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Education Born in Milan, Italy, in 1979. He obtained his Ph.D. in bioengineering in June 2008 at Politecnico di Milano, his master degree in biomedical engineering cum laude in April 2004 at Politecnico di Milano, and his scientific high school degree in July 1998 (mark 60/60).

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Affiliations and titles Since October 2020 he is a tenure-track assistant professor (*ricercatore di tipo B*) at the Department of Management, Information and Production Engineering of the University of Bergamo, Dalmine (BG), Italy.

He is also a research collaborator at the Institute for Applied Mathematics and Information Technology “E. Magenes” (IMATI) of the National Research Council of Italy (CNR), Milan, Italy, where he worked as a researcher from 2011 to 2020.

He is member of the CIRRELT (Centre Interuniversitaire de Recherche sur les Réseaux d’Entreprise, la Logistique et le Transport), Montréal and Quebec City, Canada.

He is member of the β -Lab (Laboratory of Biomechanics for Endovascular Treatments of the Aorta), belonging to Università degli Studi di Pavia, CNR-IMATI and Policlinico San Donato.

He holds the National Scientific Habilitation for the role of Associate Professor of Bioengineering (sector 09/G2) from 2020 and of Operations Research (sector 01/A6) from 2018, obtained from the Italian Ministry of Education, University and Research.

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Memberships He is member of the European Working Group on Operational Research Applied to Health Services (ORAHS), of the European Network for Business and Industrial Statistics (ENBIS), of the European Society of Biomechanics (ESB) in some years, of the Associazione Italiana

di Ricerca Operativa (AIRO) in some years, of the Italian National Bioengineering Group (GNB) in some years, and of the Italian Association of Mathematical Engineers (AIM).

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Research activity

His research activities focus on three main areas:

- **Bioengineering**

The research deals with mathematical models (mainly optimization and stochastic approaches) applied to bioengineering problems, e.g., the study of the cardiovascular fluid-dynamics and the biomedical image analysis. Technological solutions as 3D printing support these activities.

- **Optimization and operations research**

From a theoretical point of view, the research is first focused on robust and stochastic optimization approaches to include data uncertainty in the optimization process. Then, the research is focused on decomposition approaches and meta- and mate-heuristics. Applications are in health care (e.g., home care, blood donation system, ambulance location) and manufacturing industry (scheduling).

- **Stochastic models**

The research is focused on health care and stochastic differential equations, while both Bayesian and frequentist approaches are used from the methodological point of view. The first topic deals with modeling the evolution of patient conditions and demand for care in several health care facilities (e.g., home care, blood donation system, ambulances) to get the uncertainty characterization to be used in the optimization problems. The second topic refers to parameter estimation in complex dynamic systems (e.g., for medical problems) described by ordinary or partial differential equations.

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Previous affiliations and activities

From November 2011 to September 2020 he was a researcher at the Institute for Applied Mathematics and Information Technology “E. Magenes” (IMATI) of the National Research Council of Italy (CNR), Milan, Italy.

He was an adjunct professor at the Politecnico di Milano, Milan, Italy, for several courses mainly at the Department of Mathematics.

He was a research fellow (*assegnista di ricerca*) at the Department of Mechanics of Politecnico di Milano, Milan, Italy, working on the following projects: *ADI-Plan: metodi e strumenti per la pianificazione ed il controllo delle risorse nelle reti di assistenza domiciliare integrata* from January 2011 to November 2011; *Analisi e progettazione dei sistemi logistico-organizzativi per l'erogazione di servizi socio-sanitari nel territorio* from April 2008 to September 2010.

He was a collaborator at the MUSP Consortium (*Consorzio Macchine Utensili e Sistemi di Produzione*), Piacenza, Italy, from October 2010 to January 2011, and collaborator at the Department of Mechanics of Politecnico di Milano in March 2008.

During the Ph.D. period (March 2005 - February 2008) he worked at the Bioengineering Department and the Laboratory of Biological Structures Mechanics, Politecnico di Milano, Milan, Italy (*tutor Prof. Roberto Fumero*).

From July 2004 to May 2005 he performed the Compulsory Civil Service in replacement of Military Service at Casa di Nazareth.

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International journals indexed in ISI or SCOPUS

1. M. Begnis, Y. Chaar, A. Scaburri, A. Savoldelli, A. Valentini, E. Lanzarone. **A patient-specific image-based approach to estimate pulmonary artery stiffness based on the vessel constitutive model.** Paper under review.
2. M. Doneda, S. Yalçındağ, I. Marques, E. Lanzarone. **A discrete-event simulation model for analyzing and improving operations in a blood donation center.** Paper under review.
3. E. Lanzarone, S. Borgia. **Bayesian identification of energy models for industrial machinery controlled rotary axes.** Paper under review.
4. N. Lahrichi, E. Lanzarone, S. Yalçındağ. **A first route second assign decomposition to enforce continuity of care in home health care.** Working to submit for second review.
5. G. Carello, E. Lanzarone. **An implementor-adversary approach for uncertain and time-correlated service times in the nurse-to-patient assignment problem.** Under second review.
6. E. Lanzarone, A. Finotello, B. Pane, G. Pratesi, D. Palombo, M. Conti, G. Spinella. **Prediction model of isolated iliac and abdominal aneurysms.** Eur J Clin Invest 2021; in press; ISSN 0014-2972.
7. A. Montanino, G. Alaimo, E. Lanzarone. **A gradient-based optimization method with functional principal component analysis for efficient structural topology optimization.** Struct Multidiscip Optim 2021; in press; ISSN 1615-147X.
8. S. Yalçındağ, E. Lanzarone. **Merging short-term and long-term planning problems in home health care under continuity of care.** J Ind Manag Optim 2021; DOI 10.3934/jimo.2021029; ISSN 1547-5816.
9. V. Nicoletta, A. Guglielmi, V. Bélanger, A. Ruiz, E. Lanzarone. **Bayesian spatio-temporal modelling and prediction of areal demands for ambulance services.** IMA J Management Math 2020; DOI 10.1093/imaman/dpaa028; ISSN 1471-678X.
10. L. Malagodi, E. Lanzarone, A. Matta. **Home care vehicle routing problem with chargeable overtime and strict and soft preference matching.** Health Care Manag Sci 2020; DOI 10.1007/s10729-020-09532-2; ISSN 1386-9620.
11. L. Ironi, E. Lanzarone. **Optimal robust search for parameter values of qualitative models of gene regulatory networks.** IEEE-ACM T Comput Bi 2020; DOI 10.1109/TCBB.2020.3006920; ISSN 1545-5963.
12. X. Gong, N. Geng, Y. Zhu, A. Matta, E. Lanzarone. **A matheuristic approach for the home care scheduling problem with chargeable overtime and preference matching.** IEEE T Autom Sci Eng 2021; 18(1); 282-298; ISSN 1545-5955.
13. S. Yalçındağ, S. Baş Güre, G. Carello, E. Lanzarone. **A stochastic risk-averse framework for blood donation appointment scheduling under uncertain donor arrivals.** Health Care Manag Sci 2020; 23(4): 535-555; ISSN 1386-9620.
14. F. Regis Hernández, G. Carello, E. Lanzarone. **An optimization tool to dimension innovative home health care services with devices and disposable materials.** Flex Serv Manuf J 2020; 32(3): 561-98; ISSN 1936-6582.
15. V. Bélanger, E. Lanzarone, V. Nicoletta, A. Ruiz, P. Soriano. **A recursive simulation-optimization framework for the ambulance location and dispatching problem.** Eur J Oper Res 2020; 286(2): 713-25; ISSN 0377-2217.
16. E. Lanzarone, A. Mastropietro, E. Scalco, A. Vidiri, G. Rizzo. **A novel Bayesian approach with conditional autoregressive specification for intravoxel incoherent motion diffusion-weighted MRI.** NMR Biomed 2020; 33(3): e4201; ISSN 1099-1492.
17. G. Liguori, E. Lanzarone, N. Frigerio, A. Matta. **A robust cardinality-constrained model to address the machine loading problem.** Robot Cim-Int Manuf 2020; 62: 101883; ISSN 0736-5845.
18. C. Bianchi, E. Lanzarone, G. Casagrande, M.L. Costantino. **A Bayesian approach for the identification of patient-specific parameters in a dialysis kinetic model.** Stat Methods Med Res 2019; 28(7): 2069-95; ISSN 0962-2802.
19. M. Diani, A. Pievatolo, M. Colledani, E. Lanzarone. **A comminution model with homogeneity and multiplication assumptions for the waste electrical and electronic equipment recycling industry.** J Clean Prod 2019; 211: 665-78; ISSN 0959-6526.
20. S. Marconi, E. Lanzarone, G.H.W. Van Bogerijen, M. Conti, F. Secchi, S. Trimarchi, F. Auricchio. **A compliant aortic model for in vitro simulations: design and manufacturing process.** Med Eng Phys 2018; 59: 21-29; ISSN 1350-4533.
21. L. Ironi, E. Lanzarone. **A model-based tool for the analysis and design of gene regulatory networks.** IEEE-ACM T Comput Bi 2018; 15(4): 1301-14; ISSN 1545-5963.

