CURRICULUM VITAE, LUCA MARIA GAMBARDELLA, 2021

Vice Rector for Innovation and Corporate Relations, USI,
Università della Svizzera italiana, Via Buffi 13, CH-6900, Lugano
Full Professor, Facoltà di scienze informatiche, USI
Dalle Molle Institute for Artificial Intelligence, USI-SUPSI, Lugano
Artificial Intelligence Master Director, Facoltà di scienze informatiche, USI
Co-Founder & CTO Head of Applied AI, Artificialy SA, Lugano
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Professional Appointments:

2020 - now   Vice Rector for Innovation and Corporate Relations, USI, Lugano

2020 - now   Co-Founder & CTO Head of Applied AI, Artificialy SA, Lugano

2016 - now   Director, Artificial Intelligence Master, Facoltà di scienze informatiche, USI, Lugano

2012 - 2020   Director, IDSIA, Dalle Molle Institute for Artificial Intelligence, USI-SUPSI, Manno

2012 - 2020   Director, SUPSI Master MSE Research Unit in Intelligent Systems, Manno

2007 - 2011   Director, Intelligent System Master, USI, Università della Svizzera italiana, Lugano

2001 - 2020   Chief Scientific Officer of AntOptima sa, a spin-off of IDSIA, Lugano

1995 - 2012   co-Director, IDSIA, Lugano-Manno

1988 - 1995   Research Director, IDSIA, Lugano

Academic Appointments:

2020 - now   Full Professor, Facoltà di scienze informatiche, USI, Lugano

2006 - 2020   Adjunct Professor, Facoltà di scienze informatiche, USI, Lugano

2003 - 2020   Professor SUPSI, Scuola universitaria professionale della Svizzera italiana, Manno

1992   Visiting Senior Scientist, the International Computer Science Institute, Berkeley, CA, USA

Professional Preparation:

2015   PhD in Engineering Sciences and Technology, ULB, École Polytechnique de Bruxelles, BE

1985   Master in Computer Science, Faculty of Informatics, University of Pisa, Italy

Lectures (semester courses):

2018 - now   Artificial Intelligence, Master of Artificial Intelligence, Facoltà di scienze informatiche, USI, Lugano

2006 - now   Artificial Intelligence, Bachelor in informatics, Facoltà di scienze informatiche, USI, Lugano

1998 - 2020   Advanced Algorithms, SUPSI Department of Technology and Innovation, Manno

2007 - 2020   Advanced Algorithms, PAP class, SUPSI Department of Technology and Innovation, Manno

2008 - 2010   Heuristics, Intelligent Systems Master, Facoltà di scienze informatiche, USI, Lugano

2006   Applications of Discrete Optimization, Master and PHD course, Milan Polytechnic

Summary of Service and Other Professional Appointments:

2015   President, the EURO Excellence in Practice Award EEPA 2015

2012 - 2015   President and Jury member, the EURO Excellence in Practice Award EEPA 2012-2013

2011 - 2017   President, the Swiss Operations Research Society (SVOR/ASRO)

Research Interests:
- Artificial Intelligence with focus on meta-heuristics, swarm intelligence and machine learning
- Robotics with focus on robotic swarms, mobile robots, drones and educational robotics

Governing Activities:
- ERC Consolidator Grant referee: EU Commission Projects Evaluator
- EU Commission Expert for "Future Trends in Artificial Cognitive Systems".
- Swiss National Science Foundation evaluator.
- Research Grants Evaluators, Hong Kong, Torino, Ireland; Inria, Expert for Inria evaluation, France
- CSEM, Neuchâtel, Scientific Advisory Board Member for Artificial Intelligence and Machine Learning

Summary of Academic Leadership Activities:
- He has been awarded more than 16.0 million CHF in research funding for his research lab, (including other labs and partners the total amounts to more than 61 million CHF)
- He has been awarded 26 Swiss National Science Foundation projects (20 as principal investigator), 7 European Projects, 15 CTI/Innosuisse Projects (13 as principal investigator), 1 Hasler Foundation Project, 10 Industrial projects (6 as principal investigator)
- Supervisor of 13 PhD theses (five in progress)

Summary Of Scholarly Publications:
- He has proposed and published several state of the art bio-inspired distributed optimization algorithms for the travelling salesman problem, the vehicle routing problem with time windows, the quadratic assignment problem, the sequential ordering problems, and the flexible job shop
- He has published more than 300 papers. The total number of citations to his papers is more than 58'000 (source: Google scholar). His h-number is 72

Recent Awards:
- HRI 2019 Best demo award and honorable mention for best video award, 2019
- SNF Optimus Agora Prize in 2018 for the project "Introducing People to Research in Robotics through an Extended Peer Community in Southern Switzerland"
- Special Swiss ICT Award 2016: IDSIA it represents one of the best research institutes at the international level in the field of bio-inspired artificial intelligence. (with Juergen Schmidhuber)
- "Watt d'Or", Swiss award for best energy projects 2015, category "Energy technologies", Scuola universitaria professionale della Svizzera italiana & Alpiq InTec Gruppe with project GridSense

Patents:
- Patent n.: 13181909.6 Method for recharging an accumulator of an electric vehicle.
- Patent. Sistema di guida di un drone. Patent PCT/IB2016/050192
- European Paten Nr. 16 200 826.2 EP3326749 "Surface Interpreter"

Artistic Production:
- "NeuralRope#1. Inside an Artificial Brain", with Alex Dorici. Pedestrian Tunnel Lugano-Besso. An interactive permanent installation of 100m reproducing an Artificial Neural Networks, 2019
- "Illusa fingo sogni fasulli", 2020, Bellinzona. A black monolith where, through dreams and a digital dance accompanied by a female voice, the boundary between human and AI is investigated.
- Published novels: "Sei vite" (Zerounoundici Ed., 2013), "Il suono dell'alba" (La Feluca Ed. 2019)

INTERNATIONAL JOURNALS

87   J Guzzi, RO Chavez-Garcia, M Nava, LM Gambardella, A Giusti, Path Planning With Local Motion Estimations, IEEE Robotics and Automation Letters 5 (2), 2586-2593, 2020

86   X Chou, LM Gambardella, R Montemanni, Monte Carlo sampling for the tourist trip design problem, Millenium, 83-90, 2019

85   Jeffrey Delmerico, Stefano Mintchev, Alessandro Giusti, Boris Gromov, Kamilo Melo, Tomislav Horvat, Cesar Cadena, Marco Hutter, Auke Ijspeert, Dario Floreano, Luca M. Gambardella, Roland Siegwart, Davide Scaramuzza, "The Current State and Future Outlook of Rescue Robotics", Journal of Field Robotics, 2019

84   M Nava, J Guzzi, R. Chavez-Garcia, L M Gambardella and A Giusti: "Learning Long-range Perception using Self-Supervision from Short-Range Sensors and Odometry". IEEE Robotics and Automation Letters, 4 (2), 1279-1286, 2019

83   J. Banfi, J. Guzzi, , F. Amigoni, E. Feo-Flushing, A. Giusti, L. Gambardella, and G. A. Di Caro. An integer linear programming model for fair multitarget tracking in cooperative multirobot systems. Autonomous Robots, Issue 43 (3), 665-680, 2019

82   R. Omar Chavez-Garcia, J. Guzzi, L. M. Gambardella, A. Giusti: "Learning Ground Traversability from Simulations". IEEE Robotics and Automation Letters vol 1 n.23, pp. 1279-1286, 2019

81   R Montemanni, LM Gambardella, A Study on Pupils Transportation, Journal of Traffic and Logistics Engineering Vol 6 (1), 2018

80   Xiaochen Chou, Luca Maria Gambardella, Roberto Montemanni, "Monte Carlo Sampling for the Probabilistic Orienteering Problem", New Trends in Emerging Complex Real Life Problems, pp. 169-177, 2018

79   M Andries, RO Chavez-Garcia, R Chatila, A Giusti, LM Gambardella, "Affordance equivalences in robotics: a formalism" Frontiers in neurorobotics 12, 26, 2018

78   BS Ahmed, LM Gambardella, W Afzal, KZ Zamli, "Handling constraints in combinatorial interaction testing in the presence of multi objective particle swarm and multithreading" Information and software Technology 86, 20-36, 2017

77   L Nespoli, A Giusti, N Vermes, M Derboni, AE Rizzoli, LM Gambardella, "Distributed demand side management using electric boilers", Computer Science-Research and Development 32 (1-2), 35-47, 2017

76   Giusti, J. Guzzi, D. Ciresan, F. Lin, J. P. Rodriguez, F. Fontana, M. Faessler, C. Forster, J. Schmidhuber, G. A. Di Caro, D. Scaramuzza, L. Gambardella, A machine learning approach to the visual perception of forest trails for mobile robots, IEEE Robotics and Automation Letters, vol. 1, n. 2, pp. 661-667, 2016

75   Bestoun S. Ahmed, Mouayad A. Sahib, Luca M. Gambardella, Wasif Afzal, and Kamal Z. Zamli "Optimum Design of PIλDμ Controller for an Automatic Voltage Regulator System Using Combinatorial Test Design", PLoS One 11(11), 2016

74   M. Veta, P. J. van Diest, S. M. Willems, H. Wang, A. Madabhushi, A. Cruz-Roa, F. Gonzalez, A. B. L. Larsen, J. S. Vestergaard, A. B. Dahl, D. C. Cireşan, J. Schmidhuber, A. Giusti, L. M. Gambardella, F. B. Tek, T. Walter, C. W. Wang, S. Kondo, B. J. Matuszewski, F. Precioso, V. Snell, J. Kittler, T. de Campos, A. M. Khan, N. M. Rajpoot, E. Arkoumani, M. M. Lacle, M. A. Viergever, J. P.W. Pluim, Assessment of algorithms for mitosis detection in breast cancer histopathology images, Medical Image Analysis, 20(1):237-48, 2015

73   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

72   Arganda-Carreras, S. C. Turaga, D.R. Berger, D. Cireşan, A. Giusti, L.M. Gambardella, J. Schmidhuber, D. Laptev, S. Dwivedi, J.M. Buhmann, T. Liu, M. Seyedhosseini, T. Tasdizen, L.

