) 2013 (2x)
- ACM-Symposium on Applied Computing (ACM-SAC) 2013 (4x)
- The 7th International ICST Conference on Bio-Inspired Models of Network, Information, and Computing Systems (Bionetics) 2012 (3x)
- The industrial Simulation Conference (ISC) 2012 (3x)
- The 4th International Conference on Applied Operational Research (ICAOR) 2012
- The 8th International Conference on Swarm Intelligence (Ants) 2012 (2x)
- The 9th European EVO workshop on the application of nature-inspired techniques for telecommunication networks and other parallel and distributed systems (EVO COMNET 2012) (2x)
- The 4th annual Asian GAME-ON Conference on Simulation and AI in Computer Games (GAMEON ASIA) 2012 (2x)
- ACM-Symposium on Applied Computing (ACM-SAC) 2012 (4x)
- Hawai'i International Conference on System Sciences 45 (HICSS 45) 2012
- The industrial Simulation Conference (ISC) 2011 (3x)

- The 8th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET 2011) (2x)
- ACM-Symposium on Applied Computing (ACM-SAC) 2011 (2x)
- Hawai'i International Conference on System Sciences 44 (HICSS 44) 2011
- The 20th International Conference on Artificial Neural Networks (ICANN) 2010
- The 7th International Conference on Swarm Intelligence (Ants) 2010 (3x)
- The industrial Simulation Conference (ISC) 2010 (3x)
- The 7th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET 2010)
- ACM-Symposium on Applied Computing (ACM-SAC) 2010 (2x)
- Hawai'i International Conference on System Sciences 43 (HICSS 43) 2010 (2x)
- The industrial Simulation Conference (ISC) 2009 (3x)
- The 6th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET) 2009 (3x)
- The 5th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET) 2008 (5x)
- The 4th European EVO workshop on the application of nature-inspired techniques to telecommunication networks and other connected systems (EVO COMNET) 2007 (3x)
- IEEE Swarm Intelligence Symposium (SIS) 2007 (4x)
- IEEE International Symposium on Wireless Pervasive Computing (ISWPC) 2006
- The 5th International Conference on Swarm Intelligence (Ants) 2006 (4x)
- IEEE Swarm Intelligence Symposium (SIS) 2006 (4x)
- Dependable Systems and Networks (DSN) 2006
- The 6th Metaheuristic International Conference (MIC) 2005
- The 16th European Conference on Artificial Intelligence (ECAI) 2004
- The 4th International Conference on Swarm Intelligence (Ants) 2004 (2x)
- The 3rd International Conference on Swarm Intelligence (Ants) 2002
- The 4th Metaheuristic International Conference (MIC) 2001

### **Project Proposal/Candidates Evaluations**

- Frontiers for the Future 2020 – Science Foundation Ireland, Ireland
- University of Lausanne, 2019 – Tenure Track careers assessments.
- Progetti di ricerca di Rilevante Interesse Nazionale (PRIN) 2017 – Ministrero dell'Istruzione, dell'Università e della Ricerca, Italy
- Programma per giovani ricercatori “Rita Levi Montalcini” 2017 – Ministrero dell'Istruzione, dell'Università e della Ricerca, Italy

- FWF Der Wissenschaftsfonds 2013 – Austrian Funds of Science Natural and Technical Sciences
- GAČR 2013 – Czech Science Foundation
- FCT-SIG 2012 – Portuguese Foundation for Science and Technology – Information Systems and Management (2x)
- FUNDECYT 2012 – Chilean national research funding competition
- PCCA 2011 – Partnership Programme - Joint Applied Research Projects – Romanian National Council for Development and Innovation
- FUNDECYT 2009 – Chilean national research funding competition
- FUNDECYT 2008 – Chilean national research funding competition

### **Book/Special Issues Proposal Evaluations**

- Springer US
- Hindawi Publishing Corporation (2x)

### **PhD thesis committee membership**

- Kata Kiatmanaroj, Allocation de fréquence dans les systèmes de communication par satellites de type SDMA, LAAS-CNRS, Université de Toulouse, France, Jun 2012
- Niels Hvidberg Kjeldsen, Long term planning in the energy sector, Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark, Sep 2012
- Elena Rocchi, Model-based heuristics for combinatorial optimization, Department of Computer Science, Alma Mater Studiorum - University of Bologna, Bologna, Italy, Jan 2016

