

Raffaella Mirandola: curriculum vitæ et studiorum

Name Raffaella Mirandola
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KEY DATA

Education

- Ph.D. in Computer Science, University of Roma Tor Vergata, Italy, 1994.
- M.Sc. in Computer Science University of Pisa, Italy, 1989.

Academic experience

I am Associate Professor at Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano. I annually teach basic and advanced courses on software engineering and on computer systems. I am an active member of the scientific community and I regularly serve in international program committees and as a referee for top-ranked journals. I'm a member of the editorial board of the IEEE Transactions of Software Engineering and of the Journal of System and Software (Elsevier). I also organized several international conferences and workshops as Program Chair or General Chair and co-organized two Dagstuhl Seminars.

Research Areas

My main research interests are in:

- Software quality requirements modeling, analysis and verification
- Formal methods for (self-)adaptive dependable IT systems
- Model- driven software engineering

and the application of the theories, approaches and techniques specific to the above research areas to *service-oriented* and *component-based* systems, *adaptive systems*, *mobile systems*, and *cloud computing*. The research has been funded by several national and international projects, among which the FP7 European project Q-ImPrESS: Quality Impact Prediction for Evolving Service-Oriented Software, for which I was Scientific Responsible and also local responsible for Politecnico.

Scientific Results

- Co-author of 30 top-ranked journal publications;
- Co-author of 15 chapters in scientific books;
- Co-author of more than 100 scientific publications on peer-reviewed conferences/workshops (with one Best Paper Award).
- Based on Google Scholar (13/03/2018), my h-index is 31 with 55330 as a total number of citations. Specifically, an important research contribution concerns the definition of formal models at runtime and their usage in the area of service-oriented application. The obtained results are widely cited in the literature, see for example the citations of Google Scholar for the *ICSE paper* [IC.43], the *IEEE Transaction on Software Engineering paper* [JR.19], the *Communication of the ACM paper* [JR.15] and the *IEEE Transaction on Software Engineering paper* [JR.18]. Besides, the research result concerning the definition and generation of quality models at design time, with the definition of PRIMA-UML represents a seminal work in this area, widely cited in the reading list of academic courses and in the literature, see for example the citations of Google Scholar for the *WOSP paper* [IC.73] and the *Science of Computer Programming paper* [JR.25]. A contribution in the area of Model Driven Engineering has been the definition of the pivot language KLAPER, which is widely cited in the literature, see for example the citations of Google Scholar for the *Journal of System and Software paper* [JR.22]. Besides, for component-based systems a common case study has been defined and presented in the

Springer Book [BK.1], which is becoming a baseline for this research area (see for example the citations of Google Scholar).

Position and Education

FULL PROFESSOR QUALIFICATION

Italian national scientific qualification 2012 in the following scientific sectors:

- 01/B1, INF/01 (from 29/01/2014 to 29/01/2020)
- 09/H1 ING-INF/05 (from 03/12/2013 to 03/12/2019)

RECORD OF EMPLOYMENT

August 2011 – present

Associate Professor at Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano

November 2005 – July 2011

Assistant Professor at Dipartimento di Elettronica e Informazione, Politecnico di Milano

November 1997 – October 2005

Assistant Professor at the Computer Science Department, University of Rome Tor Vergata

November 1995 – October 1997

Post-Doc Fellow at the Computer Science Department, University of Rome Tor Vergata

EDUCATION

- Ph.D. in Computer Science, University of Roma Tor Vergata, Italy, 1994.
Title: *Hierarchical models for performance evaluation of computer and communication systems*
- M.Sc. in Computer Science University of Pisa, Italy, 1989.
(Thesis title: *Hybrid simulation and variance reduction methods for performance evaluation of queueing network models*)

Research interests

My main research interests are in:

- Software quality requirements modeling, analysis and verification
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and the application of the theories, approaches and techniques specific to the above research areas to *service-oriented and component-based systems, adaptive systems, mobile systems, and cloud computing*.

SOFTWARE QUALITY REQUIREMENTS MODELING, ANALYSIS AND VERIFICATION

A key requirement for software is becoming the capability to keep providing the required quality of service (QoS), in terms of performance, dependability and operating cost (e.g., energy consumption). To this end, quality goals must be carefully and continuously pursued throughout the lifecycle, and especially from its very beginning. Indeed, if unacceptable qualities are discovered late in the project, it is necessary to either abandon the system entirely or go back through redefinition, redesign and redevelopment phases until the system becomes acceptable. Both options are clearly much more expensive than meeting the quality goals since the initial stages. For these reasons the research has been directed to the (automatic) generation and use of software quality models in a continuous way starting from design time until runtime.

Scientific contributions A first research area has been the definition and generation of quality models at design time, with the definition of PRIMA-UML [IC.73], [IC.72], [JR.25] for example, which represents a seminal work in this area widely cited in the reading list of academic courses and in the literature, see for example the citations of Google Scholar for the **WOSP paper** [IC.73], and the **Science of Computer Programming** journal [JR.25]). These methods have been applied to the domain of mobile software architectures and the results presented in [IC.69] and in the **IEEE Transaction on Mobile Computing** [JR.23].