Kamentsky, R.Burget, V. Uher, X. Tan, C. Sun, T. D. Pham, E. Bas, M. G. Uzunbas, A. Cardona, J. Schindelin and H. S. Seung Crowdsourcing the creation of image segmentation algorithms for connectomics, Frontiers in Neuroanatomy, 05 November 2015

71   Giusti A., Guzzi, J. ; Ciresan, D.C, ; He, Fang-Lin ; Rodriguez, J.P. ; Fontana, F. ; Faessler, M. ; Forster, C. ; Schmidhuber, J. ; Di Caro, G.A. ; Scaramuzza, D. ; Gambardella, L.M.: A Machine Learning Approach to the Visual Perception of Forest Trails for Mobile Robots. IEEE Robotics and Automation Letters, 19, Dec 2015.

70   Reina A., L. M. Gambardella, M. Dorigo & G. Di Caro. zePPeLIN: Distributed Path Planning Using an Overhead Camera Network, International Journal of Advanced Robotic Systems, 1(119), August 2014

69   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

68   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

67   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

66   Giusti, M. Salani, G. A. Di Caro, A. E. Rizzoli, L. Gambardella, Restricted neighborhood communication improves decentralized demand-side load management, IEEE Transactions on Smart Grid, vol. 5, n. 1, pp. 92-101, 2014

65   F. Ducatelle,G. A. Di Caro, A. Förster, M. Bonani, M. Dorigo, S. Magnenat, F. Mondada, R. O'Grady, C. Pinciroli, P. Rétornaz, V. Trianni, L. M. Gambardella, Cooperative navigation in robotic swarms, Swarm Intelligence, vol. 8, n. 1, pp. 1-33, 2014

64   Dorigo M., D. Floreano, L. M. Gambardella, F. Mondada, S. Nolfi, T. Baaboura, M. Birattari, M. Bonani, M. Brambilla, A. Brutschy, D. Burnier, A. Campo, A. L. Christensen, A. Decugnière, G. Di Caro, F. Ducatelle, E. Ferrante, A. Förster, J. Guzzi, V. Longchamp, S. Magnenat, J. Martinez Gonzales, N. Mathews, M. Montes de Oca, R. O'Grady, C. Pinciroli, G. Pini, P. Rétornaz, J. Roberts, V. Sperati, T. Stirling, A. Stranieri, T. Stützle, V. Trianni, E. Tuci, A. E. Turgut, and F. Vaussard. Swarmanoid: A Novel Concept for the Study of Heterogeneous Robotic Swarms. IEEE Robotics & Automation Magazine, 20(4): 60–71, 2013.

63   M. Kudelski, L. Gambardella, G. A. Di Caro, RoboNetSim: An integrated framework for multi-robot and network simulation, Robotics and Autonomous Systems, Vol. 61, n.5, pp. 483-496, 2013

62   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 & Operations Research, Volume 40, Issue 7, July 2013, Pages 1661–1670

61   G. Corani, M.C. Magli, A. Giusti, L. Gianaroli, L. Gambardella, "A Bayesian Network model for predicting pregnancy after in vitro fertilization", Computers in Biology and Medicine, 2013, 43(11), 1783–-1792. (doi).

60   L. Gianaroli, M.C. Magli, L. Gambardella, A. Giusti, C. Grugnetti and G. Corani, "Objective way to support embryo transfer: a probabilistic decision", Human Reproduction, (2013) 28 (5): 1210-1220.

59   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

58   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

57   R. Montemanni and L.M. Gambardella A note on the article "A robust branch-and-cut approach for the minimum-energy symmetric network connectivity problem" Omega 40, 817, 2012

56   C. Pinciroli, V. Trianni, R. O'Grady, G. Pini, A. Brutschy, M. Brambilla, N. Mathews, E. Ferrante, G. A. Di Caro, F. Ducatelle, M. Birattari, L. M. Gambardella, M. Dorigo, ARGoS: A Modular, Parallel, Multi-Engine Simulator for Multi-Robot Systems, Swarm Intelligence Journal, Volume 6, Issue 4, pp. 271-295, 2012

55   M. Montemanni, M. Mojana, G. A. Di Caro, L. Gambardella, A decomposition-based exact approach for the Sequential Ordering Problem, Journal of Applied Operational Research (JAOR), vol. 5, 2013

54   M. Kudelski, L. Gambardella, G. A. Di Caro, RoboNetSim: An integrated framework for multi-robot and network simulation, Robotics and Autonomous Systems, 2013 (in press)

53   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

52   M. Dorigo, D. Floreano, L. M. Gambardella, F. Mondada, S. Nolfi, T. Baaboura, M. Birattari, M. Bonani, M. Brambilla, A. Brutschy, D. Burnier, A. Campo, A. L. Christensen, A. Decugnière, G. A. Di Caro, F. Ducatelle, E. Ferrante, A. Förster, J. Martinez Gonzales, J. Guzzi, V. Longchamp, S. Magnenat, N. Mathews, M. Montes de Oca, R. O'Grady, C. Pinciroli, G. Pini, P. Rétornaz, J. Roberts, V. Sperati, T. Stirling, A. Stranieri, T. Stützle, V. Trianni, E. Tuci, A. E. Turgut, and F. Vaussard, Swarmanoid: a novel concept for the study of heterogeneous robotic swarms, IEEE Robotics and Automation Magazine, Volume: 20 , Issue: 4 , Dec. 2013

51   A. Giusti, P. Taddei, C. Magli, G. Corani, L. Gambardella, L. Gianaroli, Artificial Defocus for Displaying Markers in Microscopy Z-Stacks. IEEE Transactions on Visualization and Computer Graphics (TVCG), 2012 (to appear)

50   D. Anghinolfi, R. Montemanni, M. Paolucci and L.M. Gambardella, A Hybrid Particle Swarm Optimization approach for the Sequential Ordering Problem Computers and Operations Research 38(7), 1076-1085, 2011

49   A. Giusti, C. Magli, G. Corani, L. Gambardella, L. Gianaroli, Observing the 3-Dimensional Morphology of 4-Cell Embryos using Computer Analysis of Image Z-Stacks. Human Reproduction (Supplement: Abstract book) vol.26 2011.

48   Ducatelle F., Di Caro G.A., Pinciroli C., Gambardella L., Self-organized cooperation in robotic swarms, Swarm Intelligence Journal, Volume 5, Issue 2, pp. 73-96, 2011

47   M. Dorigo, M. Birattari, G. A. Di Caro, R. Doursat, A. Engelbrecht, L. M. Gambardella, R. Gross, E. Sahin, T. Stuetzle (Eds.), Editorial, ANTS 2010 Special Issue , Swarm Intelligence, Springer, Vol. 5, N. 3-4, 2011

46   Ciresan, D. C., U. Meier, L. M. Gambardella & J. Schmidhuber. 2010. Deep Big Simple Neural Nets For Handwritten Digit Recognition. Neural Computation 22(12): 3207-3220.

45   A. de Moura Meneses, L. M. Gambardella, R. Schirru, A Class-Based Search for the In-Core Fuel Management Optimization of a Pressurized Water Reactor, Annals of Nuclear Energy, Volume 37, Issue 11, November 2010, Pages 1554-1560

44   Ducatelle F., Di Caro G.A., Gambardella L.M., Principles and applications of swarm intelligence for telecommunications networks, Swarm Intelligence Journal, Vol. 4, N. 3, pp. 173-198, 2010

43   A. de Moura Meneses,, C. J. G. Pinheiro, P. Rancoita, T. Schaul, L. M. Gambardella, R. Schirru, Assessment of neural networks training strategies for histomorphometric analysis of synchrotron radiation medical images. Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, Volume 621, Issues 1-3, 1 September 2010-21 September 2010, Pages 662-669

42   A de Moura Meneses, L.M. Gambardella, R. Schirru. A new approach for heuristics-guided search in the In-Core Fuel Management Optimization, Progress in Nuclear Energy 52 (2010) 339–351

41   Engelbrecht, A., Li, X., Gambardella, L. and Middendorf, M. (2009), Guest editorial: "Special Issue: Swarm Intelligence", IEEE Transactions on Evolutionary Computation, 13(13): 676-677, August 2009.

40   R. Montemanni, D.H. Smith, A.E. Rizzoli and L.M. Gambardella. Sequential Ordering Problems for Crane Scheduling in Port Terminals. International Journal of Simulation and Process Modelling, Volume 5, Number 4 / 2009 pp. 348 – 361.