### **AWARDS, HONOURS AND MEMBERSHIPS**

- Member of “Commissione Corso di Laurea in Informatica” (“Commission for the bachelor degree in Informatics”), University of Applied Sciences of Southern Switzerland, Oct 2018-Feb 2019
- Member of AIRO, the Italian Association of Operations Research
- The paper [C39] received the “best research paper” award at ATAI 2011 – The Second Annual International Conference on Advanced Topics in Artificial Intelligence
- The paper [C40] received the “best research paper” award at MobiCONA 2011 – The Annual International Conference on Mobile Communications, Networking and Applications
- The paper [C3] received the “best presentation” award at ICIL 2018 – The 4rd International Conference on Innovation and Industrial Logistics
- Supervisor of the diploma project of Fabio Mastromatteo, awarded with the TalenThesis prize for the bests bachelor thesis of Informatics at SUPSI for year 2013

- The article [J63] was the 19th Operations Research Letters-most downloaded paper of the period April 2002-April 2004. Notice that the paper had been available for download only since November 2003
- The article [J37] was the 16th Discrete Mathematics-most downloaded paper in year 2011
- Winner of a full scholarship from the University of Glamorgan for the duration of the PhD studies

## **DIDACTIC ACTIVITIES**

My past and current teaching activities cover many aspects of Computer Science and Optimization. I gave introductory courses on algorithms and data structures, courses on object oriented programming and more advanced courses on operations research, mathematical modeling and discrete events simulations within a specific logistic module. A course on the application of heuristic algorithms to problems arising in Bioinformatics has been taught.

### **Occupational percentage on didactics**

- 20-21: UNIMORE 120h
- 19-20: UNIMORE 121h
- 18-19: SUPSI 21.1%
- 17-18: SUPSI 15.7%
- 16-17: SUPSI 20.8%
- 15-16: SUPSI 22.9%
- 14-15: SUPSI + SCUT 21.8%
- 13-14: SUPSI 21.9%
- 12-13: SUPSI 21.0%
- 11-12: SUPSI 19.0%
- 10-11: SUPSI+USI 25.0%
- 09-10: SUPSI+USI 21.0%
- 08-09: SUPSI+USI 21.0%
- 07-08: SUPSI 25.0%
- 06-07: SUPSI 21.9%
- 04-05: SUPSI 8.5%

## Detailed list of courses taught

- **Lecturer** of the course “Fondamenti di Ricerca Operativa” (“**Fundamentals of Operations Research**”)  
Bachelor course in Management Engineering, Department of Science and Technology for Engineering, University of Modena and Reggio Emilia  
(20-21 [2x], 21-22 [2x])
- **Lecturer** of the course “Ricerca Operativa” (“**Operations Research**”)  
Bachelor course in Informatics Engineering, Department of Engineering “Enzo Ferrari”, University of Modena and Reggio Emilia  
(20-21)
- **Lecturer** of the course “Ricerca Operativa” (“**Operations Research**”)  
Bachelor course in Electronic Engineering, Department of Engineering “Enzo Ferrari”, University of Modena and Reggio Emilia  
(20-21)
- **Lecturer** of the course “Ricerca Operativa” (“**Operations Research**”)  
Bachelor course in Management Engineering, Department of Science and Technology for Engineering, University of Modena and Reggio Emilia  
(19-20 [2x])
- **Guest Lecturer** for the course “Design and analysis of computer algorithms”  
Bachelor course, School of Computer Science & Engineering, South China University of Technology  
(14-15)
- **Lecturer** of the course “Algoritmi e strutture dati” (“**Algorithms and data structures**”)  
Bachelor course in Informatics, Department of Innovative Technologies, University of Applied Sciences of Southern Switzerland  
(06-07; 07-08; 08-09; 09-10; 10-11; 11-12; 12-13 [2x]; 13-14 [2x]; 14-15 [2x], 15-16 [2x], 16-17 [2x], 17-18, 18-19)
- **Lecturer** of the course “Ottimizzazione/Ricerca Operativa” (“**Optimization/Operations Research**”)  
Bachelor course in Informatics, Department of Innovative Technologies, University of Applied Sciences of Southern Switzerland  
(07-08; 08-09; 09-10; 10-11; 11-12)
- **Lecturer** of the course “**Heuristics**”  
Master course in Intelligent Systems, Faculty of Informatics, Università della Svizzera Italiana  
(08-09; 09-10; 10-11)
- **Lecturer** of the course “Programmazione orientata agli oggetti” (“**Object oriented programming**”)  
Bachelor course in Informatics, Department of Innovative Technologies, University of Applied Sciences of Southern Switzerland  
(06-07; 07-08; 08-09)



