



Michele Ciavotta

Curriculum Vitae

Personal Information

Name Michele Ciavotta
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Google Scholar <http://scholar.google.it/citations?user=726XWk0AAAAJ>
Linkedin Profile <https://www.linkedin.com/in/ciavotta>
University Homepage <http://home.deib.polimi.it/ciavotta/>

Personal Profile

Strengths Excellent *organisational abilities*, good at *working under pressure*; great believer in *collaborative work* and in *sharing knowledge*; good *communication skills*; *passionate* and *curious*; *emphatic, honest* and *reliable*; *self-motivated* and *hard-working* person

Professional Experience

- Current **Research Fellow at Polytechnic of Milan**, Italy.
Model-driven approach to multi-cloud application development.
- Current **Teaching Fellow at Polytechnic of Milan**, Italy.
Teaching programming concepts in introductory computer science courses.
- Current **Spring Framework Teaching Activity - Freelance**, Italy.
Spring framework in-service training for practitioners.

- 2008–2012 **Tenure Track Researcher at Instituto tecnológico de Informática - Polytechnic University of Valencia**, Spain.
Research and development of intelligent optimization applications for industrial environments.
- 2007 **Research Fellow at University of Valencia, Department of Statistics and Operation Research**, Valencia.
Flexible production planning considering due dates.
- 2006 and 2007 **Teaching Fellow at Roma Tre University**, Italy.
Metaheuristics for some classical Operation Research problems.
- 2005 **Teaching Fellow at Polytechnic of Bari**, Italy.
Theory and applications of scheduling.
- 2005–2008 **PhD Student at Roma Tre University**, Italy.
Metaheuristic algorithms for multi-objective scheduling problems.

Education Background

- 2008 **PhD in Computer Science and Automation**, *University Roma Tre, Italy*, National Scholarship, Thesis: *Metaheuristic algorithms for multi-objective scheduling problems*.
- 2004 **Master in Computer Science**, *Polytechnic of Bari, Italy*, Thesis: *Sequencing in serial production systems with setups: Models and algorithms*.
Grade: 110/110 *cum laude*.

Teaching Experience

- 2014–2015, Introduction to Computer Science - Programming paradigms - Fall and Spring.
Polytechnic of Milan
- 2013–2014, Introduction to Computer Science - Programming paradigms - Spring.
Polytechnic of Milan
- 2006–2007, Heuristics and Metaheuristics.
Roma Tre University
- 2005, Scheduling: Theory and Applications.
Polytechnic of Bari

Mentoring/Supervising/Marking/Reviewing Experience

- 2005–2015 Significant experience in master students supervision.
- 2005–2015 Significant experience in journal and conference peer reviewing.

R&D Projects

- MODAClouds
2012–2015 MModel-Driven Approach for design and execution of applications on multiple Clouds, EU FP7 Project.

SMPA Advanced multi-objective parallel scheduling, theoretical and practical advances.
2009–2011

PPAR Production scheduling in high-constrained environments: new algorithms and computational advances.
2008–2010

OACS Supply Chain Advanced Optimization
2008–2009

OCS Supply Chain Comprehensive Optimization.
2008–2009

Grant

- 1998 Awarded a regional merit scholarship of symbolic and economic value to pay my outstanding marks in the years of Senior High School.
- 1998–2004 Exempted from the payment of university tuition fees for my outstanding marks.
- 2004–2008 Italian national doctoral scholarship for my Ph.D. study.
- 2007–2008 Six months research grant entitled *Flexible production planning considering due dates* from Universitat de Valencia, Spain.
- 2012–2015 Post doctoral grant entitled *MOdel-Driven Approach for design and execution of applications on multiple Clouds* from Politecnico di Milano, Italy.

Industrial Collaborations

- 2011–2012 Martinavarro (Spain).
- 2009–2011 Keraben (Spain).
- 2010 Comenza (Spain).
- 2008–2009 Galol, Undefasa, Taulell, Porcelanosa (Spain).
- 2008 Grescid (Spain).