39   R. Montemanni and L.M. Gambardella. Ant Colony System for Team Orienteering Problems with Time Windows. Foundations of Computing and Decision Sciences 34, 2009.

38   L.M. Gambardella, A. Hertz, F. Maffray, M. Widmer, 2009, Sixth International Conference on Graphs and Optimization 2007: Foreward, Discrete Applied Mathematics 157(17), 3495-3496.

37   Montemanni R.,Smith D.H., Gambardella L.M, A heuristic manipulation technique for the sequential ordering problem, Computers and Operations Research, Volume 35, Number 12, December 2008, 3931-3944

36   Bianchi L., Dorigo M., Gambardella L.M., and Gutjahr W.j, A survey on metaheuristics for stochastic combinatorial optimization.. Natural Computing, July 2008.

35   Donati A.V., Montemanni R., Casagrande N., Rizzoli A.E. and Gambardella L.M.. Time dependent vehicle routine problem with a multi ant colony system, European Journal of Operational Research, 185 (3), p.1174-1191, March 2008

34   A.E. Rizzoli, R. Montemanni, E. Lucibello and L.M. Gambardella. Ant Colony Optimisation for real world vehicle routing problems: from theory to applications. Swarm Intelligence, Vol. 1, No 2, p. 135-151, December 2007.

33   Montemanni R., Barta J., Mastrolilli M. and Gambardella L.M., The robust traveling salesman problem with interval data, Transportation Science, Vol . 41, No 3, pp. 366-381, August 2007.

32   Babaoglu O., Canright G., Deutsch A., Di Caro G., Ducatelle F., Gambardella L.M., Ganguly N., Jelasity M., Montemanni R., Montresor A. and Urnes T.. Design patterns from biology for distributed computing. ACM Transactions on Autonomous and Adaptive Systems, Vol.1, No.1, 26-66, September 2006.

31   Di Caro G.A., Ducatelle F., Rizzoli A., Gambardella L.M., Building blocks from biology for the design of algorithms for the management of modern dynamic networks European Research Consortium for Informatics and Mathematics (ERCIM) News, Special Issue on Emergent Computing, N. 64, January 2006

30   Montemanni R., Gambardella L.M., Rizzoli A.E. and Donati A.V.. Ant colony system for a dynamic vehicle routing problem. Journal of Combinatorial Optimization,10, 327-343, December 2005.

29   Di Caro G.A., Ducatelle F., Gambardella L.M., BISON: Biology-Inspired techniques for Self-Organization in dynamic Networks, Kuenstliche Intelligenz, Special Issue on Swarm Intelligence, Vol 4, November 2005.

28   Mondada, F., Gambardella, L.M., Floreano, D., Nolfi, S., Deneubourg, J-L., and Dorigo, M., The Cooperation of Swarm-Bots: Physical Interactions in Collective Robotics. IEEE Robotics & Automation Magazine., Vol. 12, No 2, 21-28, 2005

27   Ducatelle, F. and Gambardella, L. M. Survivable Routing in IP-over-WDM Networks: An Efficient and Scalable Local Search Algorithm. Optical Switching and Networking, Volume 2, Pages 86-99, 2005.

26   Montemanni R and Gambardella L.M.. The robust shortest path problem with interval data via Benders decomposition, 4OR, 3(4), 315-328, December 2005.

25 Ducatelle F., Di Caro G., Gambardella L.M. Using Ant Agents to Combine Reactive and Proactive Strategies for Routing in Mobile Ad Hoc Networks. International Journal of Computational Intelligence and Applications (IJCIA), Special Issue on Nature-Inspired Approaches to Networks and Telecommunications, Volume 5, Number 2, Pages 169-184, June 2005.

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23 Gambardella L.M, Martello S., Metaheuristics and worst-case guarantee algorithms: relations, provable properties and applications (ECCO XV), European Journal of Operation al Research, 166, 1-2, 2005.

22 Mastrolilli M. Gambardella L.M, Maximum satisfiability: How good are tabu search and plateau moves in the worst-case?. European Journal of Operational Research, 166, 63–76, 2005

21 Montemanni R. and Gambardella L.M. Exact algorithms for the minimum power symmetric connectivity problem in wireless networks. Computers and Operations Research, 32(11), 2891-2904, November 2005.

20 Montemanni, R., Gambardella L.M. A branch and bound algorithm for the robust spanning tree problem with interval data., European Journal of Operational Research, 161(3), 771-779, March 2005.

19 Dorigo, M., Trianni, V., Sahin, E., Labella, T., Grossy R., Baldassarre, G., Nolfi, S., Deneubourg J-L., Mondada, F., Floreano D., Gambardella, L.M., Evolving Self-Organizing Behaviors for a Swarm-bot, Swarm Robotics special issue of the Autonomous Robots Journal, 17(2-3), 223–245, 2004.

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17 Montemanni, R Gambardella, L.M. and Donati, A.V. A branch and bound algorithm for the robust shortest path problem with interval data. Operations Research Letters, 32(3), 225-232, May 2004.

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15 Gambardella, L.M., Rizzoli E. Funk P, Agent-based Planning and Simulation of Combined Rail/Road Transport, Simulation, Vol. 78, Issue 5, pp. 293-303, May 2002.

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13 Dorigo M., Gambardella L. M, Middendorf M. and Stützle T. Guest Editorial -- Special Section on Ant Colony Optimization, IEEE Transactions On Evolutionary Computation, vol. 6, no. 4, pp. 317-320, 2002.

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10 Ijspeert A.J., Martinoli A., Billard A., Gambardella L.M., Collaboration through the exploitation of local interactions in autonomous collective robotics: the stick pulling experiment, Autonomous Robots, Nr. 11 (2), pp 149-171, 2001.

9   Rizzoli, A.E., Fornara, N., Gambardella, L.M., A simulation tool for combined rail/road transport in intermodal terminals, Mathematical and Computer Modelling in Simulation, 59/1-3 pp. 57-71, 2002

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7   Mastrolilli, M., Gambardella, L.M., Effective Neighborhood Functions for the Flexible Job Shop Problem, Journal of Scheduling, vol. 3(1), pp. 3-20, 2000.

6   Gambardella L.M, Taillard E., Dorigo M., Ant colonies for the Quadratic Assignment Problem, Journal of the Operational Research Society, 50, pp.167-176,1999

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4   Gambardella L.M., Rizzoli A., Zaffalon M., Simulation and Planning for Intermodal Container Terminal, SIMULATION Special Issue on Harbour and Maritime Simulation, vol. 71, n. 2,August 1998, pp. 107-116.

3   Taillard É. D., Gambardella L. M., Gendreau M., Potvin J.Y., La Programmation à mémoire adaptative ou l'évolution des algorithmes évolutifs, Calculateurs Paralèlles, v.10 n°2/1998.

2   Dorigo M., Gambardella L.M, Ant Colony System: A Cooperative Learning Approach to the Traveling Salesman Problem, IEEE Transactions on Evolutionary Computation 1,1, pp. 53-66, 1997

1   Dorigo M., Gambardella L.M, Ant Colonies for Traveling Salesman Problem, BioSystem 43, pp. 73-81, 1997

BOOKS
1   L.M.Gambardella, Sei vite, Zerounoundici edizioni, Novel, 2013
2   L.M.Gambardella, Il suono dell'alba, La Feluca edizioni, Novel, 2019

BOOK CHAPTERS
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11 Gambardella L.M., Haex M, Improving Robot Navigation Using Learning Strategies, Proceedings of the 8Th International Conference of Application of Artificial Intelligence in Engineering, Toulouse, France, July, 1993.

10 Gambardella L.M., Haex M., Incorporating Learning in Motion Planning Technique, Prooceding of the IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS'93, Yokohama, Japan, July, 1993.

9   Haex M., Gambardella L.M., Flexible Robot Manipulation Using Artificial Intelligence, Proceedings of the 8Th International Conference of Application of Artificial Intelligence in Engineering, Toulouse, France, July, 1993.

8   Gambardella L.M., Haex M, Grasp Planning for Automatic Assembly Tasks using Artificial Fields, Proceedings of the European Conference on Artificial Intelligence, ECAI 1992, Vienna, Austria, August, 1992, pp.681-682

7   Haex M., Gambardella L.M., Stable Grasp by Path Planning using Artificial Fields, Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS'92, Raleigh, North Carolina, Usa, July 7-10, 1992, vol2, pp. 712-715.

6   Gambardella L.M., Haex M., A Multi-Agent Analogical Representation for Physical Objects, in Decentralized A.I. 3, ed. E.Werner and Y.Demazeau, Nort-Holland, 1992.

5   Gambardella L.M., Simulation and Planning with Multiple Representations, Proceedings of the 2nd Annual Conference on AI, Simulation and Planning in High Autonomy Systems, Cocoa Beach, Florida, April, 1991, pp 188-194

4   Gambardella L.M, Planning with Artificial System, Proceedings of the First European Workshop of Qualitative Reasining about Physical Systems, Genova, Italy, January, 1991

3   Gambardella L.M, Cattaneo, P., Artificial Life, in Comunication with Men and Machines, Ed. M. King, 1991

2   M. Moroni, Gambardella L.M., An Expert System For Pathology Diagnosis and Quality Control in Buildings Construction, Proceedings of the Second European Conference on Application of Artificial Intelligence and Robotics to Buildings Architectures and Civil Engineering, EuropIA90, Liegi, Belgio, March 1990.