For component-based systems we have been working at a general framework for enabling the early validation of component-based systems on the basis of the architectural specification. We started with a survey on existing methods for the quality analysis of component-based systems presented in [IB.13]. Then, the definition of the Component-Based Software Performance Engineering (CB-SPE) [IC.63], [IC.65], [IC.64], [IC.54] [WS.18], [OJ.4] has been one of the result of this work, which is widely cited in the literature (see for example the citations of Google Scholar for the CBSE [IC.63]). In this context, a common component modeling example has been produced and presented in the widely cited **Springer Book** [BK.1], to provide a common case study to be used as a basis for comparisons of different approaches. Different techniques based on optimization methods have been investigated and presented in [IC.39] and in two journal papers [JR.20], [JR.14] published on **Journal of Systems and Software**.

Another result concerns the definition and analysis of different kind of failures that can affect the overall system behavior [IC.36], [IC.33], [IC.18], in the **Transactions on Reliability** journal [JR.7] and in the **Software: Practice and Experience** journal [JR.3]. The paper [IC.36] received the **best paper award** at the CBSE conference.

More recent research contributions consist in the definition of models at runtime (presented at **ICSE Conference** [IC.43]) and their usage in the area of self-adaptive systems and service-oriented application, presented in [IC.51], [IC.42], [IC.41], [IC.45], [IB.6], [IC.21], [IC.20], [IC.10], [IC.7], [IB.2] and in the **IEEE Transactions on Software Engineering** journals [JR.19], [JR.18], [JR.5]. The obtained results are widely cited in the literature, see for for example the citations of Google Scholar for the **ICSE paper** [IC.43], the **ESEC/FSE** paper [IC.41], and the **IEEE Transactions on Software Engineering** [JR.19] and [JR.18].

The results of a new research line considering the identification and management of uncertainties in model-based approaches has been presented in [IC.4], [IC.16], [IC.17] (Best paper candidate), and in the book chapter [IC.1].

FORMAL METHODS FOR (SELF-)ADAPTIVE DEPENDABLE IT SYSTEMS

In modern software applications, two requirements are becoming common: software must adapt continuously to respond to changes in application objectives and in the environment in which it is embedded, and it is expected to fulfil its dependability. To this end the seamless use of *formal verification techniques* preventing errors from reaching the final implementation (or at least removing them when a new version of the software is deployed) has been proved to be a feasible way to reach these goals.

Scientific contributions In this area, the main contributions concern the definition of an overall framework promoting the use of quantitative formal techniques at runtime presented in [IB.6] and in the **Communication of ACM** [JR.15], as well as a set of specific techniques proposing the use of formal methods to deal with adaptable dependable systems. Specifically, Petri Nets and Queueing Networks have been applied to plan system adaptation while minimizing the energy consumption, in **Journal of Systems and Software** [JR.16], in **Sustainable Computing, Informatics and Systems** [JR.13] and in **International Journal of Performability Engineering** [OJ.1] respectively. Petri Nets have also been applied to devise the most suitable number of resources to be used when the workload of the application presents some burstiness [IC.24]. More recently, Petri nets have also been applied for time-sensitive adaptation in Cyber Physical Systems through run-time configuration generation and verification and the results presented in the conference papers in the conference papers [IC.15] and [IC.13]. The usage of formal models for the definition of adaptation plans in cloud infrastructure has been discussed in [IC.14] and [IC.9] and in the **Journal of Network and Computer Applications** [JR.2].

Another formalism, called Abstract State Machine (ASM), has been extended to deal with reliability analysis in [IC.22], [IB.3] and in the **Journal of System and Software** paper [JR.8] providing a unique component model, which is both the design oriented model of the component assembly and the formal analysis-oriented model and that leads the reliability analysis. The combined use of optimization techniques and design patterns and tactics have been exploited to explore the state space adaptation of service oriented applications in [IC.30] and in the **Science of Computer Programming** journal [JR.11].

Some of these topics, concerning the definition of metrics for system adaptability and the definition of different types of uncertainties are presented in the journal paper [JR.12] (**Journal of Systems and Software**) and in the conference papers [IC.17] and [IC.11], respectively.

The research challenges and possible research directions in the field of self-adaptive have been explored in [IB.9] and [IB.4] [IB.5], [IB.1].

MODEL- DRIVEN SOFTWARE ENGINEERING

Model-driven development (MDD) is a discipline that tries to systematize model-based software development. The goal of MDD is twofold. On the one side, it aims at deriving (automatically or semi-automatically) a software implementation, starting from high-level models of the system and applying model transformation rules which refine high-level descriptions into more concrete and specific models. On the other, it aims at supporting reasoning activities on the high-level models. Through an early analysis of quality properties, such as performance and reliability, the software engineer can evaluate the impact of the different design choices or candidate system architectures, before they are reified into runnable code.

Scientific contributions A first research contribution in this area is the definition of an UML profile for mobile software architectures and its usage for the analysis of quality requirements: [IC.71], [IC.62] and [IC.61]. Another result concerns the definition of a pivot language called KLAPER facilitating the definition and generation of analysis- oriented models (such as reliability models or performance models) starting from design-oriented models expressed in different formalisms, such as UML or BPMN, [IC.57],[IC.53],[JR.22],[IB.11], together with the possibility to deal with dynamic system environments [IC.52] and [IB.10]. A tool-suite has been built around this language and used in a set of academic and industrial case studies presented at the conferences [IC.32] (**TOOLS2011**, [IC.31] (**ICSE2011**) and in the **Software and System Modeling** journal [JR.10]. The obtained results are widely cited in the literature, see for for example the citations of Google Scholar for the WOSP paper [IC.57] and the **Journal of Systems and Software** paper [JR.22].