Present and Past Research Interests

- Logistic & Scheduling** Logistic and Production Scheduling. Supply Chain optimization. Multi-objective optimization. Scheduling with limited resources. Scheduling with setups. Constrained Shop problems.
- Optimization Algorithms** Design and analysis of exact algorithms, heuristics and metaheuristics for combinatorial optimization (Special experience in developing Tabu search, Simulated Annealing, Iterated Greedy, Genetic Algorithm, Variable Neighborhood Search, Iterated Local Search and Rollout algorithms).
- Cloud Computing & QoS** Model-driven design and management of cloud based applications, designing algorithms for performance assessment and Quality of Service maximization of multi-cloud applications. Developing Data-Intensive Cloud Applications with Iterative Quality Enhancements. Game Optimization Theory based analysis of SaaS-IaaS interactions.
- Big Data** Modelling and Performance analysis of Data Intensive applications.

Schools

- 2007 Summer School on Robust Optimization Cortina D'Ampezzo, Italy.
- 2015 Winter School on Big Data, BigDat2015, Tarragona, Spain.

Language Competence

Italian	Mother language	English	Technical: proficiency; Written: proficiency; Spoken: proficiency
Spanish	Technical: proficiency; Written: proficiency; Spoken: proficiency	French	Technical: beginner; Written: Beginner; Spoken: beginner

Certificates: **Certificate in Advanced English (CAE) C1**
University of Cambridge, License 0028571268

Diploma de Español como Lengua Extranjera (DELE) C2 (Superior)
Instituto Cervantes, License 09050672446020008

Professional Training

- 2010/2011 Management skills and negotiation.
- 2009 Development of .Net application.
- 2009 Usability in interactive applications.

Computing Knowledge

Operating Systems	MS Windows, Linux, Mac OS.	Microprocessor Architectures	Intel 80X86, Motorola 68000.
Programming	C, C++, C#, Java/Spring, Scala, Python, AMPL/CMPL, Delphi/Pascal, Scala, Matlab, Html, Qt, Latex.	Databases	SQL, JDBC/JPA, Access, Oracle, MySQL, Microsoft SQL Server, NoSQLs.
Tools	Word, PowerPoint, Excel, Outlook, Visio, StarUML, Rational Rose, OmniGraffle, TeXstudio, Eclipse.	Statistical Analysis	SPSS, R, Statgraphics.

Commercial software realized

- ForePlanner Systems of sales forecasting and infinite capacity production planning
www.foreplanner.com
- SeKuen Systems of decision aid for the scheduling of activities in complex production environments www.sekuen.com.

Affiliate Memberships

- Member of the Italian association of operation research (AIRO).
- Member of the Spanish society of statistics and operation research (SEIO).

Journal Papers

- 2015 D. Ardagna, M. Ciavotta, M. Passacantando - *Generalized Nash Equilibria for the Service Provisioning Problem in Multi-Cloud Systems* - Accepted for publication on Transactions on Services Computing (TSC).
- 2015 M. Mazzara and M. Ciavotta - *Issues about the Adoption of Formal Methods for Dependable Composition of Web Services* - International Journal of Systems and Service-Oriented Engineering (IJSSOE), 4(4), 35–50, 2015.
- 2015 M. Malekimajd, D. Ardagna, M. Ciavotta, A. M. Rizzi, M. Passacantando - *Optimal Map Reduce Job Capacity Allocation in Cloud Systems* - ACM SIGMETRICS Performance Evaluation Review, 42 (4): 50–60, 2015.
- 2014 D. Ardagna, G. Casale, M. Ciavotta, J. F. Perez and W. Wang - *Quality-of-Service in Cloud computing: modeling techniques and their applications* - Journal of Internet Services and Applications (JISA), 11(5): 867–828, 2014.
- 2013 M. Ciavotta, G. Minella, R. Ruiz - *Multi-objective sequence dependent setup times permutation flowshop: A new algorithm and a comprehensive study* - European journal of operational research (EJOR), 227(2): 301–313, 2013.
- 2013 M. Ciavotta, C. Meloni, M. Pranzo - *Minimising general setup costs in a two-stage production system* - International Journal of Production Research (IJPR), 51(8): 2268–2280, 2013.
- 2011 G. Minella, R. Ruiz, M. Ciavotta - *Restarted Iterated Pareto Greedy algorithm for Multi-Objective Flowshop Scheduling problems* - Computers & Operations Research (CAOR), 38(11): 1521–1533, 2011.
- 2009 M. Ciavotta, C. Meloni, M. Pranzo - *Scheduling dispensing and counting in secondary pharmaceutical manufacturing* - American Institute of Chemical Engineers (AIChE), 55(5): 1161–1170, 2009.
- 2008 M. Ciavotta, Paolo Detti, C. Meloni, M. Pranzo - *A bi-objective coordination setup problem in a two-stage production system* - European journal of operational research (EJOR), 189(3): 734–745, 2008.
- 2008 G. Minella, R. Ruiz, M. Ciavotta - *A Review and Evaluation of Multi-Objective Algorithms for the Flowshop Scheduling Problem* - INFORMS Journal on Computing (IJOC), 20(3): 451–471, 2008.