1   Gambardella L.M., Gardin, F. Meltzer, B., Analogical Representation in Modeling Naive Physics, Proceedings of the 2nd Workshop on Qualitative Physics, Paris, July 1988.

DISSERTATION

2   Coupling Ant Colony System with Local Search, Université Libre de Bruxelles, École Polytechnique de Bruxelles. Phd in Engineering Sciences and Technology. Supervisor Prof. Marco Dorigo, June 2015.

1   Un approccio grafico alla fisica Naïve, Università degli studi di Pisa, Facoltà di Scienze Matematiche Fisiche e Naturali, with Prof. Giuseppe Attardi, December 1985.

NATIONAL PUBLICATIONS

4   Di Caro G., Ducatelle F. and Gambardella L. M. Project description: BISON: Biology-Inspired techniques for Self-Organization in dynamic Networks. Zeitschrift Künstliche Intelligenz, Special Issue on Swarm Intelligence, November 2005.

3   Gambardella L.M., Knowledge Representation with Frames, ATED publication, September, 1989.

2   Gambardella L.M., Cattaneo, P., Artificial Life and Genetic Algorithms: an Overview, Proceedings of the 1991 DECUS Symposium, Lugano, Swiss, April, 1991.

1   Gambardella L.M., Haex M, Rappresentazione Diretta e Campi Artificiali per la Pianificazione in Robotica, Proceeding of the Giornata di Lavoro sul Ragionamento Qualitativo della Associazione Italiana di Intelligenza Artificiale, Genova, November, 1992.

TECHNICAL REPORTS

7   Gambardella L.M, Dorigo M., HAS-SOP: Hybrid Ant System for the Sequential Ordering Problem, Technical report IDSIA-33-97, IDSIA, Lugano, 1997.

6   Gambardella L.M., Taillard É. D., Dorigo M., Ant Colonies for the Quadratic Assignment Problems, Technical report IDSIA-4-97, IDSIA, Lugano, 1997.

5   Gambardella L.M, Dorigo M., Ant Colony System, Technical report IDSIA-4-1996.

4   Dorigo M., Gambardella L.M, A Study of some Properties of Ant-Q, Technical report IDSIA-3-1996.

3   Dorigo M., Gambardella L.M., Ant colony optimization applied to the traveling salesman problem, Technical report IDSIA-36-1995.

2   Gambardella L.M, Dorigo M., Ant-Q: A cooperative q-learning approach to the Traveling Salesman Problem, Technical report IDSIA-1-1995.

1   Gambardella L.M, Problem solving with Analogical Representation, Technical Report IDSIA n.7, September, 1990.

PROJECTS and GRANTS

2018-2022   Local PI Investigator for the project: "NCCR Robotics phase 3".
             with Alessandro Giusti.
             A Swiss National Science Foundation project for a National competence center in robotics with ETHZ, EPFL, UZH
             Emphasis is given to Swarm Intelligence, Robotics.

IDSIA grant: 150.000 SFr.

2018-2020   Leader of the project: "Introducing People to Research in Robotics through an Extended Peer Community in Southern Switzerland".
with Francesco Mondada (EPFL).
A Swiss National Science Agora Foundation project with EPFL
Emphasis is given to improve computational thinking in young students using swarm robotics.
IDSIA grant: 150.000 SFr. (Total grant 192.000 SFr.)

2018-2020   Leader of the project: "Hybrid Sampling-based metaheuristics for Stochastic Optimization Problems with Deadlines".
with Roberto Montemanni.
A Swiss National Science Agora Foundation project.
Emphasis is given to Meta Heuristics and Machine Learning for routing problems.
IDSIA grant: 180.000 SFr. (Total grant 180.000 SFr.)

2018-2020   Leader of the project: Industrial direct mandate.
with Marco Zaffalon.
Direct mandates from Swiss industries
Emphasis is given to Data mining.
IDSIA grant: 550.000 SFr. (Total grant 500.000 SFr.)

2018-2019   Leader of the project: "Robo Wealth Advisory".
with Marco Zaffalon.
A Innosuisse project of 1.5 years concerning Robo Wealth Advisory in Finance
Emphasis is given to Statistics, Data mining.
IDSIA grant: 400.000 SFr. (Total grant 800.000 SFr.)

2017-2019   Leader of the project: "AI based forecasting models for energy production and price".
with Alessio Benavoli, Claudio Bonesana, Marco Zaffalon.
A Innosuisse project of 1.5 years concerning news aggregation
Emphasis is given to Statistics, Data mining.
IDSIA grant: 350.000 SFr. (Total grant 800.000 SFr.)

2017-2019   Leader of the project: "Intelligent text mining of food-related documents".
with Giorgio Corani, Marco Zaffalon.
A CTI project of 1.5 years concerning news aggregation
Emphasis is given to Statistics, Data mining.
IDSIA grant: 350.000 SFr. (Total grant 900.000 SFr.)

2016-2017   Leader of the project: "Drone Fly Way: smart lightpoles for safe and reliable navigation of Micro Aerial Vehicles in urban environments.".
with Alessandro Giusti, Jerome Guzzi.
A CTI project of 2 years concerning light poles for safe and reliable robot navigation.
Emphasis is given to Drones, Robotics, planning.
IDSIA grant: 109.000 SFr. (Total grant 230.000 SFr.)

2016-2019   Leader of the project: "Lift and Project Methods for Machine Scheduling Through Theory and Experiments"
with Monaldo Mastrolilli.
A Swiss National Foundation project of three years concerning the study of meta-heuristics and approximation Algorithms applied to scheduling problems.
Emphasis is given to Metaheuristics, Job shop, Combinatorial Optimization.
IDSIA grant: 320.000 SFr. (Total grant 320.000 SFr.)

2016-2018	Leader of the project: "VIOLA: VIrtual Operator with self-Learning Ability (VIOLA) for Electrical Discharge Machining (EDM) drilling process optimisation".
	with Alessio Benavoli, Claudio Bonesana, Marco Zaffalon.
	A CTI project of 1.5 years concerning industry 4.0
	Emphasis is given to Statistics, Data mining.
	IDSIA grant: 300.000 SFr. (Total grant 1.100.000 SFr.)
2016-2017	Local Leader of the project: "GR400: Algorithm based approach to decentralized load management"
	with Alessandro Giusti, Andrea Rizzoli, Matteo Salani, Marco Derboni.
	A direct project to design and optimize a smart grid using swarm intelligence.
	Emphasis is given to Swarm Intelligence, Distributed control
	IDSIA grant: 240.000 SFr. (Total grant 240.000 SFr.)
2015-2018	Local PI Investigator of the project: "NCCR Robotics phase 2".
	with Gianni di Caro.
	A Swiss National Science Foundation project for a National competence center in robotics with EPFL, ETHZ, UZH
	Emphasis is given to Swarm Intelligence, Robotics.
	IDSIA grant: 350.000 SFr.
2015-2016	Leader of the project: SortCam: sorting optimization for industrial cutting)".
	with Monaldo Mastrolilli, Matteo Salani, Andrea Zambarda.
	A CTI project of two years concerning cutting sequence optimization
	Emphasis is given to Robust OptimizationPlanning.
	IDSIA grant: 450.000 SFr. (Total grant 950.000 SFr.)
2014-2017	Leader of the project: "New sampling-based metaheuristics for stochastic vehicle routing problems".
	with Roberto Montemanni.
	A Swiss National Foundation project of three years concerning the study of new routing algorithms in case of stochastic and dynamic information
	Emphasis is given to Metaheuristic, Vehicle Routing, Combinatorial Optimization.
	IDSIA grant: 160.000 SFr. (Total grant 160.000 SFr.)
2014-2016	Local Leader of the project: "GridSense: Algorithm based approach to decentralized load management".
	with Alessandro Giusti, Andrea Rizzoli, Matteo Salani.
	A direct project to design and optimize a smart grid using swarm intelligence
	Emphasis is given to Swarm Intelligence, Distributed control
	IDSIA grant: 700.000 SFr. (Total grant 3.000.000 SFr.)
2014-2015	Leader of the project: "Newscron: An Intelligent System for Real-Time News Clustering and Classification.".
	with Alessandro Antonucci, Claudio Bonesana, Marco Zaffalon.
	A CTI project of two years concerning news aggregation
	Emphasis is given to Statistics, Data mining..
	IDSIA grant: 300.000 SFr. (Total grant 600.000 SFr.)
2013-2014	Leader of the project: "Quantitative system for pricing, hedging, and risk-managing for complex derivative products.".
	with Alessio Benavoli, David Huber, Marco Zaffalon.
	A CTI project of two years concerning the risk-management
	Emphasis is given to Statistics, Data mining.
I	DSIA grant: 300.000 SFr. (Total grant 990.000 SFr.)

2013-2014   Leader of the project: "Prediction of visibility and click-through rate of elements within the Google's results pages".
with Cassio de Campos, Marco Zaffalon, Massimo Maiolo.
A CTI project of two years concerning the visibility score
Emphasis is given to Statistics, Data mining.
IDSIA grant: 300.000 SFr. (Total grant 600.000 SFr.)

2012-2014   Leader of the project: "Utool: a system for evaluation of unsecured credits".
with Alessio Benavoli, Marco Zaffalon,
A CTI project of two years concerning the evaluation of unsecured credits
Emphasis is given to Statistics, Uncertain Reasoning.
IDSIA grant: 200.000 SFr. (Total grant 400.000 SFr.)