22. G. Alaimo, F. Auricchio, I. Bianchini, E. Lanzarone. **Applying functional principal components to structural topology optimization**. *Int J Numer Meth Eng* 2018; 115(2): 189-208; ISSN 1097-0207.
23. G. Carello, E. Lanzarone, S. Mattia. **Trade-off between stakeholders' goals in the home care nurse-to-patient assignment problem**. *Operations Research for Health Care* 2018; 16: 29-40; ISSN 2211-6923.
24. S. Baş, G. Carello, E. Lanzarone, S. Yalçındağ. **An appointment scheduling framework to balance the production of blood bags from donation**. *Eur J Oper Res* 2018; 265(3): 1124-43; ISSN 0377-2217.
25. S. Baş Güre, G. Carello, E. Lanzarone, S. Yalçındağ. **Unaddressed problems and research perspectives in scheduling blood collection from donors**. *Prod Plan Control* 2018; 29(1), 84-90; ISSN 0953-7287.
26. F. Auricchio, A. Ferrara, E. Lanzarone, S. Morganti, P. Totaro. **A regression method based on noninvasive clinical data to predict the mechanical behavior of ascending aorta aneurysmal tissue**. *IEEE T Bio-Med Eng* 2017; 64(11): 2607-17; ISSN 0018-9294.
27. S. Marconi, E. Lanzarone, H.W.L. De Beaufort, M. Conti, S. Trimarchi, F. Auricchio. **A novel insight on the role of entry tears in type B aortic dissection: pressure measurements in an in vitro 3D printed model**. *Int J Artif Organs* 2017; 40(10): 563-74; ISSN 0391-3988.
28. H.W.L. De Beaufort, M. Coda, M. Conti, T.M.J. van Bakel, F.J.H. Nauta, E. Lanzarone, F.L. Moll, J.A. van Herwaarden, F. Auricchio, S. Trimarchi. **Changes in aortic pulse wave velocity of four thoracic aortic stent grafts in an ex vivo porcine model**. *PLoS ONE* 2017; 12(10): e0186080; ISSN 1932-6203. *PLoS ONE* 2018; 13(5): e0197453; ISSN 1932-6203.
29. R. Argiento, A. Guglielmi, E. Lanzarone, I. Nawajah. **Bayesian joint modeling of the health profile and demand of home care patients**. *IMA J Management Math* 2017; 28(4): 531-52; ISSN 1471-678X.
30. H.W.L. De Beaufort, M. Conti, A.V. Kamman, F.J.H. Nauta, E. Lanzarone, F.L. Moll, J.A. Van Herwaarden, F. Auricchio, S. Trimarchi. **Stent-graft deployment increases aortic stiffness in an ex vivo porcine model**. *Ann Vasc Surg* 2017; 43: 302-8; ISSN 0890-5096.
31. E. Lanzarone, S. Pasquali, G. Gilioli, E. Marchesini. **A Bayesian estimation approach for the mortality in a stage-structured demographic model**. *J Math Biol* 2017; 75(3): 759-79; ISSN 0303-6812.
32. D. Carrera, F. Manganini, G. Boracchi, E. Lanzarone. **Defect detection in SEM images of nanofibrous materials**. *IEEE T Ind Inform* 2017; 13(2): 555-61; ISSN 1551-3203.
33. M. Borrotti, E. Lanzarone, F. Manganini, S. Ortelli, A. Pievatolo, C. Tonetti. **Defect minimization and feature control in electrospinning through design of experiments**. *J Appl Polym Sci* 2017; 134(17): 44740; ISSN 1097-4628.
34. E. Lanzarone, C. Masclet, F. Noël. **A multi-user tool for enhancing the daily replanning and control of visits in home care services**. *Prod Plan Control* 2017; 28(3): 202-19; ISSN 0953-7287.
35. R. Argiento, A. Guglielmi, E. Lanzarone, I. Nawajah. **A Bayesian framework for describing and predicting the stochastic demand of home care patients**. *Flex Serv Manuf J* 2016; 28(1-2): 254-79; ISSN 1936-6582.
36. I. Bianchini, R. Argiento, F. Auricchio, E. Lanzarone. **Efficient uncertainty quantification in stochastic finite element analysis based on functional principal components**. *Comput Mech* 2015; 56(3): 533-49; ISSN 0178-7675.
37. B. Addis, G. Carello, A. Grosso, E. Lanzarone, S. Mattia, E. Tànfani. **Handling uncertainty in health care management using the cardinality-constrained approach: advantages and remarks**. *Operations Research for Health Care* 2015; 4(1): 1-4; ISSN 2211-6923.
38. L. Martín-Fernández, E. Lanzarone. **A particle-filtering approach for real-time estimation of thermal conductivity and temperature tracking in homogeneous masses**. *Numer Heat Tr B - Fund* 2015; 67(6): 507-30; ISSN 1040-7790.
39. F. Auricchio, M. Conti, A. Ferrara, E. Lanzarone. **A clinically-applicable stochastic approach for noninvasive estimation of aortic stiffness using computed tomography data**. *IEEE T Bio-Med Eng* 2015; 62(1): 176-87; ISSN 0018-9294.
40. E. Lanzarone, S. Pasquali, V. Mussi, F. Ruggeri. **Bayesian estimation of thermal conductivity and temperature profile in a homogeneous mass**. *Numer Heat Tr B - Fund* 2014; 66(5): 397-421; ISSN 1040-7790.
41. L. Ironi, E. Lanzarone. **Assigning probabilities to qualitative dynamics of gene regulatory networks**. *J Math Biol* 2014; 69(6-7): 1661-92; ISSN 0303-6812.
42. G. Carello, E. Lanzarone. **A cardinality-constrained robust model for the assignment problem in home care services**. *Eur J Oper Res* 2014; 236(2): 748-62; ISSN 0377-2217.

43. E. Lanzarone, A. Matta. **Robust nurse-to-patient assignment in home care services to minimize overtime under continuity of care.** Operations Research for Health Care 2014; 3(2): 48-58; ISSN 2211-6923.
44. L. Martín-Fernández, G. Gilioli, E. Lanzarone, J. Míguez Arena, S. Pasquali, F. Ruggeri, D.P. Ruiz Padillo. **A Rao-Blackwellized particle filter for joint parameter estimation and biomass tracking in a stochastic predator-prey system.** Math Biosci Eng 2014; 11(3): 573-97; ISSN 1547-1063.
45. E. Lanzarone, F. Ruggeri. **Inertance estimation in a lumped-parameter hydraulic simulator of human circulation.** J Biomech Eng - T ASME 2013; 135(6): 061012; ISSN 0148-0731.
46. E. Lanzarone, A. Matta, E. Sahin. **Operations management applied to home care services: the problem of assigning human resources to patients.** IEEE T Syst Man Cy A 2012; 42(6): 1346-63; ISSN 1083-4427.
47. E. Lanzarone, A. Matta. **A cost assignment policy for home care patients.** Flex Serv Manuf J 2012; 24(4): 465-95; ISSN 1936-6582.
48. E. Lanzarone, R. Vismara, G.B. Fiore. **Response to the letter to the editor: a new pulsatile volumetric device with biomorphic valves for the in vitro study of the cardiovascular system by MB Munir et al.** Artif Organs 2011; 35(1): 97-8; ISSN 0160-564X.
49. E. Lanzarone, A. Matta, G. Scaccabarozzi. **A patient stochastic model to support human resource planning in home care.** Prod Plan Control 2010; 21(1):3-25; ISSN 0953-7287.
50. E. Lanzarone, F. Gelmini, A. Fumero, M. Carini, M.L. Costantino, R. Fumero, O. Alfieri. **Preservation of endothelium nitric oxide release during beating heart surgery with respect to continuous flow cardiopulmonary bypass.** Perfusion-UK 2010; 25(2):57-64; ISSN 0267-6591.
51. E. Lanzarone, F. Gelmini, M. Tessari, T. Menon, H. Suzuki, M. Carini, M.L. Costantino, R. Fumero, G.B. Luciani, G. Faggian. **Preservation of endothelium nitric oxide release by pulsatile flow cardiopulmonary bypass when compared with continuous flow.** Artif Organs 2009; 33(11):926-34; ISSN 0160-564X.
52. E. Lanzarone, R. Vismara, G.B. Fiore. **A new pulsatile volumetric device with biomorphic valves for the in vitro study of the cardiovascular system.** Artif Organs 2009; 33(12):1048-62; ISSN 0160-564X.
53. G. Casagrande, E. Lanzarone, F. Miglietta, A. Remuzzi, R. Fumero, M.L. Costantino. **Determination of cardiovascular mechanics evolution in the presence of the arteriovenous fistula.** ASAIO J 2009; 55(5): 484-93; ISSN 1058-2916.
54. F. Aletti, E. Lanzarone, M.L. Costantino, G. Baselli. **Simulation study of autoregulation responses of peripheral circulation to systemic pulsatility.** Nonlinear Biomed Phys 2009; 3:7; ISSN 1753-4631.
55. E. Lanzarone, G. Casagrande, R. Fumero, M.L. Costantino. **Integrated model of endothelial NO regulation and systemic circulation for the comparison between pulsatile and continuous perfusion.** IEEE T Bio-Med Eng 2009; 56(5):1331-40; ISSN 0018-9294.
56. E. Lanzarone, P. Liani, G. Baselli, M.L. Costantino. **Model of arterial tree and peripheral control for the study of physiological and assisted circulation.** Med Eng Phys 2007; 29(5):542-55; ISSN 1350-4533.

Published proceedings of international conference

1. E. Lanzarone, S. Yalçındağ. **Uncertainty factors in the blood donation appointment scheduling: bottlenecks and research perspectives.** Health Care Systems Engineering - Proceedings of HCSE 2019 (Springer Proceedings in Mathematics & Statistics, vol. 316); 293-304; ISBN 978-3-030-39694-7-23.
2. E. Lanzarone, E. Scalco, A. Mastropietro, S. Marzi, G. Rizzo. **A conditional autoregressive model for estimating slow and fast diffusion from magnetic resonance images.** Bayesian statistics and new generations - Proceedings of BAYSM 2018 (Springer Proceedings in Mathematics & Statistics, vol. 296); 135-144; ISBN 978-3-030-30611-3-14.
3. Y. Zhu, A. Matta, E. Lanzarone, N. Geng. **A variable neighborhood search for home care scheduling under chargeable overtime and preference matching.** Proceedings of the 15th IEEE International Conference on Automation Science and Engineering (CASE 2019): 281-286; ISBN 978-1-7281-0355-6.
4. E. Lanzarone, E. Galluccio, V. Bélanger, V. Nicoletta, A. Ruiz. **A recursive optimization-simulation approach for the ambulance location and dispatching problem.** Proceedings of the Winter Simulation Conference (WSC 2018): 2530-2541; ISBN 978-1-5386-6572-5.
5. A. Cataldo, E. Lanzarone, M. Morescalchi, R. Scattolini. **Complexity reduction of model predictive control for a de-manufacturing plant.** IFAC Papers on Line 2018; 51(11): 296-301 [Proceedings of the 16th IFAC Symposium on Information Control Problems in Manufacturing (IFAC INCOM 2018)]; ISSN 2405-8963.