- **Lecturer** of the course “Simulazione ad eventi discreti” (“**Discrete events simulation**”)  
Bachelor course in Informatics, Department of Innovative Technologies, University of Applied Sciences of Southern Switzerland  
(04-05; 06-07)
- **Lecturer** of the course “Programmazione lineare avanzata con applicazioni alla logistica” (“**Advanced linear programming with applications to logistics**”)  
Bachelor course in Informatics, Department of Innovative Technologies, University of Applied Sciences of Southern Switzerland  
(04-05; 06-07)
- **Teaching** for the course “Laboratorio di Algoritmi e strutture dati” (“**Lab of Algorithms and data structures**”)  
Bachelor course in Informatics, Department of Innovative Technologies, University of Applied Sciences of Southern Switzerland  
(06-07; 07-08 [2x]; 08-09; 09-10; 10-11 [2x]; 11-12 [2x]; 12-13 [2x]; 13-14 [2x]; 14-15; 15-16 [2x], 16-17, 17-18, 18-19 [2x])
- **Teaching** for the course “Laboratorio di Simulazione ad eventi discreti” (“**Lab of Discrete events simulation**”)  
Bachelor course in Informatics, Department of Innovative Technologies, University of Applied Sciences of Southern Switzerland  
(04-05; 06-07)
- **Teaching** for the course “Laboratorio di Programmazione lineare avanzata con applicazioni alla logistica” (“**Lab of Advanced linear programming with applications to logistics**”)  
Bachelor course in Informatics, Department of Innovative Technologies, University of Applied Sciences of Southern Switzerland  
(04-05; 06-07)

### **Teaching committees membership**

- Master of Science in Engineering: an educational program developed in cooperation by the Swiss Universities of Applied Sciences  
Member of the Algorithms group

## PUBLICATIONS

### Edited Books / Journal Special Issues

- E1 U.J. Mele, L.M. Gambardella and **R. Montemanni**  
A New Constructive Heuristic driven by Machine Learning for the Traveling Salesman Problem  
**Algorithms** 14, 267, 2021
- E2 G.A. Di Caro, V. Maniezzo, **R. Montemanni** and M. Salani, eds  
Machine Learning and Combinatorial Optimization, **OR Spectrum** 2021
- E3 **R. Montemanni** ed  
6th International Conference on Traffic and Logistic Engineering, Proceedings  
**MATEC Web of Conferences** Volume 259, EDP Sciences, France, 2019
- E4 K. Sheibani, T.E. Nordlander and **R. Montemanni** eds  
8th International Conference on Applied Operational Research, Proceedings  
**Lecture Notes in Management Science** 8, ORLab Analytics, Vancouver, 2016
- E5 K. Sheibani, P. Hirsch, T.E. Nordlander, **R. Montemanni**, S. Sofianopoulou and J. Faulin eds  
7th International Conference on Applied Operational Research, Proceedings  
**Lecture Notes in Management Science** 7, ORLab Analytics, Vancouver, 2015  
ISSN 2008-0050 (Print), ISSN 1927-0097 (Online)
- E6 K. Sheibani, **R. Montemanni**, T.E. Nordlander, P. Hirsch and M. Vanhoucke eds  
6th International Conference on Applied Operational Research, Proceedings  
**Lecture Notes in Management Science** 6, Tadbir, Vancouver, 2014  
ISSN 2008-0050 (Print), ISSN 1927-0097 (Online)
- E7 **R. Montemanni** (guest editor)  
Special issue: Optimization Methods in Logistics  
**Journal of Applied Operations Research** 6(2), Tadbir, Vancouver, 2014  
ISSN 1735-8523 (Print), ISSN 1927-0089 (Online)
- E8 J.S. Yeomans, **R. Montemanni** and T.E. Nordlander eds  
5th International Conference on Applied Operational Research, Proceedings  
**Lecture Notes in Management Science** 5, Tadbir, Vancouver, 2013  
ISSN 2008-0050 (Print), ISSN 1927-0097 (Online)