Conferences and Workshops

- 2015 A. Evangelinou, M. Ciavotta, G. Kousiourisa, D. Ardagna - *A Joint Benchmark-Analytic Approach For Design-Time Assessment of Multi-Cloud Applications* - Cloud Forward Conference (CF2015). October, 2015, Pisa, Italy.
- 2015 M. Guerriero, M. Ciavotta, G. P. Gibilisco, D. Ardagna - *A Model-Driven DevOps framework for QoS-aware Cloud applications* - MICAS-SYNASC 2015 Workshops Proceedings. September, 2015, Timisoara, Romania.
- 2015 M. Guerriero, M. Ciavotta, G. P. Gibilisco, D. Ardagna - *SPACE4Cloud: a DevOps environment for multi-Cloud applications* - 1st International Workshop on Quality-Aware DevOps (QUDOS 2015) September, 2015, Bergamo, Italy.

- 2015 M. Ciavotta, E. Gianniti, D. Ardagna, M. Passacantando - *Game-Theoretic Approach to Joint Admission Control and Capacity Allocation for MapReduce* - 45th Annual Conference of the Italian Operational Research Society (AIRO 2015) September, 2015, Pisa, Italy.
- 2014 D. Ardagna, M. Ciavotta, R. Lancellotti - *A Receding Horizon Approach for the Runtime Management of IaaS Cloud Systems* - MICAS-SYNASC 2014 Workshops Proceedings. September, 2014, Timisoara, Romania.
- 2014 M. Malekimajd, A. M. Rizzi, D. Ardagna, M. Ciavotta, M. Passacantando, A. Movaghar. - *Optimal Capacity Allocation for executing Map Reduce Jobs in Cloud Systems* - MICAS-SYNASC 2014 Workshops Proceedings. September, 2014, Timisoara, Romania.
- 2014 D. Ardagna, M. Ciavotta, M. Passacantando - *Generalized Nash Equilibria for the Service Provisioning Problem in Multi-Cloud Systems* - 44th Annual Conference of the Italian Operational Research Society (AIRO 2014) September, 2014, Como, Italy.
- 2014 D. Ardagna, G. P. Gibilisco, M. Ciavotta, A. Lavrentev - *A Multi-Model Optimization Framework for the Model Driven Design of Cloud Applications* - Symposium on Search-Based Software Engineering (SSBSE 2014) August, 2014, Fortaleza, Brazil.
- 2013 D. Franceschelli, D. Ardagna, M. Ciavotta, E. Di Nitto - *SPACE4CLOUD: A Tool for System Performance and Cost Evaluation of CLOUD Systems* - 2013 international workshop on Multi-cloud applications and federated clouds MultiCloud 2013 , April, 2013, Prague, Czech Republic.
- 2011 M. Ciavotta, R. Ruiz - *Resource constrained scheduling in permutation flowshop problems*-The IX Metaheuristics International Conference (MIC 2011), July, 2011, Udine, Italy.
- 2010 M. Pranzo, M. Ciavotta, C. Meloni - *Speeding up a Rollout Algorithm for Complex Parallel Machine Scheduling* - 24th European Conference on Operational Research (EURO XXIV 2010), July, 2010, Lisbon, Portugal.
- 2010 M. Ciavotta, G. Dellino, C. Meloni, M. Pranzo - *A rollout algorithmic approach for complex parallel machine scheduling in healthcare operation* - XXXVI EURO Working Group on Operational Research Applied to Health Services conference (ORAHs 2010), July 2010, Genova, Italy.
- 2009 M. Ciavotta, G. Minella, R. Ruiz - *An effective algorithm for multi-objective sequence dependent setup times flowshop problem* - XL Annual Conference of the Italian Operational Research Society (AIRO 2009), September, 2009, Siena, Italy.
- 2009 M. Ciavotta, R. Ruiz, G. Minella - *New results for the multi-objective sequence dependent setup times flowshop problem* - 4th multidisciplinary international scheduling conference (MISTA 2009) August, 2009, Dublin, Ireland.
- 2009 M. Ciavotta, R. Ruiz, G. Minella - *Multi-objective sequence dependent setup times flowshop scheduling: a new algorithm and a comprehensive study* - Learning and intelligent optimization (LION3), January, 2009, Trento, Italy.
- 2009 G. Minella, R. Ruiz, M. Ciavotta - *Un algoritmo voraz iterativo el taller de flujo de permutación con múltiples objetivos* XXXI Spanish national congress of Statistics and Operation Research (SEIO 2009), February, 2009, Murcia, Spain.
- 2009 M. Ciavotta, G. Minella, R. Ruiz - *Un algoritmo eficaz para el problema del taller de flujo multiobjetivo con tiempos de cambio dependientes de la secuencia* - XXXI Spanish national congress of Statistics and Operation Research (SEIO 2009) February, 2009, Murcia, Spain.