6. M. Toschi, E. Lanzarone, A.M. Anaya-Arenas, V. Bélanger, V. Nicoletta, A. Ruiz. **A fix-and-optimize variable neighborhood search for the biomedical sample transportation problem.** IFAC Papers on Line 2018; 51(11): 992-997 [Proceedings of the 16th IFAC Symposium on Information Control Problems in Manufacturing (IFAC INCOM 2018)]; ISSN 2405-8963.
7. F. Regis-Hernández, E. Lanzarone, V. Bélanger, A. Ruiz. **A data-driven districting to improve emergency medical service systems.** IFAC Papers on Line 2018; 51(11): 998-1003 [Proceedings of the 16th IFAC Symposium on Information Control Problems in Manufacturing (IFAC INCOM 2018)]; ISSN 2405-8963.
8. N. Lahrichi, E. Lanzarone, S. Yalçındağ. **A new decomposition approach for the home health care problem.** Health Care Systems Engineering - Proceedings of HCSE 2017 (Springer Proceedings in Mathematics & Statistics, vol. 210); 27-36; ISBN 978-3-319-66146-9_3.
9. G. Carello, E. Lanzarone, D. Laricini, M. Servilio. **Handling time-related demands in the home care nurse-to-patient assignment problem with the implementor-adversarial approach.** Health Care Systems Engineering - Proceedings of HCSE 2017 (Springer Proceedings in Mathematics & Statistics, vol. 210); 87-97; ISBN 978-3-319-66146-9_8.
10. V. Nicoletta, E. Lanzarone, V. Bélanger, A. Ruiz. **A cardinality-constrained robust approach for the ambulance location and dispatching problem.** Health Care Systems Engineering - Proceedings of HCSE 2017 (Springer Proceedings in Mathematics & Statistics, vol. 210); 99-109; ISBN 978-3-319-66146-9_9.
11. G. Lugaresi, E. Lanzarone, N. Frigerio, A. Matta. **A cardinality-constrained approach for robust machine loading problems.** Procedia Manufacturing 2017 [27th International Conference on Flexible Automation and Intelligent Manufacturing FAIM 2017]; 11: 1718-25; ISSN 2351-9789.
12. C. Bianchi, E. Lanzarone, G. Casagrande, M.L. Costantino. **Identification of patient-specific parameters in a kinetic model of fluid and mass transfer during dialysis.** Bayesian statistics in action - Proceedings of BAYSM 2016 (Springer Proceedings in Mathematics & Statistics, vol. 194); 139-149; ISBN 978-3-319-54084-9_13.
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29. E. Lanzarone, A. Matta, M.A. Jafari. **A simple policy for the nurse-patient assignment in home care services**. Proceedings of the IEEE Workshop on Health Care Management (WHCM 2010); ISBN 978-1-4244-4997-2.
30. E. Lanzarone, A. Matta. **Value of perfect information in home care human resource planning with continuity of care**. Proceedings of the 35th Conference on Operational Research Applied to Health Services (ORAHs 2009); no. 17; ISBN 978-90-81409-90-2. Abstract book; 40.
31. E. Lanzarone, A. Matta, G. Scaccabarozzi. **Workload estimation and balancing in home care organizations**. Proceedings of the 20th International Conference on Production Research 2009 (ICPR 20); 2.58; ISRC CN-E16-09-0006-0.
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33. E. Lanzarone, P. Liani, G. Baselli, M.L. Costantino. **Model of arterial tree and peripheral control for the study of physiological and assisted circulation**. Computers in Cardiology 2004; 31:85-8; ISBN 0-7803-8927-1.

Chapters of international book

1. E. Lanzarone, S. Marconi, M. Conti, F. Auricchio, I. Fassi, F. Modica, C. Pagano, G. Pourabdollahian. **Hospital factory for manufacturing customised, patient-specific 3D anatomo-functional models and prostheses**. In: *T. Tolio, G. Copani and W. Terkaj (eds.), Factories of the Future - the Italian Flagship Initiative*. Springer 2019; 233-254; ISBN 978-3-319-94357-2.
2. L. Bonura, G. Bianchi, D.O.S. Ramirez, R.A. Carletto, A. Varesano, C. Vineis, C. Tonetti, G. Maz-zuchetti, E. Lanzarone, S. Ortelli, A.L. Costa, M. Blosi. **Monitoring systems of an electrospinning plant for the production of composite nanofibers**. In: *T. Tolio, G. Copani and W. Terkaj (eds.), Factories of the Future - the Italian Flagship Initiative*. Springer 2019; 315-337; ISBN 978-3-319-94357-2.
3. E. Lanzarone, A. Matta. **The nurse-to-patient assignment problem in home care services**. In: *A. Testi and E. Tànfani (eds.), Advanced decision making methods applied to health care*. Vol. 173 of the International Series in Operations Research & Management Science (Springer) 2012; 121-139; ISBN 978-88-470-2320-8.

Technical reports

1. A. Montanino, G. Alaimo, E. Lanzarone. **A gradient-based optimization method with functional principal component analysis for efficient structural topology optimization**. Technical report IMATI-CNR 2020; 20-02. *Followed by a submitted paper*.

2. G. Alaimo, F. Auricchio, I. Bianchini, E. Lanzarone. **Applying functional principal components to structural topology optimization**. Technical report IMATI-CNR 2017; 17-09. *Followed by Alaimo et al., Int J Numer Meth Eng 2018; 115(2): 189-208.*
3. S. Baş, G. Carello, E. Lanzarone, S. Yalçındağ. **An appointment scheduling framework to balance the production of blood bags from donation**. Technical report IMATI-CNR 2016; 16-06. *Followed by Baş et al., Eur J Oper Res 2018; 265(3): 1124-43.*
4. D. Carrera, F. Manganini, G. Boracchi, E. Lanzarone. **Defect detection in nanostructures**. Technical report IMATI-CNR 2016; 16-03. *Followed by Carrera et al., IEEE T Ind Inform 2017, 13(2): 555-61.*
5. V. Bélanger, E. Lanzarone, A. Ruiz, P. Soriano. **The ambulance relocation and dispatching problem**. Technical report CIRRELT 2015; no. 59. *Followed by Bélanger et al., Eur J Oper Res 2020; 286(2): 713-25.*
6. R. Argiento, A. Guglielmi, E. Lanzarone, I. Nawajah. **Joint prediction of health status and demand for patient in home care services: a Bayesian approach**. Technical report IMATI-CNR (Milan) 2014; 02-MI; ISSN 1722-8964. *Followed by Argiento et al., IMA J Management Math 2017, 28(4): 531-52.*
7. G. Carello, E. Lanzarone, S. Mattia. **Advances in applying the cardinality-constrained model for the nurse-to-patient assignment problem in home care**. Technical report IASI-CNR 2013; R. 13-09; ISSN 1128-3378. *Followed by Carello et al., Operations Research for Health Care 2018; 16: 29-40.*
8. L. Ironi, E. Lanzarone. **Assigning probabilities to qualitative dynamics of gene regulatory networks**. Technical report IMATI-CNR 2013; 2PV13/2/0; ISSN 1722-8964. *Followed by Ironi and Lanzarone, J Math Biol 2014, 69(6-7): 1661-92.*

Abstracts and other proceedings of international conference

1. E. Lanzarone, S. Yalçındağ, I. Marques. **An integrated framework to combine blood collection planning and inventory management**. 46th Conference on Operational Research Applied to Health Services (ORAHS 2020). Conference book; 26.
2. E. Lanzarone, E. Galluccio, V. Bélanger, V. Nicoletta, A. Ruiz. **A recursive simulation-optimization tool to estimate the busy fractions in the ambulance location and dispatching problem**. 44th Conference on Operational Research Applied to Health Services (ORAHS 2018). Conference book; 26.
3. S. Baş Güre, G. Carello, E. Lanzarone, S. Yalçındağ. **Appointment scheduling for the blood collection process: a two-stage framework to balance the production of blood units**. 44th Conference on Operational Research Applied to Health Services (ORAHS 2018). Conference book; 27.
4. V. Bélanger, F. Regis-Hernández, E. Lanzarone, A. Ruiz. **A multi-criteria districting approach for ambulance fleet management**. 44th Conference on Operational Research Applied to Health Services (ORAHS 2018). Conference book; 34.
5. M. Conti, H.W.L. de Beaufort, F.J.H. Nauta, S. Marconi, E. Lanzarone, J.A. van Herwaarden, F.L. Moll, S. Trimarchi, F. Auricchio. **The impact of thoracic endovascular repair on the aortic biomechanics**. 8th World Congress of Biomechanics (WCB 2018), Contribution O1972.
6. M. Toschi, A.M. Anaya-Arenas, E. Lanzarone, V. Bélanger, A. Ruiz. **A matheuristic for the biomedical sample transportation problem with interdependent pickups**. 7th International Workshop on Freight Transportation and Logistics (ODYSSEUS 2018), Conference book, TH3b.
7. C. Bianchi, E. Lanzarone, G. Casagrande, M.L. Costantino. **Bayesian identification of patient-specific parameters in a dialysis kinetic model**. Int J Artif Organs 2017 [special issue on the 44th ESAO congress]; 40(8):400; ISSN 0391-3988.
8. S. Yalçındağ, N. Lahrichi, E. Lanzarone. **Comparison between alternative decomposition methods to solve the assignment and routing problems in home health care**. 43rd Conference on Operational Research Applied to Health Services (ORAHS 2017). Conference book; 52-3.
9. V. Nicoletta, V. Bélanger, E. Lanzarone, A. Ruiz. **Optimization methods to handle uncertainty in healthcare location-allocation problems: a literature review**. 43rd Conference on Operational Research Applied to Health Services (ORAHS 2017). Conference book; 25.
10. G. Carello, E. Lanzarone, D. Laricini, M. Servilio. **An implementor-adversary approach for the nurse-to-patient assignment problem in home care with uncertain and time-related demands**. 42nd Conference on Operational Research Applied to Health Services (ORAHS 2016). Conference book; 52-3.
11. N. Lahrichi, E. Lanzarone, S. Yalçındağ. **A new decomposition approach for solving the assignment and routing problems in home health care**. 42nd Conference on Operational Research Applied to Health Services (ORAHS 2016). Conference book; 134.