A different challenging problem we have considered in the MDE area is called "feedback provisioning": how to propose solutions to non-experienced engineers and guide them in the selection of an appropriate one when issues concerning quality attributes are detected. In this context we have presented a general discussion of challenges and open issues [IC.23] and their application to a specific domain [IC.12], we have proposed a multi-modeling solution that leverages and extends existing model transformation techniques with constructs to

elicit the space of the alternative solutions and to bind quality properties to them, presented at **MODELS2011** conference [IC.29] and in the **Computer Science - Research and Development** journal [JR.17]. The model transformations themselves need to be verified and a testing technique has been proposed to this end in the **QUATIC2010** conference paper [IC.38] and in the **Innovations in Systems and Software Engineering** journal paper [JR.9].

INVITED TALKS

- "Software QoS enhancement through self-adaptation and formal models" invited lectures at GSSI, L'Aquila, Italia, April 2015
- "Software Performance Engineering In and For Dynamic Environments, Keynote at ECSA 2011, Essen Germany, September 2011 (<http://www.ecsa2011.org/>)
- A journey across three decades of software performance engineering approaches Keynote at PalladioDays 2011, Karlsruhe, Germany November 2011 (<http://www.palladio-days.org/2011/programme/>)
- Software Performance Engineering In and For Dynamic Environments Seminar at Milano Bicocca, PhD Course, 2 December 2011
- Tecniche di valutazione di requisiti di performance e reliability per il software, Invited talk, Workshop CDE V&V Intecs, 25 November 2011
- Some issues about modeling of mobile software architecture, Invited presentation at UML 2004 Workshop on Software Architecture Description and UML, 12 October 2004

TUTORIALS

- "Software QoS enhancement through self-adaptation and formal models" at QoSA'14, the 10th International ACM SIGSOFT Conference on Quality of Software Architectures (part of CompArch 2014), June 30 - July 04, 2014, Lille, France (with Diego Perez-Palacin)
- "Performance Validation of mobile software architecture" at PERFORMANCE 2002 IFIP WG 7.3 International Symposium on Computer Performance Modeling, Measurement and Evaluation, Roma, Italy, September 2002 (with V. Cortellessa and V. Grassi)
- "Performance Validation of mobile software architecture" at the Fourth International Workshop on Software and Performance, WOSP 2004, ACM, January 14-16 2004, Redwood Shores, CA, USA (with V. Cortellessa and V. Grassi)

Professional Activities

PROFESSIONAL ACTIVITIES AT POLITECNICO

- President of the commission for the Evaluation Committee of the Bachelor and Master degree programs in Computer Engineering (Segretario di Laurea) (2013-present)
- Member of the PhD Advisory Board in Computer Engineering at Politecnico di Milano (2017-present)
- Delegate member of the Computer Engineering degrees at the Faculty Evaluation Committee (2013-present)
- Member of several evaluation committees for the appointment of junior and senior researchers (2014-present)
- Member of the PhD Admission Committee (2012)
- Member for the Evaluation Committee of State Exams for the Qualification to the Engineering Profession (2009)

EUROPEAN RESEARCH PROJECTS

Scientific responsible and local responsible for Politecnico

- FP7 European project Q-ImPrESS: Quality Impact Prediction for Evolving Service-Oriented Software (2008-2011)

I contributed actively in the following research projects:

- H2020 CSA Dossier Cloud: Devops-based Software engineering for the cloud (36 months)
- FP7 ICT SeaClouds: Seamless adaptive multi-cloud management of service-based applications (30 months)
- FP7 ERC-SMCom: Self-Managing Situated Computing (60 months)
- FP7 NOE S-Cube: Software Services and Systems Network (48 months)
- FP6 ICT PLASTIC: Providing Lightweight and Adaptable Service Technology for pervasive Information and Communication (36 months)
- FP6-ICT CASCADAS: Component-ware for Autonomic Situation-aware Communications, and Dynamically Adaptable Services (36 months)
- European Project GAAS: Design and development of distributed Client/server Architectures for air traffic control systems
- EUROCONTROL Project PAMPAS: A preliminary approach to performance modelling and analysis of air traffic control systems
- EUROCONTROL Project EVAS: EATMS Validation Strategy

NATIONAL RESEARCH PROJECTS

I contributed actively in the following italian research projects:

- PRIN 2012 IDEAS - Integrated Design and Evolution of Adaptive Systems, duration 24 months
- PRIN 2008 DASAP: Architetture Software Adattabili e Affidabili per Sistemi Pervasivi, duration: 24 months
- FIRB Programmi Strategici 2005: ART DECO (Adaptive InfRasTructures for DECentralized Organizations), duration: 36 months
- FIRB - PERF (2002 - 2006) Performance Evaluation of Complex Systems: Techniques, Methodologies and Tools, duration: 48 months
- PRIN 2001 SAHARA Software Architectures for Heterogeneous Access Infrastructures, duration: 24 months
- PRIN 1999 SALADIN: Software Architectures and Languages to Coordinate Mobile Distributed Components, duration: 24 months
- Certia-CERC Project Software Process Optimization and Collaborative Environments for Software V&V
- CNR Project Performance and Reliability Engineering of Distributed Databases
- ITALIAN MURST Project Performability V&V of Product and Processes in Software Engineering

EVALUATOR OF RESEARCH PROJECTS

- Reviewer of Research projects for the "Netherlands Organisation for Scientific Research" in 2009 and 2012
- Reviewer of Research projects for the "Fundao para a Cincia e a Tecnologia", Portugal in 2012
- Reviewer of Research projects for the DFG priority program SPP 1593/1, Germany, in 2012
- Reviewer of Research projects for the DFG priority program SPP 1593/1, Germany, in 2015
- Reviewer of the CLUSTER of EXCELLENCE projects, DFG, Germany, 2017, 2018

EDITORIAL BOARDS

I am a member of the Editorial Board of:

- IEEE Transaction on Software Engineering (2014-present),
- Journal of System and Software, Elsevier (2008-present).