### Articles in Journals

- J1 **R. Montemanni**, D.H. Smith and X. Chou  
Maximum Independent Sets and Supervised Learning  
Journal of the Operations Research Society of China, to appear
- J2 G.A. Di Caro, V. Maniezzo, **R. Montemanni** and M. Salani  
Machine learning and combinatorial optimization, editorial  
**OR Spectrum**, 2021

- J3 M. Dell'Amico, **R. Montemanni** and S. Novellani  
Algorithms based on branch and bound for the flying sidekick traveling salesman problem  
**Omega**, 102493, 2021
- J4 M. Dell'Amico, **R. Montemanni** and S. Novellani  
Exact models for the Flying Sidekick Traveling Salesman Problem  
**International Transactions in Operations Research**, to appear
- J5 M. Dell'Amico, **R. Montemanni** and S. Novellani  
Modeling the Flying Sidekick Traveling Salesman Problem with Multiple Drones  
**Networks**, to appear
- J6 P. Aungkulanon, P. Luangpaiboon and **R. Montemanni**  
Multi-Objective Periodic Maintenance Scheduling and Optimization via Krill Herd Algorithm  
**Songklanakarin Journal of Science and Technology**, to appear
- J7 X. Chou, L.M. Gambardella and **R. Montemanni**  
A Tabu Search Algorithm for the Probabilistic Orienteering Problem  
**Computers and Operations Research**, to appear
- J8 D.H. Smith, **R. Montemanni** and S. Perkins  
The Use of an Exact Algorithm Within a Tabu Search Maximum Clique Algorithm  
**Algorithms**, 13(10):253, 2020
- J9 M. Dell'Amico, **R. Montemanni** and S. Novellani  
Drone-assisted deliveries: new formulations for the Flying Sidekick Traveling Salesman Problem  
**Optimization letters**, to appear
- J10 M. Dell'Amico, **R. Montemanni** and S. Novellani  
Matheuristic algorithms for the parallel drone scheduling traveling salesman problem  
**Annals of Operations Research**, to appear
- J11 Xiaochen Chou, L.M. Gambardella, F. D'Ignazio and **R. Montemanni**  
Monte Carlo Sampling for the Tourist Trip Design Problem  
**Millenium**, to appear
- J12 **R. Montemanni**, J. Guzzi and A. Giusti  
Artificial Intelligence for healthcare and rescuing technologies  
**Millenium**, to appear
- J13 D.H. Smith, **R. Montemanni** and S. Perkins  
Solving the maximum clique problem with a hybrid algorithm  
**Journal of Metaheuristics**, 7(2):152–175, 2019
- J14 J. Jamal and **R. Montemanni**  
Industrial Cluster Symbiosis Optimization based on Linear Programming  
**Process Integration and Optimization for Sustainability** 2(4):353-364, 2018
- J15 **R. Montemanni** and L.M. Gambardella  
A study on pupils transportation  
**Journal of Traffic and Logistics Engineering**, 6(1):6–10, 2018

- J16 J. Jamal, **R. Montemanni**, D. Huber, M. Derboni and A.E. Rizzoli  
A multi-modal and multi-objective journey planner for integrating carpooling and public transport  
**Journal of Traffic and Logistics Engineering** 5(2):68–72, 2017
- J17 M. Akhmedov, A. Kedaigle, R.E. Chong, **R. Montemanni**, F. Bertoni, E. Fraenkel and I. Kwee  
PCSF: an R-Package for Network-Based Interpretation of High-throughput Data  
**PLOS Computational Biology**13(7): e1005694, 2017
- J18 D. Tulpan, **R. Montemanni** and D.H. Smith  
Correlations Between Experimentally-Determined Melting Temperatures and GC-Content for Short DNA Strands  
**Current Bioinformatics** 12(4):296–302, 2017
- J19 P. Luangpaiboon, S. Boonhao and **R. Montemanni**  
Steepest Ant Sense Algorithm for Parameter Optimisation of Multi-response Processes based on Taguchi Design  
**Journal of Intelligent Manufacturing** 30(1):441–457, 2019
- J20 M. Akhmedov, I. Kwee and **R. Montemanni**  
A Divide and Conquer matheuristic algorithm for the prize-collecting Steiner tree problem  
**Computers and Operations Research** 70:18–25, 2016
- J21 **R. Montemanni**  
Combinatorial optimization algorithms for the design of codes: a survey  
**Journal of Applied Operations Research** 7(1):36–41, 2015
- J22 T.V.L Nguyen and **R. Montemanni**  
Mathematical Programming Models for Home Health Care Service Optimization  
**International Journal of Operational Research**, 25(4): 449–463, 2016
- J23 N.E. Toklu, V. Papapanagiotou, M. Klumpp, L.M. Gambardella and **R. Montemanni**  
Ant Colony Optimization for a 2-Stage Capacitated Vehicle Routing Problem with Probabilistic Demand Increases  
**International Journal of Business Innovation and Research**, 11(1): 5–17, 2016
- J24 V. Papapanagiotou, **R. Montemanni** and L.M. Gambardella  
Hybrid sampling-based evaluators for the Orienteering Problem with Stochastic Travel and Service Times  
**Journal of Traffic and Logistics Engineering** 3(2):108–114, 2015
- J25 F. Mastromatteo, **R. Montemanni**, L.M. Gambardella and A.E. Rizzoli  
An exact algorithm for the k-robust shortest paths problem with interval data  
**Journal of Applied Operations Research** 6(2):124–133, 2014
- J26 N.E. Toklu, L.M. Gambardella and **R. Montemanni**  
A Multiple Ant Colony System for a Vehicle Routing Problem with Time Windows and Uncertain Travel Times  
**Journal of Traffic and Logistics Engineering**, 2(1):52–58, 2014