12. S. Pasquali, E. Lanzarone, G. Gilioli, E. Marchesini. **How Bayesian inference can help winegrowers?** 48èmes Journées de Statistique de la SFdS, ENBIS session.
13. V. Bélanger, E. Lanzarone, A. Ruiz, P. Soriano. **Ambulance location and routing.** 27th Conference of the Production and Operations Management Society (POMS 27th). Abstract code 065-0736.
14. C. Bianchi, E. Lanzarone, G. Pontoriero, C. Schoenholzer, G. Casagrande, M.L. Costantino. **A new method to personalize dialysis therapy.** Int J Artif Organs 2015 [special issue on the 42nd ESAO congress]; 38(7):387 and 38(9):522; ISSN 0391-3988.
15. V. Bélanger, E. Lanzarone, A. Ruiz, P. Soriano. **A matheuristic decomposition approach to solve the dynamic ambulance relocation and preassignment problem.** 41st Conference on Operational Research Applied to Health Services (ORAHS 2015). Conference book; 40.
16. S. Baş, G. Carello, E. Lanzarone, Z. Ocak, S. Yalçındağ. **Balancing the production of blood bags from donation through appointment scheduling.** 41st Conference on Operational Research Applied to Health Services (ORAHS 2015). Conference book; 21.
17. I. Bianchini, R. Argiento, E. Lanzarone. **Two Bayesian approaches to estimate aortic stiffness from patient-specific CTA images.** 7th International Conference of the ERCIM WG on Computational and Methodological Statistics (ERCIM 2014). Abstract book; 134.
18. E. Lanzarone, G. Carello, S. Mattia. **Different perspectives and goals in home care planning.** 40th Conference on Operational Research Applied to Health Services (ORAHS 2014). Conference book; 65.
19. G. Casagrande, C. Bianchi, E. Lanzarone, M.L. Costantino. **Prediction of single patient response during dialysis: Bayesian estimation of patient-specific parameters and latent state variables.** 60th Annual Meeting of the American Society of Artificial Internal Organs (ASAIO 2014). Abstract book; no. 147; pag. 112.
20. E. Lanzarone, C. Masclet, F. Noël. **Agility in home-care replanning through co-operation with graphical metaphors.** 5th Joint Virtual Reality Conference (JVRC 2013). Industrial session 2.
21. E. Lanzarone, L. Martín-Fernández, A. Pievatolo, F. Ruggeri. **Stochastic modelling of a shredding process for PCB recycling.** Joint Meeting of Young Business and Industrial Statisticians (y-BIS 2013). Invited session. Abstract book; 55.
22. A. Pievatolo, E. Lanzarone, L. Martín-Fernández, F. Ruggeri. **Design and analysis of electro-spinning experiments.** Thirteenth annual conference of the European Network for Business and Industrial Statistics (ENBIS-13). Abstract book; 43.
23. R. Argiento, A. Guglielmi, E. Lanzarone, I. Nawajah. **Bayesian analysis and prediction of patients' demands for visits in home health care.** Thirteenth annual conference of the European Network for Business and Industrial Statistics (ENBIS-13). Abstract book; 77.
24. I. Nawajah, R. Argiento, A. Guglielmi, E. Lanzarone. **A Bayesian approach for modeling patient's demand and hidden health status: an application to home care.** Conference on Complex Data Modeling and Computationally Intensive Statistical Methods for Estimation and Prediction (S.Co.2013). Contributed poster; ISBN 97888-6493-019-0.
25. L. Martín-Fernández, G. Gilioli, E. Lanzarone, J. Míguez, S. Pasquali, F. Ruggeri, D.P. Ruiz. **Functional response estimation and population tracking in a Lotka-Volterra system using a Bayesian filtering technique.** Eighth Workshop on Bayesian Inference in Stochastic Processes (BISP8). Contributed poster BISP8.33.
26. I. Nawajah, A. Guglielmi, E. Lanzarone, R. Argiento. **Bayesian analysis of home health care longitudinal count data.** Eighth Workshop on Bayesian Inference in Stochastic Processes (BISP8). Contributed poster BISP8.36.
27. E. Lanzarone, A. Matta. **Stochastic assignment of patients in home care services.** INFORMS Healthcare 2011. Abstract book; 28.
28. E. Lanzarone, A. Matta. **Analysis of a patient-nurse assignment policy in home care services.** Actes de 5th Conférence Francophone Gestion et Ingénierie des Systèmes Hospitaliers (GISEH 2010); no. 030.
29. G. Faggian, E. Lanzarone, F. Gelmini, A. Carcereri de Prati, M. Tessari, T. Menon, H. Suzuki, M. Carini, R. Fumero, G.B. Luciani, M.L. Costantino. **Endothelium NO release during cardiac surgery: comparison between continuous and pulsatile flow cardiopulmonary bypass.** Artif Organs 2009 [abstracts of the Conference]; 33(5):A75-6; ISSN 0160-564X. Proceedings of the 5th International Conference on Pediatric Mechanical Circulatory Support Systems & Pediatric Cardiopulmonary Perfusion 2009; 5:108.
30. E. Lanzarone, F. Gelmini, A. Fumero, O. Alfieri, M. Tessari, T. Menon, M. Carini, H. Suzuki, G. Faggian, M.L. Costantino, R. Fumero. **Endothelial NO release and vasodilatation under continuous or pulsatile CPB: modellistic study and clinical investigation.** Int J Artif Organs 2008 [special issue on the 35th ESAO congress]; 31(7):607; ISSN 0391-3988.

31. E. Lanzarone, A. Fumero, F. Gelmini, M. Orioli, M. D'Arienzo, R. Scotti, G. Aldini, F. Morazzoni, M. Carini, M.L. Costantino, R. Fumero. **Endothelium-derived nitric oxide production during cardiovascular surgery: comparison between continuous cardiopulmonary bypass and beating heart surgery**. Int J Artif Organs 2007 [special issue on the 34th ESAO congress]; 30(8):734; ISSN 0391-3988.
32. F. Aletti, E. Lanzarone, M.L. Costantino, G. Baselli. **Effects of pulsatility on apparent peripheral resistance with edema**. Biomed Tech 2006 [special issue of ESGCO conference and meeting]; 51(4):A8; ISSN 0013-5585. Proceedings of ESGCO 2006; 1:264-5.
33. E. Lanzarone, G. Baselli, R. Fumero, M.L. Costantino. **Model of arterial and peripheral circulation with local regulation and filtration through capillary membrane for the study of vasomotion and assisted circulation**. Int J Artif Organs 2005 [special issue on the 32nd ESAO congress]; 28(9):921; ISSN 0391-3988.

National contributions

1. G. Carello, E. Lanzarone, M. Servilio. **Nurse-to-patient assignment in home care services with uncertain and temporally correlated patient demand**. AIRO (Associazione Italiana di Ricerca Operativa) 2019 Conference, Session T3.
2. A. Pievatolo, E. Lanzarone, M. Diani, M. Colledani. **A population balance model for the recycling of waste electrical and electronic equipment: a laboratory experience**. SIS (Società Italiana di Statistica) 2019 Conference, presentation at the invited ENBIS session.
3. E. Lanzarone. **The flagship project Fab@Hospital: methods and technologies for manufacturing customized, patient specific prostheses in a hospital factory**. Talk for the workshop of the European Project Horizon 2020 SMART-map at the II conference of the IDBN (Italian Digital Biomanufacturing Network).
4. S. Marconi, E. Lanzarone, G. Van Bogerijen, M. Conti, F. Secchi, S. Trimarchi, F. Auricchio. **A compliant aortic model for in vitro tests produced by 3D printing and molding**. Proceedings of the II conference of the IDBN (Italian Digital Biomanufacturing Network), 65-67; ISBN 9788866931249.
5. S. Yalçındağ, S. Baş, E. Lanzarone, G. Carello. **An appointment scheduling framework to balance the production of blood units from donation**. 38th Turkish National Operations Research and Industrial Engineering Congress (YAEM 2018), Abstracts book, 47.
6. R. Argiento, I. Bianchini, A. Guglielmi, E. Lanzarone. **Bayesian nonparametric covariate driven clustering** SIS (Società Italiana di Statistica) 2018 Conference, Proceedings book, 46-55; ISBN 978-88-9191-023-3.
7. F. Regis-Hernández, E. Lanzarone, V. Bélanger, A. Ruiz. **Demand-driven districting to improve emergency medical services**. 60th Annual CORS (Canadian Operational Research Society) Conference, 2018, Conference book, 33.
8. V. Nicoletta, E. Lanzarone, V. Bélanger, A. Ruiz. **A cardinality-constrained robust approach for the biomedical samples laboratories network problem**. 60th Annual CORS (Canadian Operational Research Society) Conference, 2018, Conference book, 53.
9. V. Bélanger, M. Toschi, A.M. Anaya-Arenas, E. Lanzarone, A. Ruiz. **A matheuristic for the biomedical sample transportation problem with interdependent pickups**. 60th Annual CORS (Canadian Operational Research Society) Conference, 2018, Conference book, 53.
10. V. Nicoletta, V. Bélanger, E. Lanzarone, A. Ruiz. **A cardinality-constrained robust approach for the biomedical samples laboratories network problem**. Optimization Days 2018 at HEC Montréal.
11. F. Regis-Hernández, E. Lanzarone, V. Bélanger, A. Ruiz. **Demand-driven districting to minimize response time in emergency medical services**. Optimization Days 2018 at HEC Montréal.
12. M. Toschi, A.M. Anaya Arenas, V. Bélanger, E. Lanzarone, A. Ruiz. **A VNS for the biomedical sample transportation problem with interdependent pickups**. Optimization Days 2018 at HEC Montréal.
13. E. Lanzarone, M. Conti, S. Marconi, H.W.L. De Beaufort, S. Trimarchi, F. Auricchio. **Alteration of lumped parameters under stent graft in ex vivo porcine aortas**. ESB-ITA (Italian Chapter of the European Society of Biomechanics) 2017 Meeting; Abstracts book, 43-4; ISBN 978-88-6296-000-7.
14. E. Lanzarone, S. Baş, G. Carello, S. Yalçındağ. **An appointment scheduling framework to balance the production of blood bags from donation**. AIRO (Associazione Italiana di Ricerca Operativa) 2016 Conference, Abstracts book, 178-9.
15. S. Baş, G. Carello, E. Lanzarone, Z. Ocak, S. Yalçındağ. **Kan bağıışı sistemlerinde bağıışçı randevu çizelgeleme modeli**. 35th Turkish National Operations Research and Industrial Engineering Congress (YAEM 2015), Abstracts book, 250.