JOURNAL SPECIAL ISSUE EDITOR

- "Introduction to the theme issue on performance modeling" *Journal of Software and Systems Modeling, Springer* Volume 12, no. 4, (2013)
- "New Frontiers in Software Architecture" *Journal of Systems and Software, Elsevier*, 2016 to appear

CONFERENCE AND WORKSHOP ORGANIZATION

Program Chair and Organization Committees

- *In 2018*
 - Poster co-chair at IEEE/ACM International Conference on Software Engineering, ICSE 2018
 - Doctoral Project track chair at SEAMS 2018:
 - Co-organizer: of the first workshop on Gender Equality in Software Engineering, ICSE 2018
 - Workshop co-chair at the European Conference on Software Engineering - ECSA 2018
- *In 2017*
 - co-organizer of the Woman in Software Architecture Track at the European Conference on Software ARchitecture-ECSA 2017
- *In 2015*
 - Workshop co-chair at the IEEE/ACM International Conference on Software Engineering - ICSE 2015
 - Program co-chair of the 9th European Software Architecture Conference - ECSA 2015
 - TRACK co-chair ACM SAC Software Architecture: Theory, Technology, and Applications (SA-TTA)
 - Editor of the Elsevier Journal of System and Software special issue on New Frontiers in Software Architecture
- *In 2014*
 - TRACK co-chair ACM SAC Software Architecture: Theory, Technology, and Applications (SA-TTA)

- *In 2013:*
 - TRACK co-chair ACM SAC Software Architecture: Theory, Technology, and Applications (SA-TTA)
- *In 2012*
 - General-chair of: Comparch 2012, federated conference including CBSE (International ACM Sigsoft Symposium on Component Based Software Engineering), QoSA (International ACM Sigsoft Conference on the Quality of Software Architectures) and ISARCS (International ACM Sigsoft Symposium on Architecting Critical systems).
 - PC co-chair MOCS Model-based development, Components and Services Track
 - Editor of the Springer Journal Software and Systems Modeling theme issue on Performance Modeling
- *In 2011:*
 - PC co-chair of ACM WOSP/SIPEW ICPE International Conference on Performance Engineering
 - PC co-chair MOCS Model-based development, Components and Services Track Track at EUROMICRO SEAA
- *In 2010:*
 - Organization and PC co- chair of QUOVADIS: First International workshop on Quantitative Stochastic Models in the Verification and Design of Software Systems, Workshop at IEEE International Conference of Software Engineering (ICSE)
 - PC co-chair MOCS Model-based development, Components and Services Track Track at EUROMICRO SEAA
- *In 2009*
 - Program chair of QoSA 2009: Fifth International Conference on the Quality of Software Architectures
 - Co-organizer GI-Dagstuhl-Seminar: "Model-Driven Quality Prediction", 29.11.09 - 02.12.09
- *In 2008*
 - Program chair of: EUROMICRO Conference on Software Engineering and Advanced Applications (SEAA)
 - Workshop chair of IEEE ASE 2008: International Conference on Automated Software Engineering
 - Panel organizer: SOA and Quality Assurance at SEAA 2008
- *In 2007*
 - Co-organizer of GI-Dagstuhl-Seminar: "Modelling Contest: Common Component Modelling Example", August 2007
- *In 2005* - Workshop organizer: NfC – Models for Non-functional Aspects of Component-Based Software, Models 2005

Steering Committees

I serve on the Steering Committee of the following conferences:

- ACM International Conference on Performance Engineering (ICPE)
- ICSA: IEEE International Conference on Software Architecture
- ECSA, The European Conference on Software Architecture
- member of SERENE: Software EngineerRing for rEsilieNt systems, ERCIM Working Group

Program Committee Membership

- ICSE 2019: 41th International Conference on Software Engineering

In 2018:

- ICSE 2018: 40th International Conference on Software Engineering
- NIER@ICSE 2018: New Ideas and Emerging Results (NIER) Track at the 40th International Conference on Software Engineering, 2018
- ICPE 2018: ACM International Conference on Performance Engineering
- ICSA 2018 : IEEE International Conference on Software Architecture
- ECSA 2018: European Conference on Software Architectures
- ANT 2018: Track on system and software engineering
- QUATIC 2018: track on Quality aspects in DevOPS development
- SEAA 2018: 44th Euromicro Conference on Software Engineering and Advanced Applications

In 2017:

- ICPE 2017: ACM International Conference on Performance Engineering
- ICSA 2017 : IEEE International Conference on Software Architecture
- ECSA 2017: European Conference on Software Architectures
- SEAA 2017: 43th Euromicro Conference on Software Engineering and Advanced Applications
- IoT-ASAP 2017 :International Workshop on Engineering IoT Systems: Architectures, Services, Applications, and Platforms
- ICSE 2017-Poster Track: 39th ACM/IEEE International Conference on Software Engineering - Poster Track
- EPEW 2017: 14th European Performance Engineering Workshop
- FAACS 2017: 1st Workshop on Formal Approaches for Advanced Computing Systems
- SoftIoT 2017: 1st International Workshop on Software Engineering for Internet of Things

In 2016:

- ICPE 2016: ACM International Conference on Performance Engineering
- WICSA and CompArch 2016: 13th Working IEEE/IFIP Conference on Software Architecture & 10th Federated Conference Series on Component-Based Software Engineering and Software Architecture
- SEAMS 2016: 11th International Symposium on Software Engineering for Adaptive and Self-Managing Systems
- ICGSE 2016: International Conference on Global Software Engineering
- ECSA 2016: European Conference on Software Architectures
- ICECCS 2016 International Conference on Engineering of Complex Computer Systems
- SEAA 2016: 42th Euromicro Conference on Software Engineering and Advanced Applications

In 2015:

- ICPE 2015: ACM International Conference on Performance Engineering
- MODELS 2015, ACM/IEEE 18th International Conference on Model-Driven Engineering Language and Systems
- ICECCS 2015 International Conference on Engineering of Complex Computer Systems

- QoSA 2015: International Conference on the Quality of Software Architectures
- CBSE 2015: International Symposium on Component Based Software Engineering
- SEAA 2015: 41th Euromicro Conference on Software Engineering and Advanced Applications
- QEST 2015: 12th International Conference on Quantitative Evaluation of Systems
- ICGSE 2015: International Conference on Global Software Engineering
- GPCE 2015: 14th International Conference on Generative Programming: Concepts & Experiences

In 2014:

- Workshop track at ICSE 2014, the 36th International Conference on Software Engineering
- ICPE 2014: ACM International Conference on Performance Engineering
- ECSA 2014: European Conference on Software Architectures
- MODELS 2014, ACM/IEEE 17th International Conference on Model-Driven Engineering Language and Systems
- ICECCS 2014 International Conference on Engineering of Complex Computer Systems
- FESCA 2014 International Workshop on Formal Engineering approaches to Software Components and Architecture
- QoSA 2014: International Conference on the Quality of Software Architectures
- CBSE 2014: International Symposium on Component Based Software Engineering
- ANT 2014: The 5th International Conference on Ambient Systems, Networks and Technologies
- HotTopiCS-2014: International Workshop on Hot Topics in Cloud services Scalability 2014
- SAEroCon2014: First Workshop on Software Architecture Erosion and Architectural Consistency
- SEAA 2014: 40th Euromicro Conference on Software Engineering and Advanced Applications
- WCOP 2014: International Doctoral Symposium on Components and Architecture

In 2013

- FASE 2013: Fundamental Fundamental Approaches to Software Engineering, ETAPS 2013
- New Ideas and Emerging Results (NIER) track at 2013, the 35th International Conference on Software Engineering
- ICPE 2013: ACM International Conference on Performance Engineering
- ICECCS 2013 International Conference on Engineering of Complex Computer Systems
- FESCA 2013 International Workshop on Formal Engineering approaches to Software Components and Architecture
- MODELS 2013, ACM/IEEE 16th International Conference on Model-Driven Engineering Language and Systems
- ESEC/FSE 2013 Workshop selection
- QoSA 2013: International Conference on the Quality of Software Architectures
- CBSE 2013: International Symposium on Component Based Software Engineering
- ECSA 2013: European Conference on Software Architectures
- SERENE: International Workshop on Software Engineering for RESilient SystEms.

In 2012:

- New Ideas and Emerging Results (NIER) track at ICSE 2012, the 34th International Conference on Software Engineering

- Workshop track at ICSE 2012, the 34th International Conference on Software Engineering
- ICPE 2012 ACM International Conference on Performance Engineering
- ICECCS 2012 International Conference on Engineering of Complex Computer Systems
- FESCA 2012 International Workshop on Formal Engineering approaches to Software Components and Architecture
- CLOSER 2012 2nd International Conference on Cloud Computing and Services Science
- MODELS 2012, ACM/IEEE 15th International Conference on Model-Driven Engineering Language and Systems
- SC 2012, International Conference on Software Composition 2012, co-located with TOOLS 2012 Federated Conference
- QoSA 2012: International Conference on the Quality of Software Architectures
- CBSE 2012: International Symposium on Component Based Software Engineering
- SERENE: International Workshop on Software Engineering for RESilient SystEms.

In 2011:

- QoSA 2011: International Conference on the Quality of Software Architectures
- CBSE 2011: International Symposium on Component Based Software Engineering
- ECSA 2011: European Conference on Software Architectures
- ISSRE 2011: International Symposium on Software Reliability Engineering
- SERENE: International Workshop on Software Engineering for RESilient SystEms
- QUOVADIS 2011 Second International Workshop on Quantitative Models in the Verification/Validation and Design of Software Intensive Systems, ESEC/FSE 2011
- ASAS 2011: Workshop on Assurances for Self-Adaptive Systems, ESEC/FSE 2011
- ICECCS International Conference on Engineering of Complex Computer Systems
- FESCA International Workshop on Formal Engineering approaches to Software Components and Architectures

In 2010:

- ACM WOSP/SIPEW, ICPE Joint WOSP/SIPEW International Conference on Performance Engineering
- CBSE: International Symposium on Component Based Software Engineering
- QOSA: International Conference on the Quality of Software Architectures (QoSA 2010)
- SC: International Conference on Software Composition
- ICECCS International Conference on Engineering of Complex Computer Systems,
- EPEW: 7th European Performance Engineering Workshop
- SERENE: International Workshop on Software Engineering for RESilient SystEms.
- FESCA International Workshop on Formal Engineering approaches to Software Components and Architectures
- ViDAS. International workshop on Validation and Verification of Dynamic Software Systems
- QUATIC: International Conference on the Quality of Information and Communications Technology
- QUASOSS: International Workshop on the Quality of Service-oriented Software Systems

In 2009:

- ESEC/FSE 2009: the joint European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering
- Workshop at ICSE 2009, IEEE, 31th International Conference on Software Engineering
- EUROMICRO SEAA 2009: Service and Component-based software engineering track
- PESOS 2009 Principles of Engineering Service Oriented Systems, in conjunction with the 31st Int. Conf. on Software Engineering (ICSE 2009)
- QUASOSS: International Workshop on the Quality of Service-oriented Software Systems
- SERENE: International Workshop on Software Engineering for REsilient SystEms.