- 2008 M. Pranzo, M. Ciavotta, C. Meloni - *Speeding up a rollout algorithm for complex parallel machine scheduling*- XXXIX Annual Conference of the Italian Operational Research Society (AIRO 2008), September, 2008, Ischia, Italy.
- 2008 R. Ruiz, M. Ciavotta - *Iterated greedy algorithms for unrelated parallel machine problem* - Conference of the European chapter on combinatorial optimization (ECCO 2008), May, 2008, Dubrovnik, Croatia.
- 2008 G. Minella, R. Ruiz, M. Ciavotta - *New iterated pareto greedy algorithms for the multi-objective flowshop problem* - Eleventh international workshop on project management and scheduling (PMS 2008) April, 2008, Istanbul, Turkey.
- 2007 R. Ruiz, G. Minella, M. Ciavotta - *Nuevos algoritmos avanzados para secuenciación multiobjetivo* - XXX Spanish national congress of Statistics and Operation Research (SEIO 2007), September, 2007, Valladolid, Spain.
- 2007 G. Minella, R. Ruiz, M. Ciavotta - *A review and evaluation of multi-objective algorithms for the flowshop scheduling problem* - Operational research peripatetic post-graduate programme (ORP3 207), September, 2007, Guimarães, Portugal.
- 2007 G. Minella, R. Ruiz, M. Ciavotta - *A review and evaluation of multi-objective algorithms* - 22nd European Conference on Operational Research (EURO XXII 2007), July, 2007, Prague, Czech Republic.
- 2006 D. Pacciarelli, M. Ciavotta, C. Meloni, M. Pranzo - *Production scheduling in pharmaceutical industry* - 21st European Conference on Operational Research (EURO XXI 2006), July, 2006, Reykjavik, Iceland.
- 2006 M. Ciavotta, M. Dotoli, M. P. Fanti, S. Hammadi, S. Koubaa, C. Meloni - *Genetic algorithms for the setup coordination in consecutive stages of a manufacturing system* - IEEE-SMC international workshop (LT 2006), May, 2006, Hammamet, Tunisia.
- 2005 M. Ciavotta, P. Detti, C. Meloni, M. Pranzo - *A bi-objective coordination setup problem in a two stage production system* - Operational research peripatetic post-graduate programme (ORP3'05), September, 2005, Valencia, Spain.
- 2005 M. Ciavotta, P. Detti, C. Meloni, M. Pranzo - *A metaheuristic approach to sequencing problems with setups* - Models and algorithms for planning and scheduling problems (MAPSP 2005), June, 2005, Siena, Italy.
- 2004 M. Ciavotta - *Evolutionary approach to sequencing problems with setups* - XXXV Annual Conference of the Italian Operational Research Society (AIRO 2004) - September, 2004, Lecce, Italy.

Conference and Workshop Activities

- 2015 VERY* 2015 (PC member).
- 2015 ESEC/FSE 2015 Replication (PC member).
- 2015 SOAP track at SAC (PC member).
- 2011 *Metaheuristics for real production planning and scheduling* track at the at MIC (Chair).

Editorial Boards

European Journal of Industrial Engineering (EJIE).

Milan, September 4, 2015

Dr. Michele Ciavotta