16. E. Lanzarone, S. Baş, Z. Ocak, G. Carello, S. Yalçındağ. **Balancing the production of blood bags from donation through appointment scheduling**. AIRO (Associazione Italiana di Ricerca Operativa) 2015 Conference, Abstracts book, 77-8.
17. I. Bianchini, R. Argiento, F. Auricchio, E. Lanzarone. **Evaluating uncertainty in finite element analysis via functional principal component analysis**. ESB-ITA (Italian Chapter of the European Society of Biomechanics) 2015 Meeting, Abstracts book, 13-4.
18. G. Carello, E. Lanzarone, S. Mattia. **Different perspectives and goals in home care planning**. AIRO (Associazione Italiana di Ricerca Operativa) 2014 Conference, Abstracts book, 106.
19. I. Nawajah, R. Argiento, A. Guglielmi, E. Lanzarone. **Joint prediction of demand and care duration in home care patients: a Bayesian approach**. SIS (Società Italiana di Statistica) 2014 Conference, Proceedings book, no. 2893; ISBN 978-88-8467-874-4.
20. G. Carello, E. Lanzarone. **A robust optimization approach for the nurse-to-patient assignment problem in home care**. AIRO (Associazione Italiana di Ricerca Operativa) 2012 Conference, Abstracts book, 63.
21. E. Lanzarone, A. Matta, E. Sahin, Y. Dallery. **Assigning operators to patients in home care providers**. Actes du 12e Congrès Annuel de la Société Française de Recherche Opérationnelle et d'Aide à la Décision 2011 (ROADEF 2011); Vol. II; 677-8.
22. E. Lanzarone, M.L. Costantino, R. Fumero. **Endothelial nitric oxide release under pulsatile or continuous cardiopulmonary bypass: computational model**. Atti del Congresso Nazionale di Bioingegneria 2008; 187-8; Pàtron editore; ISBN 978-88-55529-83-9.
23. E. Lanzarone, A. Fumero, H. Suzuki, F. Gelmini, M. Carini, G. Faggian, M.L. Costantino. **Endothelial nitric oxide release under pulsatile or continuous cardiopulmonary bypass or beating heart surgery: clinical investigation**. Atti del Congresso Nazionale di Bioingegneria 2008; 785-6; Pàtron editore; ISBN 978-88-55529-83-9.
24. E. Lanzarone, M.L. Costantino, R. Fumero. **Il bypass cardiopolmonare e l'alterazione sistemica: il ruolo dell'endotelio**. In-Bypass 2007 [A.N.Pe.C. - Associazione Nazionale Perfusionisti in Cardiocirurgia]; 20(2):3403-10.

Didactic books

1. G. Casagrande, E. Lanzarone, L. Marocco, F. Miglietta. **Esercizi di Fisica Tecnica**. Pitagora Editrice. Third ed. 2013 (first ed. 2008); ISBN 88-371-1215-7.

My theses

1. E. Lanzarone. **Il ruolo attivo dell'endotelio nella risposta sistemica ad una perfusione continua o pulsatile**. Tesi di Dottorato in Bioingegneria, XX ciclo, Politecnico di Milano, 2008. Tutor: Roberto Fumero - Advisor: Maria Laura Costantino.
2. E. Lanzarone, P. Liani. **Modello della circolazione arteriosa sistemica con regolazione locale dei distretti periferici**. Tesi di Laurea Quinquennale in Ingegneria Biomedica, Politecnico di Milano, 2004. Advisors: Maria Laura Costantino, Giuseppe Baselli.

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Lectures and seminars

Tutorials:

- E. Lanzarone. **Addressing uncertainty in health care with the cardinality-constrained approach: a tradeoff between accuracy, computational effort, and interaction with clinicians**. Plenary Tutorial Speaker at the 41st Conference on Operational Research Applied to Health Services (ORAHs 2015), Montréal, Canada, July 19-24, 2015.

Invited talks:

- E. Lanzarone. **Stochastic parameters estimation in dynamical systems from observations: general framework and applications**. First Joint International Meeting RSME-SCM-SEMA-SIMAI-UMI, Bilbao, Spain, July 2014. Invited talk for session Model Order Reduction and Highly Demanding Applications. Abstract book; 299.
- E. Lanzarone, S. Pasquali, V. Mussi, F. Ruggeri. **Bayesian estimation of thermal conductivity and temperature profile in homogeneous masses**. Eighth Workshop on Bayesian Inference in Stochastic Processes (BISP8). Invited young researcher (abstract BISP8.13).

- E. Lanzarone, M.L. Costantino, G. Faggian. **Continuous vs pulsatile flow in CPB: NO production and its implications**. Invited lecture at ESAO winter school 2008; Cortina d'Ampezzo (Belluno, Italy), March 2008.

Seminars:

- **An implementor-adversary approach to consider uncertain and temporally correlated patient demands in the home health care robust nurse-to-patient assignment problem**. Seminar at the Technology Campus of KU Leuven, Ghent, Belgium, February 24, 2020. Seminar at KU Leuven, Department of Information Management, Modeling and Simulation, Bruxelles, Belgium, February 25, 2020.
- **Lumped parameter models of the cardiovascular system and design of an in-vitro mock loop circuit of the arterial circulation**. Seminar at the University of Pavia, Pavia, Italy, May 21, 2019.
- **A blood donation appointment scheduling**. Seminar at the Université Laval, Faculty of Business Administration, CIRRELT, Quebec, Canada, February 11, 2019.
- **Application of the cardinality-constrained approach to address problems in healthcare activities planning**. Seminar at the Université de Montréal, CIRRELT, Montréal, Canada, May 20, 2016. Seminar at the Université Laval, Faculty of Business Administration, CIRRELT, Quebec, Canada, March 24, 2016.
- **Applying Operations Research from Theory to Practice: examples from Health Care Services**. Seminar at the Yeditepe University, Industrial and Systems Engineering Department, Istanbul, Turkey, November 30 and December 1, 2015.
- **Bayesian reverse engineering approach to estimate parameters from observations in dynamical systems**. Seminar at the Shanghai Jiao Tong University, School of Mechanical Engineering, Shanghai, China, May 6, 2015.
- **Different approaches for a robust optimization of the home care services**. Seminar at the University of Nottingham, China Campus, Department of Mechanics Materials and Manufacturing Engineering, Ningbo, China, May 4, 2015.
- **Applying the cardinality-constrained approach in health care systems (standard two levels or more levels): the home care example**. Seminar at the Shanghai Jiao Tong University, School of Mechanical Engineering, Shanghai, China, April 28, 2015.
- **Robust approaches in optimization methods for health care delivery**. Seminar at the Yeditepe University, Industrial and Systems Engineering Department, Istanbul, Turkey, December 1, 2014.
- **Stochastic optimization methods for health care delivery: the home care example**. Seminar at the MOX Laboratory, Department of Mathematics, Politecnico di Milano, Milan, Italy, October 4, 2013.

Other presentations:

- E. Lanzarone. **Initiatives of the National Research Council of Italy**. First Industrial Conference on Artificial Intelligence and Health (ICAIH 2019) – round table 6: European and Italian initiatives in AI and health. Regione Lombardia (Palazzo Pirelli), November 13 and 14, 2019.
- E. Lanzarone, S. Marconi. **L'idea Beta-Lab**. Beta-Lab: Ruolo della Ricerca Traslationale. I.R.C.C.S. Policlinico San Donato, March 11, 2014.

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Projects

Funded research projects

Grants and coordination roles:

- **Miglioramento delle produzioni agroalimentari e tecnologie innovative per un'alimentazione più sana, sicura e sostenibile – sPATIALS3**. Hub Project funded by Regione Lombardia. Coordinator of the CNR-IMATI Research Unit until transferred from the CNR to the University of Bergamo. Financed amount of the Unit equal to 71.5k€. Project developed from 2019 to 2021.
- **Industrial PhD position funded by CNR and Confindustria**. Winner of a scholarship to activate an industrial doctorate position (XXXV cycle). The position has been activated at the Politecnico di Milano in collaboration with Prof. Andrea Matta on the topic “stochastic energy saving policies for machine tools”.

- **Future Home for Future Communities – FHfFC.** Project funded by Regione Lombardia (Act 7884 of August 5, 2016) and CNR. Coordinator of the CNR-IMATI Research Unit. Financed amount of the Unit equal to 42k€. Project developed from 2017 to 2019.
- **Fab@Hospital for bone plate fabrication and patient anatomy reconstruction using rapid prototyping technologies – F@H for 3D plates.** Flagship Project Factory of the Future (Prototype Project) funded by the Italian MIUR and CNR organizations. Principal investigator; other unit coordinators Ferdinando Auricchio (Università degli Studi di Pavia) and Giacomo Copani (CNR-ITIA). Financed amount of the Project equal to 58k€. Project developed in 2016.
- **Automated electrospinning plant for industrial manufacturing of functional composite nanofibres – AUTOSPIN.** Flagship Project Factory of the Future (Prototype Project) funded by the Italian MIUR and CNR organizations. Coordinator of the CNR-IMATI Research Unit. Financed amount of the Project equal to 54k€. Project developed in 2016.
- **Hospital factory for manufacturing customized, patient specific 3D anatomo-functional models and prostheses – Fab@Hospital.** Flagship Project Factory of the Future (Subproject S2) funded by the Italian MIUR and CNR organizations. Principal investigator; other unit coordinators Ferdinando Auricchio (Università degli Studi di Pavia) and Giacomo Copani (CNR-ITIA). Financed amount of the Project equal to 187k€. Project developed from 2014 to 2016.
- **Composite nanofibres for treatment of air and water by an industrial conception of electrospinning – NanoTWICE.** Flagship Project Factory of the Future (Subproject S1) funded by the Italian MIUR and CNR organizations. Coordinator of the CNR-IMATI Research Unit. Financed amount of the Project equal to 300k€. Project developed from 2013 to 2015.
- **Sviluppo di uno strumento di supporto per l’allocazione ottimale delle risorse umane in assistenza domiciliare.** Project founded by Fondazione Floriani. Referent of the project together with Andrea Matta. Project developed from 2010 to 2011.

Main participations:

- **TAILOR.** Project founded under ICT-48-2020 European program. Referent of the CNR-IMATI for the CNR Research Unit coordinated by Fosca Giannotti, until transferred by the CNR to the University of Bergamo. Project developed from 2020 to 2023.
- **Self-Optimizing Shredding Station for Demanufacturing Plants – ShredIT.** Flagship Project Factory of the Future (Prototype Project) funded by the Italian MIUR and CNR organizations. Member of the CNR-IMATI Research Unit; unit coordinator Antonio Pievatolo. Project developed in 2016.
- **Project Fabbrica Intelligente – FIDEAS.** Project funded by Regione Lombardia (Act 3667 of April 27, 2013) and CNR. Member of the CNR-IMATI Research Unit; unit coordinator Antonio Pievatolo. Project developed from 2013 to 2015.
- **Integrated technological solutions for zero waste recycling of printed circuit boards – ZeroWastePCBs.** Flagship Project Factory of the Future (Subproject S1) funded by the Italian MIUR and CNR organizations. Member of the CNR-IMATI Research Unit; unit coordinator Antonio Pievatolo. Project developed from 2013 to 2015.
- **Flagship Project InterOmics – Subproject S1 – WP15.** Flagship Project PB.P05 funded by the Italian MIUR and CNR organizations. Member of the CNR-IMATI Research Unit; unit coordinator Liliana Ironi. Project developed from 2012 to 2014.
- **Sviluppo di uno strumento di supporto alla pianificazione del servizio di assistenza domiciliare.** Project founded by Fondazione Lu.V.I. Onlus. Member of the Politecnico di Milano Research Unit; unit coordinator Andrea Matta. Project developed from 2008 to 2009.