In 2008:

- ACM WOSP 2008: ACM International Workshop on software and performance
- Fourth International Conference on the Quality of Software Architectures (QoSA 2008)
- ICSOFT 2008: The 3rd International Conference on Software and Data Technologies
- ISEC 2008: First India Software Engineering Conference
- SERA 2008: International Conference on Software Engineering Research, Management and Applications
- AUTONOMICS 2008: Second International Conference on Autonomic Computing and Communication Systems
- SERENE 2008: International Workshop on Software Engineering for REsilient SystEms

In 2007:

- ACM WOSP 2007: ACM International Workshop on software and performance
- ESEC/FSE 2007: the joint European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering
- ASE 2007: International Conference on Automated Software Engineering
- EUROMICRO 2007: Component-based software engineering track
- Rosatea workshop: The Role of Software Architecture for Testing and Analysis
- Third International Conference on the Quality of Software Architectures (QoSA 2007)
- IW-SOWSE07: 2nd International Workshop on Service Oriented Software Engineering
- ICSOFT 2007: The 2nd International Conference on Software and Data Technologies,

In 2006:

- EUROMICRO 2006: Component-based software engineering track
- International Workshop on Web Services - Modeling and Testing (WS-MaTe)
- ICSE- Workshop on Service Oriented Software Engineering (IW-SOSE'06)
- EFTS 2006 International Workshop on Engineering of Fault Tolerant Systems
- ISSA workshop ROSATEA 2006, The Role of Software Architecture for Testing and Analysis
- Second International Conference on the Quality of Software Architectures (QoSA 2006)
- 5th International Workshop on Critical Systems Development Using Modeling Languages in conjunction with MoDELS/UML 2006 (CSDUML 2006)

In 2005:

- ACM WOSP 2005: ACM International Workshop on software and performance

- IEEE EUROMICRO 2005: Component-based software engineering track
- First International Conference on the Quality of Software Architectures (QoSA 2005)

In 2004

- ICSE 2004 Doctoral Symposium

In 2002

- 3rd ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing, SNPDP 2002
- Second ACIS Annual International Conference on Computer and Information Science (ICIS '02)

REFeree SERVICES

I regularly serve as a reviewer for the following journals:

- Performance Evaluation, Elsevier
- Journal of System and Software, Elsevier
- IEEE Transaction on Software Engineering,
- Software and System Modeling-Springer,
- ACM transactions on software engineering and methodology,
- IEEE Transactions on Dependable and Secure Systems,
- IEEE Transactions on Service Computing,
- Future Generation of Computer Systems, Elsevier
- Journal of Software: Evolution and Process, Wiley
- Computing Springer,
- Science of Computer Programming, Elsevier
- Information and Software Technology,Elsevier

Teaching activity

For all the courses presented in the list, whenever not differently indicated, I have been both Lecturer and Examiner.

Some results about the experience in teaching the course *Distributed Software Develepment* with the University of Zagreb and Malarladen University, Vasteras, Sweden, have been published in [JR.1], [IC.5] and [WS.6].

2017-2018

Distributed Software Develepment (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano, Course offered in English and together with the University of Zagreb and Malarladen University, Vasteras, Sweden.

Fondamenti di Informatica (10 credits) -Undergraduate Programme, Computer Engineering, Politecnico di Milano.

Impianti e Servii Informatici (10 credits) -Undergraduate Program, Computer Engineering, Politecnico di Milano, Laurea On Line

2016-2017

Distributed Software Develepment (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano, Course offered in English and together with the University of Zagreb and Malarladen University, Vasteras, Sweden.

Computer Infrastructures (5 credits) - - Master of Science, Computer Engineering, Politecnico di Milano.

Informatica ed Elementi di Informatica Medica (7 credits) -Undergraduate Programme, Computer Engineering, Politecnico di Milano.

Impianti e Servii Informatici (10 credits) -Undergraduate Program, Computer Engineering, Politecnico di Milano, Laurea On Line

2015-2016

Software Engineering II (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano.

Distributed Software Develepment (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano, Course offered in English and together with the University of Zagreb and Malarladen University, Vasteras, Sweden.

Computer Infrastructures (5 credits) - - Master of Science, Computer Engineering, Politecnico di Milano.

2014-2015

Software Engineering II (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano.

Distributed Software Develepment (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano, Course offered in English and together with the University of Zagreb and Malarladen University, Vasteras, Sweden.

Impianti Informatici (5 credits) - Undergraduate Programme, Computer Engineering, Politecnico di Milano, Cremona Campus.

2013-2014

Ingegneria del Software II (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano.

Distributed Software Develepment (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano, Course offered in English and together with the University of Zagreb and Malarladen University, Vasteras, Sweden.

Impianti Informatici (5 credits) - Undergraduate Programme, Computer Engineering, Politecnico di Milano, Cremona Campus.

2012-2013

Ingegneria del Software II (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano.