2012-2014   Leader of the project: "HCD 2.0 is an innovative and smart EV home charging system equipped with self-learning algorithms that optimizes energy consumption".
with Alessandro Giusti, Andrea Rizzoli, Matteo Salani
A CTI project of two years to design smart algorithms to optimize energy consumption
Emphasis is given to Swarm Intelligence, Scheduling, Metaheuristics.
IDSIA grant: 120.000 SFr. (Total grant 850.000 SFr.)

2011-2013   Leader of the project: "Approximation Algorithms for Machine Scheduling Through Theory and Experiments".
with Monaldo Mastrolilli
A Swiss National Foundation project of three years concerning the study of meta-heuristics and approximation Algorithms applied to scheduling problems.
Emphasis is given to Metaheuristics, Job shop, Combinatorial Optimization.
IDSIA grant: 450.000 SFr. (Total grant 450.000 SFr.)

2011-2013   Local Leader of the project: "Swiss2Grid: Algorithm based approach to decentralized load management".
with Alessandro Giusti, Andrea Rizzoli, Matteo Salani.
A Swiss Swisselectric project to design and optimize a smart grid using swarm intelligence.
Emphasis is given to Swarm Intelligence, Distributed control
IDSIA grant: 290.000 SFr. (Total grant 1.400.000 SFr.)

2011-2014   Leader of the project: "New sampling-based metaheuristics for stochastic vehicle routing problems II".
with Roberto Montemanni.
A Swiss National Foundation project of three years concerning the study of new routing algorithms in case of stochastic and dynamic information.
Emphasis is given to Metaheuristic, Vehicle Routing, Combinatorial Optimization.
IDSIA grant: 160.000 SFr. (Total grant 160.000 SFr.)

2010-2012   Local Leader of the project: "SWARMIX: Synergistic Interactions in Swarms of Heterogenous Agents".
with Gianni di Caro.
A Swiss National Science Foundation Sinergia project for mixed swarm of robots with ETHZ, EPFL, Uni Budapest
Emphasis is given to Swarm Intelligence, Robotics.
IDSIA grant: 250.000 SFr. (Total grant 1.100.000 SFr.)

2010-2014   Local Leader of the project: "NCCR Robotics".
with Gianni di Caro.

A Swiss National Science Foundation project for a National competence center in robotics with EPFL, ETHZ, UZH.

Emphasis is given to Swarm Intelligence, Robotics.

IDSIA grant: 300.000 SFr.

2010-2011   Local Leader of the project: "Smart Grid concept with PV energy generation and decentralized consumption optimization using a swarm intelligence approach".

with Alessandro Giusti, Andrea Rizzoli, Matteo Salani

A Swiss project to design and optimize a smart grid using swarm intelligence.

Emphasis is given to Swarm Intelligence, Machine Learning and Combinatorial Optimization.

IDSIA grant: 380.000 SFr. (Total grant 2.530.000 SFr.)

2008-2010   Leader of the project: "IFF Intelligent Fill in Form".

With Juergen Schmidhuber.

A CTI project of two years concerning the study of machine learning techniques to analyze hand written text in insurance forms.

Emphasis is given to Machine Learning.

IDSIA grant: 366.000 SFr. (Total grant 730.000 SFr.)

2008-2009   Leader of the project: "Train Optimization".

An industrial project in collaboration with HUPAC, to optimize trains composition and displacement along an European train networks.

Emphasis is given Metaheuristics and Operation Research.

2008-2010   Local Leader of the project: "IN3: Intelligent In Vitro Incubator".

A CTI project of two years concerning the study of robotics and machine learning techniques to automate in vitro fertilization process.

Emphasis is given to Machine Learning.

IDSIA grant: 340.000 SFr. (Total grant 2.230.000 SFr.)

2008-2011   Leader of the project: "Approximation Algorithms for Machine Scheduling Through Theory and Experiments III".

with Monaldo Mastrolilli

A Swiss National Foundation project of three years concerning the study of meta-heuristcs and approximation Algorithms applied to scheduling problems.

Emphasis is given to Metaheuristic, Job shop, Combinatorial Optimization.

IDSIA grant: 432.000 SFr. (Total grant 432.000 SFr.)

2008-2011   Leader of the project: "New sampling-based metaheuristics for stochastic vehicle routing problems".

with Roberto Montemanni.

A Swiss National Foundation project of one year concerning the study of new routing algorithms in case of stochastic and dynamic information.

Emphasis is given to Metaheuristic, Vehicle Routing, Combinatorial Optimization.

IDSIA grant: 90.000 SFr. (Total grant 90.000 SFr.)

2007-2009   Local leader of the project: "Power Aware Computing in Embedded Systems".

with Josè Rolim, Monaldo Mastrolilli.

A Swiss National Foundation project of two years in collaboration with UNI-Geneve concerning the study of policies to reduce the power consumption in mobile devices acting at the software level.

Emphasis is given to Metaheuristic, Job shop, Combinatorial Optimization.

IDSIA grant: 80.000 SFr. (Total grant 160.000 SFr.)

2006-2010	Local leader of the project: "Swarmanoid: Towards Humanoid Robotic Swarms", a FET (Future and Emerging Technologies Program), IST project funded by the European Commission with ULB, EPFL, CNR-Rome. With Gianni di Caro. The main scientific objective of the Swarmanoid project is the design, implementation and control of a novel distributed robotic system comprising heterogeneous, dynamically connected small autonomous robots. The project is planned for 42 months Emphasis given to Swarm Intelligence, robotics, learning, adaptation. IDSIA grant: 750.000 SFr. (Total grant 3'900.000 SFr.)
2005-2008	Leader of the project: "Approximation Algorithms for Machine Scheduling Through Theory and Experiments II". with Monaldo Matrolilli A Swiss National Foundation project of three years concerning the study of meta-heuristcs and approximation Algorithms applied to scheduling problems. Emphasis is given to Metaheuristic, Job shop, Combinatorial Optimization. IDSIA grant: 412.000 SFr. (Total grant 412.000 SFr.)
2005-2006	Leader of the project: "Routing Problems with Objective Function of Increasing Complexity". With Roberto Montemanni. A Swiss National Foundation project of one year concerning the study of new routing algorithms in case of stochastic and dynamic information. Emphasis is given to Metaheuristic, Vehicle Routing, Combinatorial Optimization. IDSIA grant: 90.000 SFr. (Total grant 90.000 SFr.)
2004-2004	Co-leader of the project: "Intelligent Player for Geomag Magnetic Challenge". Geomag is introducing on the market a new game "Magnetic Challenge" based on the famous Geomag magnetic bars and balls. IDSIA is implementing an automatic player able to play against humans and to learn from experience. Emphasis is given to Artificial Intelligence, learning, game.
2004-2006	Local leader of the project: "Power Aware Computing". A Swiss National Foundation project of two years in collaboration with UNI-Geneve concerning the study of policies to reduce the power consumption in mobile devices. Emphasis is given to Metaheuristic, Job shop, Combinatorial Optimization. IDSIA grant: 80.000 SFr. (Total grant 250.000 SFr.)
2003-2005	Leader of the project: "Approximation Algorithms for Machine Scheduling Through Theory and Experiments". With Monaldo Mastrolilli. A Swiss National Foundation project of two years concerning the study of meta-heuristcs and approximation Algorithms applied to scheduling problems. Emphasis is given to Metaheuristic, Job shop, Combinatorial Optimization. IDSIA grant: 180.000 SFr. (Total grant 180.000 SFr.)
2003-2005	Local leader of the project: "BISON: Biology-Inspired Techniques for Self Organization in Dynamic Networks" a EU FET (Future and Emerging Technologies Program), IST project. The main scientific objective of BISON is to explore the use Ant Colony Optimization and Immune Networks for routing and optimization in Ad-Hoc networks and Grid computing systems with UNI-BO, UNI-DRESDEN, TELENOR Emphasis given to Ant Colony Optimization, Dynamic Routing, Self-Adaptation. IDSIA grant: 650'000 SFr. (Total grant 1'700.000 SFr.)