Other participations:

- **Virtual modeling and additive manufacturing (3D printing) for advanced materials – 3D@UniPV.** Progetto Strategico di Ateneo 2015, Università degli Studi di Pavia. CNR-IMATI is Project Collaborator; reference people are: Annalisa Buffa, Ettore Lanzarone.
- **La Matematica per la società e l’innovazione tecnologica – MATHTECH.** Progetto Premiale 2012, funded by the Italian MIUR. Member of WP2 “Salute e Benessere” and WP5 “Fabbrica del futuro” (Leader of Task 5.3 “Modelli stocastici nella manifattura”).

Collaborations:

- **Collaborator of the COVAID group of the University of Bergamo** in support of the intensive care unit of the Papa Giovanni XXIII hospital, Bergamo, Italy, for the analysis of data from patients with COVID-19.

- **Collaboration with AVIS Comunale di Milano.** Collaboration with the Associazione Volontari Italiani del Sangue (Milan department) for the optimal donor flow management, provided free of charge to support the association's activities. Contact person of the association Sergio Casartelli (general director).
- **Collaboration with Paloma 2000.** Collaboration with the Social Cooperative Paloma 2000 for the optimal management of home care services, provided free of charge to support the cooperative's activities. Contact person of the cooperative Cecily Castelnovo.
- **Sistema di Monitoraggio Ambientale con Rete di sensori e Telemonitoraggio indossabile a supporto di servizi di salute, prevenzione e sicurezza per l'active aging – SMARTA.** Project funded by Regione Lombardia within the call Smart Cities and Communities. Contract collaborator for the project. Project developed from 2014 to 2015.

Mobility Projects:

- **Ottimizzazione bilivello.** Project funded by the Istituto Nazionale di Alta Matematica "Francesco Severi" (INDAM) in 2020. Project member; coordinator Sara Mattia.
- **Advanced visual tool for the collaborative replanning of service delivery at home: application to home health care.** Project no.138 funded by the Visionair European infrastructure. TNA referent of the project. Project developed from February 2014 to April 2014.
- **Data visualization for the complexity of human resource planning in home health care.** Project no.29 funded by the Visionair European infrastructure. TNA referent of the project. Project developed from November 2012 to July 2013.

Other results in proposed research projects:

- **Robotics for rehabilitation: robotized motor coordination analysis and therapy – R4R.** Project presented to the call FIRB 2008 (code RBFR08MBEO) of the Italian MIUR organization. Coordinator of the Politecnico di Milano Research Unit. Proposal admitted to the national auditions and declared fundable, even if not funded due to lack of additional funds.

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Products

Commercial software with newly developed algorithms

- Developer of the optimization algorithm that supports planning at Compass Care LLC, Stamford, CT, US. He is also shareholder of Compass Care. www.CareWhenYouNeedIt.com
- Developer of the optimization algorithm in TPS 3.0. www.tpssolutions.it
- Developer of the module for forecasting and assigning workload to operators contained in Hopera Oikos. www.newsysline.it
- Developer of Bee@home (human resource planner for home care service) for Bee Value Srl. This was a consultancy and technology transfer company, with an according partnership with CNR-IMATI (protocol CNR-IMATI no. 781 of April 19, 2013) for the development and the dissemination of optimization algorithms.

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Didactic activity

He is a tenure-track assistant professor (*ricercatore di tipo B*) at the University of Bergamo, Dalmine (BG), Italy. Previously, he was an adjunct professor at the Politecnico di Milano, Milan, Italy.

Courses (professor):

- *Image based biomechanics lab*; Università degli Studi di Bergamo, Master's Degree Course in Engineering and Management for Health, A.Y. 2019/20, 2020/21.
- *Medical support systems for chronic diseases*; Università degli Studi di Bergamo, Master's Degree Course in Engineering and Management for Health, A.Y. 2018/19, 2019/20, 2020/21.
- *Modeling and simulation*; Università degli Studi di Bergamo and Università degli Studi di Milano Bicocca, Degree Course in Medicine and Surgery, A.Y. 2020/21.

- *Mathematical Analysis I*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Civile - international track, A.Y. 2020/21.
- *Analisi e Geometria 1*; Politecnico di Milano, Bachelor's Degree Courses in Ingegneria Aerospaziale, Energetica e Meccanica (alphabetical group STR-Z), A.Y. 2017/18, 2018/19, 2019/20, 2020/21.
- *Analisi Matematica 1*; Politecnico di Milano, Bachelor's Degree Courses in Ingegneria Elettronica, Informatica, delle Telecomunicazioni, dell'Automazione e Elettrica (alphabetical group SAZ-Z), A.Y. 2019/20.
- *Analisi Matematica 1*; Politecnico di Milano, Bachelor's Degree Courses in Ingegneria Elettronica, Informatica, delle Telecomunicazioni, dell'Automazione e Elettrica (alphabetical group SD-Z), A.Y. 2017/18, 2018/19.
- *Analisi Matematica II*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Gestionale (alphabetical group PO-Z), A.Y. 2016/17.
- *Analisi e Geometria 1*; Politecnico di Milano, Bachelor's Degree Courses in Ingegneria Aerospaziale, Energetica e Meccanica (alphabetical group SPE-Z), A.Y. 2015/16, 2016/17.
- *Analisi matematica 2*; Politecnico di Milano, Bachelor's Degree Courses in Ingegneria Informatica e delle Telecomunicazioni (alphabetical group P-Z), A.Y. 2012/13, 2013/14, 2014/15.
- *Fisica Tecnica*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Civile e Ambientale, Polo Regionale di Lecco, A.Y. 2009/10.

Previously, he was also a lecturer at the Politecnico di Milano, Milan, Italy.

Courses (lecturer):

- *Mathematical Analysis I*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Civile - international track (professor myself), A.Y. 2020/21.
- *Analisi Matematica II*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Matematica (Prof. Gianni Arioli), A.Y. 2013/14, 2014/15, 2015/16, 2016/17.
- *Analisi Matematica II*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Fisica (Prof. Gianni Arioli), A.Y. 2010/11, 2011/12, 2012/13.
- *Analisi e Geometria 2*; Politecnico di Milano, Bachelor's Degree Courses in Ingegneria Aerospaziale, Energetica e Meccanica (Prof. Federico Giampiero Lastaria), A.Y. 2012/13.
- *Analisi e Geometria 1*; Politecnico di Milano, Bachelor's Degree Courses in Ingegneria Aerospaziale, Energetica e Meccanica –percorso ASPRI– (Prof. Maria Cristina Cerutti), A.Y. 2012/13.
- *Analisi Matematica II*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Gestionale (Prof. Gianni Arioli), A.Y. 2011/12.
- *Analisi Matematica I e Geometria*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Gestionale (Prof. Roberto Notari), A.Y. 2011/12.
- *Analisi e Geometria 1*; Politecnico di Milano, Bachelor's Degree Courses in Ingegneria Aerospaziale, Energetica e Meccanica (Prof. Marco Ugo Claudio Boella), A.Y. 2011/12.
- *Probabilità e Statistica Matematica*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Gestionale (Prof. Marco Ugo Claudio Boella), A.Y. 2008/09, 2009/10, 2010/11.
- *Analisi Matematica I e Geometria*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Gestionale (Prof. Marco Ugo Claudio Boella), A.Y. 2010/11.
- *Complementi di Analisi Matematica*; Politecnico di Milano, Master's Degree Course in Ingegneria Chimica (Prof. Gianni Arioli), A.Y. 2008/09, 2009/10.
- *Sistemi integrati di produzione*; Politecnico di Milano, Master's Degree Course in Ingegneria Meccanica (Prof. Andrea Matta), A.Y. 2010/11.
- *Fisica Tecnica e Sistemi Energetici (modulo di Fisica Tecnica)*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Gestionale (Prof. Antonio Salerno), A.Y. 2011/12.
- *Fisica Tecnica e Sistemi Energetici (modulo di Fisica Tecnica)*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Gestionale (Prof. Alberto Salioni), A.Y. 2010/11, 2011/12.
- *Fisica Tecnica*, Bachelor's Degree Course in Ingegneria Aerospaziale (Prof. Ferruccio Miglietta); Politecnico di Milano, A.Y. 2008/09, 2009/10, 2010/11.
- *Fisica Tecnica*, Bachelor's Degree Course in Ingegneria Civile e Ambientale (Prof. Fabio Inzoli); Politecnico di Milano, Polo Regionale di Lecco, A.Y. 2010/11.
- *Fisica Tecnica*, Bachelor's Degree Course in Ingegneria Civile e Ambientale (Prof. Fabio Inzoli); Politecnico di Milano, Polo Regionale di Como, A.Y. 2010/11.

- *Fisica Tecnica*; Politecnico di Milano, Bachelor's Degree Course in Ingegneria Meccanica (Prof. Ferruccio Miglietta), A.Y. 2004/05, 2005/06, 2006/07.

Moreover, he also performed other didactic activities at Politecnico di Milano: he was a project tutor for the course *Bayesian Statistics* (Prof. Alessandra Guglielmi), from A.Y. 2015/16; he was a project reviewer for the course *Research management* (Ph.D. school, Prof. Tullio Tolio e Marcello Urgo), A.Y. 2010/11, 2012/13, and 2013/14; he performed seminars for various courses within the Industrial Bioengineering and various tutoring activities.

He has been Advisor of Master's and Bachelor's Degree Theses.