Distributed Software Develepment (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano, Course offered in English and together with the University of Zagreb and Malarladen University, Vasteras, Sweden.

Impianti Informatici (5 credits) - Undergraduate Programme, Computer Engineering, Politecnico di Milano, Cremona Campus.

2011-2012

Ingegneria del Software II (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano.
Impianti Informatici (5 credits) - Undergraduate Programme, Computer Engineering, Politecnico di Milano, Cremona Campus.

2010-2011

Ingegneria del Software II (5 credits) - Master of Science, Computer Engineering, Politecnico di Milano.
Impianti Informatici (5 credits) - Undergraduate Programme, Computer Engineering, Politecnico di Milano, Cremona Campus.

2009-2010

"Informatica A" (10 credits), Undergraduate Programme, Management and Production Engineering, Politecnico di Milano

Impianti Informatici (5 credits) - Undergraduate Programme, Computer Engineering, Politecnico di Milano, Cremona Campus.

2008-2009

"Informatica A" (10 credits), Undergraduate Programme, Management and Production Engineering, Politecnico di Milano

Impianti Informatici (5 credits) - Undergraduate Programme, Computer Engineering, Politecnico di Milano, Cremona Campus.

2007-2008

"Informatica A" (10 credits), Undergraduate Programme, Management and Production Engineering, Politecnico di Milano

"Informatica A" (10 credits), Undergraduate Programme, Management and Production Engineering, Politecnico di Milano, Cremona Campus.

2006-2007

"Informatica A" (10 credits), Undergraduate Programme, Management and Production Engineering, Politecnico di Milano

"Informatica A" (10 credits), Undergraduate Programme, Management and Production Engineering, Politecnico di Milano, Cremona Campus.

2005-2006

"Informatica A" (10 credits), Undergraduate Programme, Management and Production Engineering, Politecnico di Milano

2004-2005

Fondamenti di Informatica II, - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

Fondamenti di Informatica I, (teaching assistant) - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

2003-2004

Fondamenti di Informatica II, - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

Fondamenti di Informatica I, (teaching assistant) - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

Early validation of non-functional requirements in software systems, - PhD Course at University of Roma Tor Vergata

2002-2003

Impianti Informatici, - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

Fondamenti di Informatica I, (teaching assistant) - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

2001-2002

Impianti Informatici, - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

Fondamenti di Informatica I, (teaching assistant) - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

2000-2001

Impianti Informatici, - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

Fondamenti di Informatica I, (teaching assistant) - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

1999-2000

Impianti Informatici, (teaching assistant)- Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

Fondamenti di Informatica I, (teaching assistant) - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

1998-1999

Impianti Informatici, (teaching assistant)- Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

Fondamenti di Informatica I, (teaching assistant) - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

1997-1998

Impianti Informatici, (teaching assistant)- Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

Fondamenti di Informatica I, (teaching assistant) - Undergraduate Programme, Computer Engineering, University of Roma Tor Vergata

1990-1996

Simulazione, (teaching assistant)- Undergraduate Programme, Computer Engineering, University of Pisa

RESEARCH ADVISING

Post-Doc Researchers Supervision

- Diego Perez Palacin (2013-present)
- Pasqualina Potena (2009-2012)

PhD Students Supervision

- Lorenzo Pagliari, (2015-present), GSSI, L'Aquila
- Daniel Dubois (2007-2010), co-advisor, Self-organizing Methods and Models for Software Development
- Mauro Luigi Drago (2008-2011) co-advisor, Quality Driven Model Transformations for Feedback Provisioning
- Antonino Sabetta, University of Roma Tor Vergata, (2004-2007) co-advisor, A model driven framework for the prediction of performance and reliability of complex software system

Graduate and Undergraduate Students Supervision

- Advisor of several undergraduate and Master students in Computer Engineering at Politecnico di Milano, 2006-Present
- Advisor of several Undergraduate and Master students in Computer Science at University of Roma Tor Vergata, 1997-2005

PHD EXTERNAL EXAMINER

- PhD Committee member in 2018 at University San Paolo, Brasil, for the PhD defense of the candidate Lina Mara Garcs Rodriguez discussing a thesis titled "A reference architecture for healthcare supportive home systems from a systems-of-systems perspective", Advisors Elisa Yumi Nakagawa (ICMC-USP) and Professor Flvio Oquendo (UBS).
- PhD Committee member in 2016 at Malardalen University, Sweden, for the PhD defense of the candidate Gaetana Sapienza discussing a thesis titled "Multiple Criteria Decision Analysis-based HW/SW partitioning methodology for embedded applications", Advisor Prof. Ivica Crnkovic, co-advisors: Prof. Tiberiu Seceleanu, Dr. Antonio Cicchetti.
- PhD Committee member in 2013 at University of Zaragoza, Spain, for the PhD defense of the candidate Diego Perez-Palacin discussing a thesis titled "Extra Functional Properties Evaluation of Self-managed Software Systems with Formal Methods", Advisor Prof. Jose' Merseguer
- PhD Committee member in 2013 at University of Calgary, Canada, for the PhD defense of the candidate Anas Youssef discussing a thesis titled "Burstiness and Uncertainty Aware Service Level Planning for Enterprise Clouds", Advisor Dr Diwakar Krishnamurthy
- External reviewer in 2013 for the habilitation as Associate Professor of Tomas Bures, Charles University, Prague, Czeck Republic
- External reviewer 2012 for the PhD thesis of the candidate Indika Meedeniya titled "Architecture Optimisation of Embedded Systems under Uncertainty in Probabilistic Reliability Evaluation Model Parameters", Advisor Prof. Lars Grunske, Swiburne University, Australia
- PhD Committee member in 2012 at University of Lisbona, Portugal, for the PhD defense of the candidate Liliana Rosa discussing a thesis titled "Self-management of Systems Built from Adaptable Components", Advisor Prof. Luis Rodrigues, co-advisors: Prof. Antonia Lopes
- PhD Committee member in 2012 at Malardalen University, Sweden, for the PhD defense of the candidate Severine Santilles discussing a thesis titled "Managing Extra-Functional Properties in Component-Based Development of Embedded Systems", Advisor Prof. Ivica Crnkovic, co-advisors: Dr. Jan Carlsson, Prof. Hans Hansson