2003-2004	Leader of the project: "Optimization and Simulation course".
	A Swiss OPES Virtual Campus project in collaboration with EPFL and IPLNet to design and implement an on-line course in Optimization and simulation
	Emphasis given to Simulation and Optimization.
	IDSIA grant: 40'000 SFr. (Total grant 80'000 SFr.)
2002-2005	Local leader of project "Failure location, restoration and resilience in optical and ad-hoc networks" a Swiss Hasler Foundation DICS project.
	The goal of this project is to to develop efficient algorithms to locate failures in large scale optical and ad-hoc networks. The project is planned for three years.
	Emphasis given to Ant Colony Optimization, Self-Adaptation.
	IDSIA grant: 100'000 SFr. (Total grant 400.000 SFr.)
	2001-2004 Local leader of the project: "SWARM-BOTS, swarm of self assembly artifacts", a FET (Future and Emerging Technologies Program), IST project funded by the European Commission with ULB, EPFL, CNR-ROMA
	The main scientific objective of SWARM-BOTS is to study a novel approach to design, implement, test and use self-assembling, self-organizing, metamorphic systems.
	Emphasis given to Swarm Intelligence, robotics, learning, adaptation.
	IDSIA grant: 736.950 SFr. (Total grant 1'500.000 SFr.)
2001-2003	Local leader of the project: " MOSCA, Decision Support System For Integrated Door-To-Door Delivery: Planning and Control in Logistic Chains", an IST project funded by the European Commission.
	Key project objective is to provide a set of tools for improving efficiency of door-to-door transport of goods in urban areas.
	Emphasis is given to ant system, combinatorial optimization, routing.
	IDSIA grant: 521.353 SFr. (Total grant 1'145.000 SFr.)
2001-2003	Leader of the project "CADIS-ANT-Fleet" a two years project funded by MIGROS, Switzerland.
	CADIS-ANT-Fleet is a system that automatically optimizes the routes of the trucks leaving the hub distribution centers.
.2001-2004	Local leader of the project: "SIRTAKI: Safety Improvement in Road&Rail Tunnels using Advanced ICT and Knowledge Intensive Decision Support System". European IST project of three years that develops an integrated prototype of tunnel crisis management.
	Emphasis is given to learning, planning, simulation.
	IDSIA grant: 70.000 SFr. (Total grant 2'200.000 SFr.)
2001-2003	Leader of the project: "Resource Allocation and Scheduling in Flexible Manufacturing Systems II".
	With José Rolim
	A Swiss National Foundation project of two years (with UNI Geneve, Computer Science) where different job scheduling techniques and resources allocation techniques have been investigated.
	Emphasis is given to Metaheuristic, Job shop, Combinatorial Optimization.
	IDSIA grant: 90.000 SFr. (Total grant 150.000 SFr.)
2001-2004	IDSIA local administrator and director of the "Metaheuristics Network". A Research and Training Network project funded by the European Commission within the Improving Human Potential Program.
	Emphasis is given to Metaheuristics, Ant Systems, Tabu search, Combinatorial Optimization.
	IDSIA grant: 300.000 SFr. (Total grant 1.200.000 SFr.)

2001-2003	Leader of the project: "DYVO: Dynamic Vehicle Routing and Dispatching by using Optimization, Forecasting and Simulation". CTI project of two years concerning software tools to manage non-homogeneous fleet of vehicles in dynamic environments. Emphasis is given to On-line Vehicles Routing, Ant Systems, Combinatorial Optimization. IDSIA grant: 290.000 SFr. (Total grant 360.000 SFr.)
1999-2001	Leader of the project: "On-line Fleet Management". A Swiss National Foundation project of two years (with EPFL – Mathematics) concerning the application of meta-heuristics and local search to manage dynamic fleets of vehicles. Emphasis is given to On-line Planning, Ant Systems, Combinatorial Optimization. IDSIA grant: 120.000 SFr. (Total grant 120.000 SFr.)
1999-2002	Leader of the project: "Resource Allocation and Scheduling in Flexible Manufacturing Systems". With José Rolim A Swiss National Foundation project of two years (with UNI Geneve, Computer Science) where different job scheduling techniques and resources allocation techniques have been investigated. Emphasis is given to Metaheuristic, Job shop, Combinatorial Optimization. IDSIA grant: 90.000 SFr. (Total grant 150.000 SFr.)
1998-2001	Leader of the project: "Dynamic Memory for Combinatorial Optimization". A Swiss National Foundation project of three years, consisting in analyzing a new approach to combinatorial optimization based on dynamic memory learning. Emphasis is given to Cooperation, Learning, Combinatorial Optimization. IDSIA grant: 100.000 SFr. (Total grant 100.000 SFr.)
1998-2000	IDSIA local administrator and director of the project "PLATFORM: Computer-controlled freight platforms for a time-tabled rail transport system" an European DGVII transport project of 18th moths. The goal of the project is to study intermodality transport. Emphasis is given to Simulation and Optimization IDSIA grant: 400.000 SFr. (Total Cost in kECU:1.127, Total EU contribution in kECU: 534, IDSIA grant in kECU: 250)
1997-1998	Leader of the project: "Optimization of fuel distribution using a non homogeneous fleet of vehicles". An industrial project. The goal is to provide optimization tools and algorithms to support fuel distribution in Canton Ticino. Emphasis is given to Combinatorial Optimization, vehicles routing. IDSIA grant: 100.000 SFr.
1997-1999	IDSIA local administrator and director of the project "A Methodology for Collective Robot Design (2)" A Swiss National Foundation project of two years with the EPFL consisting in studying how learning, planning and adaptation can be used to obtain complex behaviors from a colony of simple robots. Emphasis is given to Robotics, Cooperation, Neural Networks, Planning. IDSIA grant: 170.000 SFr. (Total grant 256.256 SFr.)
1996-1998	Leader of the project: "Cooperation and Learning for Combinatorial Optimization". A Swiss National Foundation project of two years, consisting in analyzing and extend ACS (ant colony system) a novel approach to combinatorial optimization. ACS takes its inspiration from real ants and combines cooperative aspects with learning methods. Emphasis is given to Cooperation, Learning, Combinatorial Optimization. IDSIA grant: 180.000 SFr. (Total grant 180.000 SFr.)

1995-1996	Leader of the project: "A Methodology for Containers Flow Forecasting and Positioning in Intermodal Terminal". A CTI project of two concerning the study of containers data flow and positioning for intermodal terminals. Emphasis is given to terminal simulation and resource and terminal yard optimization IDSIA grant: 350.000 SFr. (Total grant 700.000 SFr.)
1995-1997	IDSIA local administrator and director of the "A Methodology for Collective Robot Design" project. A Swiss National Foundation project of two years with the EPFL, consisting in the study of how learning, planning and adaptation can be used to obtain complex behaviors from a colony of simple robots. Emphasis is given to Robotics, Cooperation, Neural Networks, Planning. IDSIA grant: 145.000 SFr. (Total grant 215.000 SFr.)
1994-1995	Leader of the project: "Automatic Containers Flow Forecasting". A project concerning the study of containers data flow for naval companies. The porpoise was to predict the number of containers that will arrive and depart from an intermodal container terminal using statistical and artificial intelligence techniques. IDSIA grant: 20.000 SFr.
1993-1994	IDSIA local administrator and director of the project: "Integrating Planning and Learning in Robotics". A Swiss National Foundation project of one year with EPFL, consisting in the integration of learning and planning methods in robot motion and grasping. Emphasis is given to Robotics, Neural Networks, Reactive Planning, Reinforcement Learning. IDSIA grant: 106.000 SFr.
1990-1993	IDSIA local administrator and director of the "Automatic Assembly based on Artificial Intelligence" project. A Swiss National Foundation project of three years with the EPFL e and the University of Neuchatel, consisting the design of a general-purpose robot for assembly. Emphasis is given to Robotics, Potential Fields, Planning and Analogical Reasoning. IDSIA grant: 250.000 SFr. (Total grant: 768.000 SFr.)

SCIENTIFIC AWARDS

• HRI 2019 video track and demo track. Best demo award and honorable mention for best video award, 2019 with B Gromov, J Guzzi, G Abbate, L Gambardella and A Giusti: "Pointing gestures for proximity interaction".

• SNF Optimus Agora Prize in 2018 for the project "Introducing People to Research in Robotics through an Extended Peer Community in Southern Switzerland"

• Special Swiss ICT Award 2016: "Istituto Dalle Molle di Studi sull'Intelligenza Artificiale" it represents one of the best research institutes at the international level in the field of bio-inspired artificial intelligence (with Juergen Schmidhuber).

• "Watt d'Or", Swiss award for best energy projects 2015, category "Energy technologies", Scuola universitaria professionale della Svizzera italiana & Alpiq InTec Gruppe with project GridSense.

• Nomination for best conference paper - Awarded to the paper "Connectivity-aware planning of search and rescue missions", E. Feo, M. Kudelski, L. Gambardella, G. A. Di Caro, 11th IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR), Linkoping, Sweden, October 21-26, 2013.

- Best conference paper - Awarded to the paper "Bioinspired obstacle avoidance algorithms for robot swarms", J. Guzzi, A. Giusti, L. Gambardella, G. A. Di Caro, 7th International Conference on Bio-Inspired Models of Network, Information, and Computing Systems (BIONETICS), Lugano, Switzerland, December 10-11, 2012.
- Best conference research paper - Awarded to the paper "An algorithm combining linear programming and an ant system for the sequential ordering problem", M. Mojana, R. Montemanni, G.A. Di Caro and L.M. Gambardella, Second Annual International Conference on Advanced Topics in Artificial Intelligence (ATAI), Singapore, November 24-25, 2011.
- Best conference poster - Awarded to the paper "Distributed motion planning for ground objects using a network of robotic ceiling cameras", A. Reina, G.A. Di Caro, F. Ducatelle, L.M. Gambardella, 12th Conference Towards Autonomous Robotic Systems (TAROS), Sheffield, UK, August 31-September 2, 2011.
- Best conference paper - Awarded to the paper "AntHocNet: an Ant-Based Hybrid Routing Algorithm for Mobile Ad Hoc Networks", G. Di Caro, F. Ducatelle and L.M. Gambardella, 8th International Conference on Parallel Problem Solving from Nature (PPSN VIII) , Birmingham, UK, 18-22 September 2004.