List of Master's Degree Theses:

- M. Begnis, Y. Chaar. **Enhancing Bayesian approaches for intravoxel incoherent motion parameters estimation in diffusion-weighted MRI by clustering techniques.** Master's Degree Thesis in Engineering and Management for Health, Università degli Studi di Bergamo, 2019/20 Advisor: [E. Lanzarone](#).
- C. Mazzanti. **Biomedical sample transportation problem: an iterative time decomposition scheme with fix and optimize techniques.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2019/20. Advisor: G. Carello. Co-advisors: A.M. Anaya-Arenas, V. Bélanger, [E. Lanzarone](#), A. Ruiz.
- M. Doneda. **A discrete-event simulation model for the improvement of operations in a blood donation center.** Master's Degree Thesis in Engineering and Management for Health, Università degli Studi di Bergamo, 2019/20. Advisor: [E. Lanzarone](#). Co-advisors: S. Yalçındağ, I. Marques.
- L. Galperti. **Un approccio robusto per l'assegnamento paziente-operatore nei servizi di assistenza domiciliare con riassegnamento dinamico.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2019/20. Advisor: G. Carello. Co-advisor: [E. Lanzarone](#).
- Y. Zhu. **Home care scheduling considering preference matching.** Master's Degree Thesis in Ingegneria Meccanica, Politecnico di Milano, 2019/20. Advisor: A. Matta. Co-advisor: [E. Lanzarone](#).
- E. Spinelli. **Count process approach to recurrent event data: a Bayesian model for blood donations.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2018/19. Advisor: A. Guglielmi. Co-advisor: [E. Lanzarone](#).
- L. Malagodi. **Home Care Vehicle Routing Problem: the case of chargeable overtime and preferences.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2017/18. Advisor: A. Matta. Co-advisor: [E. Lanzarone](#).
- S. Carlucci. **Blood donation appointment scheduling problem: an implementor-adversarial robust approach.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2016/17. Advisor: G. Carello. Co-advisor: [E. Lanzarone](#).
- M. Toschi. **Two local search heuristic approaches for solving the biomedical sample transportation problem.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2016/17. Advisor: G. Carello. Co-advisors: A.M. Anaya-Arenas, V. Bélanger, [E. Lanzarone](#), V. Nicoletta, A. Ruiz.
- E. Galluccio. **A recursive optimization-simulation approach for the ambulance location and dispatching problem.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2016/17. Advisor: G. Carello. Co-advisors: V. Bélanger, [E. Lanzarone](#), V. Nicoletta, A. Ruiz.
- I. Gianoli. **Analysis of gap times of recurrent blood donations via Bayesian nonparametric models.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2015/16. Advisor: A. Guglielmi. Co-advisor: [E. Lanzarone](#).
- G. Lugaresi. **The cardinality-constrained approach applied to manufacturing problems.** Master's Degree Thesis in Ingegneria Meccanica, Politecnico di Milano, 2015/16. Advisor: A. Matta. Co-advisor: [E. Lanzarone](#).
- V. Nicoletta. **Robust optimization approach for location-allocation problems under demand uncertainty.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2015/16. Advisor: E. Amaldi. Co-advisors: V. Bélanger, [E. Lanzarone](#), A. Ruiz.
- D. Laricini. **Un approccio Implementor-Adversary per l'assegnamento dei pazienti agli operatori nei servizi di assistenza domiciliare con domande incerte e temporalmente correlate.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2014/15. Advisor: G. Carello. Co-advisor: [E. Lanzarone](#).
- M. Ciniselli. **Un approccio robusto per il problema dell'assegnamento ottimale dei pazienti agli operatori nei servizi di assistenza domiciliare.** Master's Degree Thesis in Ingegneria Matematica, Politecnico di Milano, 2013/14. Advisor: G. Carello. Co-advisor: [E. Lanzarone](#).

- L. Pagani. **Progettazione, implementazione e validazione sperimentale di un software di controllo retroazionato per una pompa pulsatile da banco**. Master's Degree Thesis in Ingegneria Biomedica, Politecnico di Milano, 2006/07. Advisor: M.L. Costantino. Co-advisors: E. Lanzarone, E. Cutrì.
- F. Barbone, G. Intini. **Modello del controllo endoteliale della circolazione arteriosa in perfusione continua o pulsatile**. Master's Degree Thesis in Ingegneria Biomedica, Politecnico di Milano, 2006/07. Advisor: M.L. Costantino. Co-advisor: E. Lanzarone.
- F. Aletti. **Risposta dei distretti periferici alle condizioni di circolazione in un modello di albero arterioso**. Master's Degree Thesis Ingegneria Biomedica, Politecnico di Milano, 2004/05. Advisors: G. Baselli, M.L. Costantino. Co-advisor: E. Lanzarone.

He has been Opponent of Master's and Bachelor's Degree Theses.

List of Master's Degree Theses:

- A. Arrigoni. Master's Degree Thesis in Engineering and Management for Health (*advisors A. Remuzzi and A. Caroli*), Università degli Studi di Bergamo, 2019/20.
- A. Di Blasi. Master's Degree Thesis in Ingegneria Matematica (*advisors A. Guglielmi and R. Argiento*), Politecnico di Milano, 2018/19.

He has been Opponent and Committee Member for Ph.D. theses.

List:

- Opponent for the Ph.D. Thesis in Bioengineering authored by Giordano Tasca (*advisors A. Redaelli and R. Vismara*), Politecnico di Milano, XXX cycle, 2018.
- *Ph.D. dissertation, Departamento de Física Aplicada, Universidad de Granada, Spain*. Invited member of the committee, November 21, 2012.

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Editorial committees

Journals

- **IEEE Robotics and Automation Letters** (ISSN 2377-3766). Associate Editor.
- **Journal of Advanced Biotechnology and Bioengineering** (ISSN 2311-1755). Member of the editorial board.
- **Bioengineering International** (ISSN 2668-7119). Member of the editorial board.
- **Journal of Data Analysis & Operations Research** (ISSN 2384-4671). Member of the editorial board.

Special issue on journal

- I. Marques, J. Dias, E. Lanzarone, F. Mallor, (eds.). **Innovative Approaches for Emerging Challenges in Health Services and Care** (*special issue for the 31st European Conference on Operational Research - EURO 2021*). Operations Research for Health Care; open call (deadline October 1, 2021).
- V. Augusto, N. Lahrichi, E. Lanzarone, T. Lee, J. Song (eds.). **Special issue on Analytics and Optimization in Healthcare Management**. Flexible Services and Manufacturing Journal; open call (deadline September 15, 2020).

Books

- V. Bélanger, N. Lahrichi, E. Lanzarone, S. Yalçındağ (eds.) **Health Care Systems Engineering - Proceedings of HCSE 2019**. Springer Proceedings in Mathematics & Statistics; vol. 316 (2020); ISBN 978-3-030-39694-7.
- R. Argiento, E. Lanzarone, I. Antoniano Villalobos, A. Mattei (eds.) **Bayesian statistics in action - Proceedings of BAYSM 2016**. Springer Proceedings in Mathematics & Statistics; vol. 194 (2017); ISBN 978-3-319-54083-2.

- E. Lanzarone, F. Ieva (eds.) **The contribution of young researchers to Bayesian statistics - Proceedings of BAYSM 2013**. Springer Proceedings in Mathematics & Statistics; vol. 63 (2014); ISBN 978-3-319-02083-9.
- A. Matta, E. Sahin, J. Li, E. Lanzarone, J. Fowler (eds.) **Proceedings of the International Conference on Health Care Systems Engineering**. Springer Proceedings in Mathematics & Statistics; vol. 61 (2014); ISBN 978-3-319-01847-8.

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Conference roles

Conference committees

- *Seventeenth IEEE International Conference on Automation Science and Engineering (IEEE CASE 2021)*. Lyon, France, August 23-27, 2021. Workshop and tutorial chair with X. Zhong.
www.case2021.org
- *Fourth International Conference on Health Care Systems Engineering (HCSE 2019)*. Montréal, Canada, May 30 - June 1, 2019. Conference chair with V. Bélanger, N. Lahrichi, S. Yalçındağ.
<https://symposia.cirrelt.ca/hcse2019>
- *Third Bayesian young statisticians meeting (BAYSM 2016)*. Florence, Italy, June 19-21, 2016. Conference chair with R. Argiento.
www.mi.imati.cnr.it/conferences/BAYSM2016
- *Fifth Meeting of the Italian Chapter of the European Society of Biomechanics (ESB-ITA 2015)*. Milan, Italy, June 5, 2015. Member of the organizing committee.
www.esb-ita.it/meeting/5-meeting-capitolo.html
- *Eighth Workshop on Bayesian Inference in stochastic processes (BISP8)*. Milan, Italy, June 6-8, 2013. Member of the organizing committee.
www.mi.imati.cnr.it/conferences/BISP8
- *First Bayesian young statisticians meeting (BAYSM 2013)*. Milan, Italy, June 5-6, 2013. Conference chair with F. Ieva.
www.mi.imati.cnr.it/conferences/BAYSM2013
- *First International Conference on Health Care Systems Engineering (HCSE 2013)*. Milan, Italy, May 22-24, 2013. Member of the scientific and of the organizing committees.
hcse2013.mecc.polimi.it

Jury memberships

- *42nd Conference on Operational Research Applied to Health Services (ORAHS 2016)*. Pamplona, Spain, July 24-29, 2016. Member of the jury for the contest poster.

Conference boards

- *Bayesian young statisticians meeting (BAYSM)*. Founder and Member of the Board from 2013 to 2018.
www.baysm.org

Session chair

- *Winter Simulation Conference 2018*. Gothenburg, Sweden, December 9-12, 2018. Chair of the session “Emergency Medical Service Systems”.
- *44th Conference on Operational Research Applied to Health Services (ORAHS 2018)*. Oslo, Norway, July 29 - August 3, 2018. Chair of the session “Ambulance / Vehicle Routing I”.
- *42nd Conference on Operational Research Applied to Health Services (ORAHS 2016)*. Pamplona, Spain, July 24-29, 2016. Chair of the session “Home Care / LTC(I)”.
- *41st Conference on Operational Research Applied to Health Services (ORAHS 2015)*. Montréal, Canada, July 19-24, 2015. Chair of the session “Patient scheduling 1”.
- *39th Conference on Operational Research Applied to Health Services (ORAHS 2013)*. Istanbul, Turkey, July 7-12, 2013. Chair of the session “OR methodologies for home care”.
- *35th Conference on Operational Research Applied to Health Services (ORAHS 2009)*. Leuven, Belgium, July 12-17, 2009. Chair of the session “Home care services”.