- J27 D. Tulpan, D.H. Smith and **R. Montemanni**  
Thermodynamic post-processing versus GC-content pre-processing for DNA codes satisfying the Hamming distance and reverse-complement constraints  
**IEEE/ACM Transactions on Computational Biology and Bioinformatics** 11(2):441–452, 2014
- J28 V. Papapanagiotou, **R. Montemanni** and L.M. Gambardella  
Objective function evaluation methods for the Orienteering problem with stochastic travel and service times  
**Journal of Applied Operational Research** 6(1):16–29, 2014
- J29 L.M. Gambardella, A.E. Rizzoli and **R. Montemanni**  
Accounting for the environment in the design of logistic processes: The role of Lyfe Cycle Analysis in the design of supply chain  
**Logistics Innovation** 1: 12–14, 2013
- J30 D. Weyland, M. Salani, **R. Montemanni** and L.M. Gambardella  
Vehicle routing for exhausted oil collection  
**Journal of Traffic and Logistics Engineering** 1(1):5–8, 2013
- J31 **R. Montemanni**, M. Mojana, G.A. Di Caro and L.M. Gambardella  
A Decomposition-based exact approach for the Sequential Ordering Problem  
**Journal of Applied Operational Research**, 5(1):2–13, 2013
- J32 D. Weyland, **R. Montemanni** and L.M. Gambardella  
Heuristics for the Probabilistic Traveling Salesman Problem with Deadlines based on quasi-parallel Monte Carlo Sampling  
**Computers and Operations Research** , 40(7), 1661-1670, 2013
- J33 D.H. Smith and **R. Montemanni**  
Some constant weight codes from primitive permutation groups  
**The Electronic Journal of Combinatorics** 19(4), #P4, 2012
- J34 N.E. Toklu and **R. Montemanni**  
On the Critical Role of Uncertainty in Information and Communication Technology  
**GSTF e-Journal on ICT** 1(1), 8-9, 2012
- J35 D. Weyland, **R. Montemanni** and L.M. Gambardella  
A Metaheuristic Framework for Stochastic Combinatorial Optimization Problems based on GPGPU with a Case Study on the Probabilistic Traveling Salesman Problem with Deadlines  
**Journal of Parallel and Distributed Computing** 73(1), 74-85, 2013
- J36 N.E. Toklu and **R. Montemanni**  
Robust Multicasting on Stochastic Wireless Actuator Networks: An Algorithmic Approach  
**Journal of Applied Operational Research** 4(3), 110-124, 2012
- J37 L.M. Gambardella, **R. Montemanni** and D. Weyland  
Coupling Ant Colony Systems with strong Local Searches  
**European Journal of Operational Research** 220(3), 831-843, 2012

- J38 D.H. Smith and **R. Montemanni**  
Permutation Codes with Specified Packing Radius  
**Design, Codes and Cryptography** 69(1),95-106, 2013.
- J39 **R. Montemanni** and L.M. Gambardella  
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Roberto Montemanni

Autorizzo il trattamento dei miei dati personali, ai sensi del D.lgs. 196 del 30 giugno 2003.