INVITED TALKS (out of Ticino)
- Artificial Intelligence, UBS Affluent Conference in Thun (with M. Zaffalon), May 7th, 2019
- Ant Colony Optimization, Workshop in the honor of Walter Gutjahr. September 28-29, 2018, Vienna
- Industrial perspectives through artificial intelligence, 16th Swissmem Symposium August 23, 2018 Zürich
- Internet of things, Big data e Intelligenza Artificiale, Oracle Day, March 26th 2015, Lugano, Switzerland
- Ant Colony Optimization for industrial vehicle routing problems, 15th Metaheuristic Community Workshop: "Metaheuristics and Enginering" 24-25 March 2014, Istanbul
- Ant Colony Optimization for industrial vehicle routing problems, Ant 2008, Sixth Ant Colony Optimization Conference, Bruxelles, 26-28 September 2008
- Ant Colony Optimization, KES2006, 10th International Conference on Knowledge-Based & Intelligent Information & Engineering Systems, Plenary section invited talk, Bournemouth, UK, 9-11 October 2006
- Ant Colony Optimization: from research to the market: new challenge in production & logistic, Tutorial Ant 2006, September 2006, Bruxelles
- Ant Colony Optimization, University of Lugano, October 6th, 2005
- Ant Colony Optimization, OR2005, International Scientific Annual Conference Operations Research 2005, SemiPlenary section invited talk, Bremen, 7-9 September, Germany, 2005
- Ant Colony Optimization for rich VRP problems, Molde University College, 16 June 2005
- Ant Colony Optimization, EUNITE 2004, European Symposium on Intelligent Technologies, Hybrid Systems and their implementation on Smart Adaptive Systems, Plenary section invited talk, Aachen, Germany, 10 - 12 June 2004
- Ant Colony Optimization for vehicle routing problems, University of Bremen, 24 September, 2004
- Ant Colony Optimization, University of Vienna, 29 October 2002
- Ant Colony Optimization, ETHZ, Zurich, 10 December 2001
- Ant Colony Optimization, Federal University of Rio de Janeiro, 10 October 2001

TEACHING ACTIVITIES (short courses)
- Ant Colony Optimization from research to the business, 9-13 September, University of Bari, 2019
- 2008-now Mathematic methods for industrial application, LIUC, Castellanza.(12 hours)
- Goods distribution optimization: a new challenge from research to the market., University of Castellanza, One day course, May 2nd, 2006
- Ant Colony Optimization and Swarm Intelligence, with Gianni di Caro, Summer School on Complex Systems, Bertinoro, Italy, Two days course, July 2005
- Goods distribution optimization: a new challenge from research to the market., University of Castellanza, One day course, June 8nd, 2005
- Optimize logistic flows, December 12 2004, Piacenza, Master Trasporti e Logistica, One day course, Politecnico di Milano
- Industrial Routing Applications, Meta-heuristic Summer School, Tenerife, One day course, March 2003.
- Ant Colony Optimization, Federal University of Rio de Janeiro, Three days course, October 2001
- Vehicle Routing Problems, Eindhoven, One day course, 28-29 November, 2000
- Algoritmi Genetici, Textbook & Course, One day course, Advanced course for Swiss Teachers, 1994.
- Object Oriented Technique with Lepori, C. Textbook & Course, Three days course Advanced course for Swiss Teachers, 1990-1991
- Introduction to Expert Systems, Three days course, Textbook and Courses at IDSIA, March 1989.

PH.D. THESIS SUPERVISION
- Giorgia Adorni (2020-). Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project
- Mele Umberto Junior (2019-), Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project, co-adv Roberto Montemanni
- Dario Mantegazza, (2018-), Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project, co-adv Alessandro Giusti
- Mirko Nava (2018-), Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project, co-adv Alessandro Giust.
- Chou, Xiaochen (2016-), Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project, co-adv Roberto Montemanni
- Boris, Gromov (2015-), Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project, co-adv Alessandro Giusti
- Jerome, Guzzi (2013-2018), Faculty of Informatics, University of Lugano. Path planning for mobile robots in the real world: handling multiple objectives, hierarchical structures and partial information, co-adv Alessandro Giusti
- Toklu, Engin Nihat (2010-2014), Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project, Matheuristics for Robust Optimization: Application to Real-World Problems, co-adv Roberto Montemanni
- Nagi, Jawad (2011-2016), Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project, Human-Swarm Interaction and Cooperation, co-adv Gianni di Caro
- Feo, Eduardo (2011-2017), Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project, Collaborative Missions with Heterogeneous Networked Teams, co-adv Gianni di Caro

- Weyland, Dennis (2008-2013), Faculty of Informatics, University of Lugano, Swiss National Science Foundation Project, Stochastic Vehicle Routing - From Theory to Practice, co-adv Roberto Montemanni
- Frederick Ducatelle, (2002-2007), Hasler Foundation Project, Adaptive Routing in Ad Hoc Wireless Multi-hop Networks
- Leonora Bianchi, (2000-2006) Universitè Libre de Bruxelles, Bruxelles, Ant Colony Optimization and Local Search for the Probabilistic Traveling Salesman Problem: A case Study in Stochastic Combinatorial Optimization, main-adv Marco Dorigo
- Nicoletta Fornara, (1998-2003) Facoltà di Scienze della Comunicazione, Lugano, Interaction and Communication among Autonomous Agents in Multiagent Systems, main-adv Marco Colombetti

EXTERNAL REVIEWER FOR the following Ph.D. and Habilitation Thesis
- Mario Ezequiel, 2015, École Polytechnique Fédérale de Lausanne.
- Philippe Rétornaz, 2014, Construction par procédé additif réalisée avec des robots mobiles autonomes hétérogènes, École Polytechnique Fédérale de Lausanne.
- Vaussard Florian Christopher, 2014, A Holistic Approach to Energy Harvesting for Indoor Robots: Theoretical Framework and Experimental Validations, École Polytechnique Fédérale de Lausanne.
- Timothy Stirling, 2011, Energy-Efficient Indoor Search by Swarms of Flying Robots without Global Information., École Polytechnique Fédérale de Lausanne.
- Stéphane Magnenat, 2010, Integration in mobile robotics, a science to scale up machine intelligence, École Polytechnique Fédérale de Lausanne.
- Paola Pellegrini, 2007, PhD., Using and Assessing Ant Colony Optimization, Graduate School of Economics of the University of Venice, Italy.
- Damien Olivier, 2006, Habilitation, Maître de conférences d'informatique à l'université du Havre, Université du Havre, France
- Antoine Dutot, 2005, PhD., Distribution Dynamic Adaptative à l'aide de Mécanismes d'Intelligence Collective, Université du Havre, France
- Frédéric Guinand, 2004, Habilitation, Universite du Havre, France
- Gianni di Caro, 2004, Ph.D., Ant Colony Optimization and its application to routing in telecommunication networks, ULB, Bruxelles.
- Alcherio Martinoli, 1999, Ph.D., Swarm Intelligence in autonomous collective robotics: from tools to the analysis and synthesis of distributed control strategies, École Polytechnique Fédérale de Lausanne, Département d'Informatique
- Michel Mittaz, 1999, Ph.D., Problèmes de cheminements optimaux dans les réseaux avec contraintes associées aux arcs, Ecole Polytechnique Fédérale de Lausanne, Département de Mathématiques.
- Pierguido Caironi, 1998, Ph.D., Gradient-Based reinforcement learning of monolithic and modular control policies for physical autonomous agents, Politecnico di Milano, Facoltà di Ingegneria, Dipartimento di Elettronica e Informazione.

REFEREE Activities
Journals
- Swarm Intelligence Journal, Editorial Board
- IEEE Transactions on Systems, Man, and Cybernetics
- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Knowledge and Data Engineering,
- IEEE Transactions on Evolutionary Computation.

- Environmental Modelling and Software
- ACM Transactions on Software Engineering and Methodology
- INFORM Journal On Computing
- International Journal of Production Economics
- Computers & Industrial Engineering
- EJOR European Journal of Operational Research
- Management Science
- OR Spektrum, the Journal of the German Operations Research
- Journal of Heuristics
- International Journal of Applied Mathematics and Computer Science
- Discrete Mathematics
- International Transactions in Operational Research.
- Transportation Science.
- Transaction of Software Engineering and Methodology
- Environmental Modelling & Software
- Theoretical Computer Science
- Swarm Intelligence
- Evolutionary Computation Journal
- AIEDAM: Artificial Intelligence for Engineering Design, Analysis and Manufacturing

CONFERENCES (PROGRAM COMMITTEE)
- FTAL Conference Applied Data Science, October 18-19, 2018, Lugano
- MIC 2017, 12nd Metaheuristic International Conference, July 4-7, 2017, Barcellona
- ANTS 2016 - 10th International Conference on Swarm Intelligence (September 7-9, 2016; Brussels
- EvoCOMNET 2015, European Conference on the Applications of Evolutionary Computation, Copenaghen, Denmark, 8-10 April, 2015
- MIC 2015, The 11th edition of the Metaheuristics International Conference will be held in Agadir, Morocco, from the 7 to 10th June 2015.
- RO-MAN15, IEEE International Symposium on Robot and Human Interactive Communication, August 31 to September 4, 2015
- GECCO 2015, Genetic and Evolutionary Computation Conference, July 11-15, 2015, Madrid, Spain
- GECCO 2014, Genetic and Evolutionary Computation Conference July 12-16, 2014, Vancouver, BC, Canada
- DARS 2014, Distributed Autonomous Robotic Systems 2014, Nov 2-5, 2014, Daejeon, Korea.
- EvoApps 2014 : The European Conference on Applications of Evolutionary Computation, Apr 23-25, 2014, Granada
- GECCO 2013, Genetic and Evolutionary Computation Conference, GECCO '13, Amsterdam, The Netherlands, July 6-10, 2013
- PPSN
- GECCO 2012, Genetic and Evolutionary Computation Conference, GECCO '12, Philadelphia, PA, USA, July 7-11, 2012
- Bionetics, 7th International Conference on Bio-Inspired Models of Network, Information, and Computing Systems December 10–11, 2012 Lugano, Switzerland
- Ant-2012, Ant 2012, 8th International Conference Swarm Intelligence, September 12-14 2012, Bruxelles
- International Conference of Operational Research, OR2011, September 1st 2011, Zurich.