Other

- *Winter Simulation Conference 2020*. Orlando, FL, USA, December 13-16, 2020. PC Member - Healthcare Applications.
meetings2.informs.org/wordpress/wsc2020
- *Twelfth International Conference on Advances in System Simulation (SIMUL 2020)*. Porto, Portugal, October 18-22, 2020. Member of the Technical Program Committee.
http://www.iaria.org/conferences2020/SIMUL20.html
- *Twenty-ninth International Joint Conference on Artificial Intelligence and Seventeenth Pacific Rim International Conference on Artificial Intelligence (IJCAI-PRICAI2020)*. Yokohama, Japan, July 11-17, 2020. PC Member.
www.ijcai20.org
- *Winter Simulation Conference 2019*. National Harbor, MD, USA, December 8-11, 2019. PC Member - Healthcare Applications.
meetings2.informs.org/wordpress/wsc2019
- *Eleventh International Conference on Advances in System Simulation (SIMUL 2019)*. Valencia, Spain, November 24-28, 2019. Member of the Technical Program Committee.
www.iaria.org/conferences2019/SIMUL19.html
- *y-BIS 2019: ISBIS Young Business and Industrial Statisticians Workshop on Recent Advances in Data Science and Business Analytics*. Istanbul, Turkey, September 25-28, 2019. Member of the Scientific Program Committee.
ybis2019.msgsu.edu.tr/scientific-program-committee
- *Winter Simulation Conference 2018*. Gothenburg, Sweden, December 9-12, 2018. PC Member - Healthcare Applications.
meetings2.informs.org/wordpress/wsc2018
- *2nd Italian National Congress IDBN and 3rd Thematic Conference ESB-ITA on 3D Printing and Biomechanics*. Pavia, Italy, September 5-7, 2018. Member of the Scientific Committee.
www-2.unipv.it/compmech/idbn
- *2nd Workshop on Models and Methods for Hospital Management and Planning*. Within ETFA 2016, Berlin, Germany, September 6, 2016. Member of the Workshop Program Committee.
webdiis.unizar.es/m2h
- *EuroVR 2014 Conference*. Bremen, Germany, December 8-10, 2014. Member of the International Program Committee.
eurovr14.uni-bremen.de

Fellowships *Scientific responsible of the following “Assegni di Ricerca”*

- Dr. Martina Doneda (September 2020 – ongoing)
Research activity within the project Miglioramento delle produzioni agroalimentari e tecnologie innovative per un'alimentazione più sana, sicura e sostenibile (sPATIALS3).
- Dr. Fabiola Regis-Hernández (March 2017 – March 2018)
Research activity within the project Future Home for Future Communities (FHfFC). She is now Professor at the Tecnológico de Monterrey, San Luis Potosí, Mexico.
- Dr. Fabio Manganini (March 2014 – March 2015)
Modelli stocastici per l'ottimizzazione del processo di elettrofilatura e sull'analisi delle immagini SEM di manufatti ottenuti tramite elettrofilatura.
- Dr. Laura Martín-Fernández (April 2013 – September 2013)
Modellazione stocastica dei processi industriali: frantumazione di schede elettroniche e separazione dei materiali che le compongono; deposizione di nanofibre a base polimerica su matrice tramite elettrofilatura (jointly with A. Pievatolo).

Scientific responsible of the following “Borse di Studio”

- Dr. Annalisa Romantini (June 2014)
Modelli matematici differenziali e stocastici a supporto dello studio dell'emodinamica vascolare in vitro.
- Dr. Ilaria Bianchini (May 2014 - October 2014)
Metodologie parametriche e non parametriche di statistica bayesiana applicate allo studio della biomeccanica.

Scientific responsible of the following “Contratti di Collaborazione”

- Dr. Lucia Galperti (July 2020 - October 2020)
Implementazione software di un tool di ottimizzazione per l'assistenza domiciliare.
- Dr. Giuseppe La Rosa (March 2018 - June 2018)
Integrazione di un tool di ottimizzazione con i dati contenuti nel database di AVIS Milano.
- Dr. Anna Ferrara (October 2014 - January 2015)
Modelli matematici e strutturali a supporto dello studio dell'emodinamica vascolare in vitro.

Advisor and co-advisor of the following Ph.D. Theses

- Dr. Alberto Loffredo, *Stochastic energy saving policies for machine tools*. Industrial PhD position (XXXV cycle) funded by CNR and Confindustria (awarded to Ettore Lanzarone), in collaboration with Prof. Andrea Matta of the Politecnico di Milano.
- Dr. Seda Baş, *Balancing the production of blood bags from donation through appointment scheduling*.
Ph.D. Thesis in Industrial and System Engineering, Yeditepe University, Istanbul, Turkey, 2018. Advisor: S. Yalçındağ; Co-advisor: E. Lanzarone. She is now Professor at the Işık University, Istanbul, Turkey.
- Dr. Inad Nawajah, *Bayesian analysis of home care longitudinal counts data*.
Ph.D. Thesis in Mathematical Models and Methods in Engineering, Politecnico di Milano, Milan, Italy, 2014. Advisor: A. Guglielmi; Co-advisors: R. Argiento, E. Lanzarone. He is now Professor at the Hebron University, Palestine.

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Visiting periods and hosted researchers

He has been visiting researcher at:

- **KU Leuven, Department of Information Management, Modeling and Simulation**, Bruxelles, Belgium. Invited visiting researcher, February 2020. www.kuleuven.be
- **Université de Montréal, CIRRELT**, Montréal, Canada. Invited visiting researcher, May 2016, and May-June 2019. www.umontreal.ca
- **Université Laval, Faculty of Business Administration**, Quebec, Canada. Invited visiting researcher, July 2015, March 2016, January-February 2017, and February 2019. www.ulaval.ca
- **Laboratories of the Final Event of the Projects Factory of the Future**, Naples, Turin, Milan, Parma and Rome, Italy. Researcher invited to join the final event, November 26-30, 2018. eventofinale.fabbricadelfuturo-fdf.it
- **Universitat Politècnica de València, Departamento de Organización de Empresas**, Valencia, Spain. Invited visiting researcher, April 2018. www.doe.upv.es
- **Yeditepe University, Industrial and Systems Engineering Department**, Istanbul, Turkey. Visiting researcher for a PhD Research Project, November 2014 and November 2015. sy.e.yeditepe.edu.tr
- **Shanghai Jiao Tong University, School of Mechanical Engineering**, Shanghai, China. Invited visiting researcher, April-May 2015. me.sjtu.edu.cn/english
- **Labotatoire des sciences pour la conception, l'optimisation et la production (G-SCOP)**, CNRS-INPG-UJF, Grenoble, France. Invited visiting researcher, March 2015. Visiting researcher for the Visionair Project no.138, April 2014. Visiting researcher for the Visionair Project no.29, November 2012 and July 2013. www.g-scop.grenoble-inp.fr
- **HEC, Département des sciences de la décision**, Montréal, Canada. Invited visiting researcher, May 2014. www.hec.ca
- **King Abdullah University of Science and Technology (KAUST), Center for Uncertainty Quantification in Computational Science & Engineering**, Thuwal, Saudi Arabia. Invited visiting researcher, April 2013. sri-uq.kaust.edu.sa

He hosted the following researchers:

- **Andrea Lodi**, École Polytechnique de Montréal, Montréal, Canada; seminar at CNR-IMATI on February 5, 2018.
- **Nadia Lahrichi**, École Polytechnique de Montréal, Montréal, Canada; April 2016 and February-April 2017.
- **Semih Yalçındağ**, Yeditepe University, Istanbul, Turkey; April 2016 and March 2017.
- **Valérie Bélanger**, HEC, Montréal, Canada; March 2015 and May 2016.

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Reviewer activity

Reviewer for:

- Referee for international journals (American Journal of Physiology - Heart and Circulatory Physiology; Annals of Operations Research; Applied Stochastic Models in Business and Industry; Artificial Organs; Biological Invasions; Cardiovascular Diabetology; CIRP Journal of Manufacturing Science and Technology; Decision Sciences; European Journal of Operational Research; Expert Systems with Applications; Flexible Services and Manufacturing Journal; Health Care Management Science; Health Systems; IEEE/ACM Transactions on Computational Biology and Bioinformatics; IEEE Journal of Biomedical and Health Informatics; IEEE Transactions on Automation Science and Engineering; IEEE Transactions on Biomedical Engineering; IEEE Transactions on Systems, Man, and Cybernetics; International Journal for Numerical Methods in Engineering; International Journal of Artificial Organs; International Journal of Planning and Scheduling; International Journal of Production Research; International Transactions in Operational Research; Journal of Biomechanics; Journal of Cleaner Production; Journal of Mathematical Biology; Journal of the Operational Research Society; Omega - The International Journal of Management Science; Operations Research for Health Care; Robotica; Scientia Iranica Journal; Simulation Modelling Practice and Theory; Transportation Research Part B: Methodological; Transportation Research Part E: Logistics and Transportation Review).
- Evaluator for the CNR of projects of the Italian Ministry of Economic Development (MISE) within the Sustainable Growth Fund.
- Referee for the evaluation of research projects for the Discovery Grants Program on behalf of the Natural Sciences and Engineering Research Council of Canada (NSERC).
- Referee for the evaluation of research quality VQR 2011-2014 on behalf of the Italian Ministry of Education, University and Research.
- Referee for the evaluation of research projects Futuro in Ricerca FIRB 2013 on behalf of the Italian Ministry of Education, University and Research.
- Referee for the evaluation of research projects for the Visionair European infrastructure.
- Referee for several international conferences.

Engineering profession

He is member of the Ordine degli Ingegneri della Provincia di Milano (Section A – Registration number 27094 a,b,c).
www.ordineingegneri.milano.it

Awards

He received:

- Finalist for the Healthcare Automation Award 2019 for the contribution *A variable neighborhood search for home care scheduling under chargeable overtime and preference matching* presented by A. Matta and authored by Y. Zhu, A. Matta, E. Lanzarone and N. Geng.
IEEE CASE 2019 Conference, Vancouver, Canada, August 2019.
www.ieee-ras.org
- Honorable mention as one of the three finalist papers for the INCOM Best Paper Award 2018 for the contribution *A data-driven districting to improve emergency medical service systems* presented by E. Lanzarone and authored by F. Regis-Hernández, E. Lanzarone, V. Bélanger and A. Ruiz.
IFAC INCOM 2018 Conference, Bergamo, Italy, June 2018.
www.ifac-control.org
- Finalist for the Italian Operations Research Association (AIRO) award on Operations Research for Social with the contribution *An appointment scheduling framework to balance the production of blood bags from donation* presented by E. Lanzarone and authored by E. Lanzarone, S. Baş, G. Carello and S. Yalçındağ.
AIRO 2016 Conference, Trieste, September 2016.
www.airo.org
- Italian National Bioengineering Group (GNB) award for Master Degree Thesis.
XXIII Annual School of Bioengineering, Brixen, September 2004.
www.bioing.it

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Elaine Ferguson