- Gecco-2011, Genetic and Evolution Computation Conference, July 12-16, 2011, Dublin, Ireland..
- ECAL 2011, European Conference in Artificial Life, Paris, 8th-11th August, 2011.
- 9th edition of the Metaheuristics International Conference (MIC 2011) , Udine, Italy, 25th - 28th of July, 2011
- DARS2010, 10th International Symposium on Distributed Autonomous Robotic Systems, Lausanne, 1st -3rd November, 2010.
- Ant-2010, Ant 2010, 7th International Conference Swarm Intelligence, September 8-10 2010, Bruxelles
- Sab-2010, The 12th International Conference on the Simulation of Adaptive Behavior, August 24-28 2010, Paris.
- Gecco-2010, Genetic and Evolution Computation Conference, June 7-11, 2010, Portland, Oregon.
- Gecco-2009, Genetic and Evolution Computation Conference, June 8-12, 2009, Montreal, Canada.
- Sab-2008, The tenth International Conference on the Simulation of Adaptive Behavior, July 8-12 2008, Osaka
- BICC 2008, the 2nd IFIP Conference on Biologically Inspired Cooperative Computing, September 7-10, 2008, Milan
- Gecco-2008, Genetic and Evolution Computation Conference, July 12-16, 2008, Atlanta
- Ant-2008, Ant 2008, Six International Conference on Ant Colony Optimization and Swarm Intelligence, September 22-24 2008, Bruxelles
- MIC-2007, The Seventh Metaheuristics International Conference Montreal, June 25-29, 2007
- SASO-2007 First IEEE International Conference on Self-Adaptive and Self-Organizing Systems Boston, Mass., USA, July 9-11, 2007
- GECCO-2007, The Genetic and Evolutionary Computation Conference, July 7-11, 2007, London
- EVO* 2007, Europe's premier co-located events on evolutionary computation, 11-13 April 2007, Valencia, Spain
- From Animal to Animat 9, The Ninth International Conference on the Simulation of Adaptive Behaviour (SAB'06), 25 - 29 September 2006, CNR, Roma, Italy
- PPSN2006, 9th International Conference, Parallel Problem Solving from Nature, Reykjavik, 9-13 September 2006
- Ant 2006, Ant Colony Optimization and Swarm Intelligence – September 2006, Bruxelles.
- SIS 2005, IEEE Swarm Intelligence Symposium 2005, Pasadena, California, June 8-10, 2005.
- WONS 2005, The Second Annual Conference on Wireless On demand Network Systems and Services, St. Moritz, Switzerland, 19-21 January, 2005.
- PPSN 2004, The 8th International Conference on Parallel Problem Solving from Nature (PPSN VIII) will be held in Birmingham, UK, on 18-22 September 2004.
- ANTS 2004, Fourth International Workshop on Ant Colony Optimization and Swarm Intelligence, Brussels, Belgium, Set 5-8, 2004.
- GECCO 2004. Genetic and Evolutionary Computational Conference, June 24-26, 2004 Seattle, Washington, USA
- IJCAI 2003, Eighteenth International Joint Conference on Artificial Intelligence, Acapulco, Mexico, August 9-15, 2003
- HMS2003, Harbour, Maritime & Multimodal Logistics Modelling and Simulation, Riga, September 18-20, 2003.
- IPDPS 2002, International Parallel and Distributed Processing Symposium Marriott Marina, Fort Lauderdale, Florida April 15-19, 2002

- AAMAS-02, First International Joint Conference on Autonomous Agents and MultiAgent Systems, July 15-19, 2002, Bologna, Italy
- HMS2002, Harbour, Maritime & Multimodal Logistics Modelling and Simulation, Italian Riviera, Riviera delle Palme - October 3 - 5, 2002.
- EWRL5, Fifth European Workshop on Reinforcement Learning (EWRL'5) will take place in Utrecht. The proposed date is 5-6 october, 2001
- IJCAI2001, International Joint Conference on Artificial Intelligence, August 4th-10th, 2001, Seattle, Washington, USA
- GECCO-2001, Genetic and Evolutionary Computation Conference, 2001, San Francisco, California, July 7-11, 2001
- ANT2000, From Ant Colonies to Artificial Ants: Second International Workshop on Ant Colony Optimization, Brussels, Belgium, Set 7-9, 2000
- HMS2000, Maritime & Industrial Logistics Modelling and Simulation, Portofino, Italy, 5-7th October, 2000.
- HMS99, Maritime & Industrial Logistics Modelling and Simulation, Genoa, Italy, 16-18th September, 1999.
- EWLR-8 Eighth European Workshop on Learning Robots 1999, EPFL, Lausanne, Switzerland, September 18th 1999
- EWRL4, Fourth European Workshop on Reinforcement Learning, Lugano, Switzerland, Oct 29-30, 1999
- ANT 1998, From Ant Colonies to Artificial Ants: First International Workshop on Ant Colony Optimization, Brussels, Belgium, October 15-16, 1998
- International Workshop Modeling and Simulation within a Maritime Environment, 6-8 September, 1998, Riga, Latvia.
- Computer-Aided Scheduling of Public Transport, CASPT-Proceedings

CONFERENCE ORGANIZATION
- FTAL Conference Applied Data Science, October 18-19, 2018, Lugano
- Joint Operations Research Days, September 8-9, 2016, Lugano
- International Conference of Operational Research, OR2015, September 1st 2015, Vien.
- International Conference of Operational Research, OR2011, September 1st 2011, Zurich.
- ANTS 2010, Seventh International Conference on Swarm Intelligence, Technical Chair, Bruxelles, September 2010.
- Seventh Joint Operations Research Days, September 3-4, 2009, Lugano
- Graph and Optimization, August 19-23, 2007, Lugano.
- GO VI, Graph and Optimization, August 19-23, 2007, Cademario.
- General Chair, Ant 2006, Ant Colony Optimization and Swarm Intelligence – September 2006, Bruxelles
- Technical Chair, IEEE Swarm Intelligence Symposium 2005, Pasadena, California, June 8-10, 2005
- Program Chair, Ant 2004, Ant Colony Optimization and Swarm Intelligence – September 2004, Bruxelles
- Chair, ECCO 2002 XV Conference of the European Chapter on Combinatorial Optimisation, 30 May - 1 June 2002, Lugano, Switzerland
- Program Chair, HMS2000, Maritime & Industrial Logistics Modelling and Simulation, Portofino, Italy, 5-7th October, 2000
- Local Organizer, EWRL4, Fourth European Workshop on Reinforcement Learning, Lugano, Switzerland, Oct 29-30,1999

GUEST EDITOR
- Engelbrecht, A., Li, X., Gambardella, L. and Middendorf, M. (2009), "Special Issue: Swarm Intelligence", IEEE Transactions on Evolutionary Computation, Vol. 13, No.4. August, 2009
- L.M. Gambardella, A. Hertz, F. Maffray, M. Widmer, 2009, Sixth International Conference on Graphs and Optimization 2007: Special Issue, Discrete Applied Mathematics 157(17)
- L. M. Gambardella, S. Martello (a cura di): , Feature Issue: Metaheuristics and worst-case guarantee algorithms: relations, provable properties and applications (ECCO XV), AMSTERDAM, Elsevier, 2005, pp. 292 (European Journal of Operational Research)
- M.Dorigo, L.M. Gambardella, M. Middendorf and T. Stützle, special issue on "Ant Colony Optimization", Vol. 6, No. 4, IEEE Transactions on Evolutionary Computation, July 2002
- Special Issue of EJOR for the EURO Winter Institute, 2002

PROJECT EVALUATOR FOR
- ERC consolidator
- Swiss BRIDGE Discovery Evaluation Panel
- European Commission Expert for "Future Trends in Artificial Cognitive Systems"
- European Commission Projects Evaluator
- The Fund for Scientific Research – FNRS, Bruxelles
- Swiss National Science Foundation
- Research Grants Council, Hong Kong
- Inria, Expert for Inria evaluation, France

COMPUTER BACKGROUND
- Unix Operative System, DOS, X11 window systems, Windows 95/NT.
- Languages C, C++, Common LISP with CLOS, SmallTalk, Visual Basic, Pascal, Java.
- Computer Experience with Sun, Symbolics, Macintosh, Honeywell, Pc MS-DOS, Windows.

LANGUAGES
- Native language Italian.
- Spoken and written English.
- Spoken French.

HOBBIES
- Fly fishing
- Walking in the mountains
- Writing Novels
- Art Installation