- PhD Committee member in 2010 at Malardalen University, Sweden, for the PhD defense of the candidate Kurt Wallnau discussing a thesis titled "Predictability By Construction: Working the Architecture/Program Seam", Advisor Prof. Ivica Crnkovic, co-advisors: Magnus Larsson, Hans Hansson

Complete publication list

PUBLICATION LIST

Refereed international journals _____	22
Refereed online international journals _____	4
Refereed international magazines _____	2
Editorial contributions _____	6
Refereed chapters in international books _____	12
Refereed international conferences _____	64
Refereed international workshops _____	13
Academic books _____	2

REFEREED INTERNATIONAL JOURNALS

- JR.1. Ivana Bosnic, Federico Ciccozzi, Ivica Crnkovic, Igor Cavrak, Elisabetta Di Nitto, Raffaella Mirandola, Mario Zagar, "Managing diversity in distributed software development education: a longitudinal case study, *ACM Transactions on Computing Education* To appear, 2018
- JR.2. Maryam Amiria, Leyli Mohammad-Khanlia, Raffaella Mirandola "A sequential pattern mining model for application workload prediction in cloud environment" *Journal of Network and Computer Applications, Elsevier* To appear, 2018
[doi: <https://doi.org/10.1016/j.jnca.2017.12.015>]
- JR.3. M.Caporuscio, C. Trubiani R. Mirandola "Building design-time and run-time knowledge for QoS-based component assembly" *Software: Practice and Experience, Wiley* Volume 47(12): 1905-1922 (2017)
[doi: <https://doi.org/10.1002/spe.2502>]
- JR.4. Diego Perez Palacin, Raffaella Mirandola, Jose Meseguer "Accurate modeling and efficient QoS analysis of scalable adaptive systems under bursty workload" *Journal of Systems and Software, Elsevier* Volume 130, (August 2017), pp. 24-41
[doi: <https://doi.org/10.1016/j.jss.2017.05.022>]
- JR.5. M.Caporuscio, V. Grassi, M. Marzolla, R. Mirandola "GoPrime: a Fully Decentralized Middleware for Utility-Aware Service Assembly" *IEEE Transactions on Software Engineering* vol. 42, n.2, pp136-152, 2016
[doi: <http://dx.doi.org/10.1109/TSE.2015.2476797>]
- JR.6. V. Cortellessa, R. Mirandola, P. Potena "Managing the evolution of a software architecture at minimal cost under performance and reliability constraints" *Science of Computer Programming, Elsevier* Volume 98, pp 439-463, 2015
[doi: <http://dx.doi.org/10.1016/j.scico.2014.06.001>]
- JR.7. S. Distefano, C. Ghezzi, S. Guinea, R. Mirandola Dependability Assessment of Web Service Orchestrations *IEEE Transactions on Reliability* Volume 63,n.3, pp 689-705, 2014
[doi: <http://dx.doi.org/10.1109/TR.2014.2315939>]
- JR.8. R. Mirandola, P. Potena, E. Riccobene, P. Scandurra A reliability model for Service Component Architectures *Journal of Systems and Software, Elsevier* Volume 89, 2014, pp. 109-127
[doi: <http://dx.doi.org/10.1016/j.jss.2013.11.002>]
- JR.9. A. Ciancone, A. Filieri, R. Mirandola Testing operational transformations in model-driven engineering *Innovations in Systems and Software Engineering, Springer* Volume 10, n.1, pp. 19-32, 2014
[doi: <http://dx.doi.org/10.1007/s11334-013-0208-9>]
- JR.10. A. Ciancone, A. Filieri, M. L. Drago, V. Grassi, H. Koziolok, R. Mirandola The KlaperSuite Framework for Model-Driven Reliability Analysis of Component-Based Systems *Software and System Modeling, Springer* Volume 13, n.4, pp. 1269-1290, 2014
[doi: <http://dx.doi.org/10.1007/s10270-013-0334-8>]
- JR.11. R. Mirandola, P. Potena, P. Scandurra Adaptation Space Exploration for Service-oriented Applications *Science of Computer Programming, Elsevier* Volume 80, Part B (2014) pp. 356384
[doi: <http://dx.doi.org/10.1016/j.scico.2013.09.017>]
- JR.12. Diego Perez Palacin, Raffaella Mirandola, Jose Meseguer On the Relationships between QoS and Software Adaptability at the Architectural Level *Journal of Systems and Software, Elsevier* Volume 87, no. 1 (2014), pp.1-17
[doi: <http://dx.doi.org/10.1016/j.jss.2013.07.053>]

- JR.13. M. Marzolla, R. Mirandola Dynamic Power Management for QoS-Aware Applications *Sustainable Computing, Informatics and Systems, Elsevier* Volume 3, no. 4, (December 2013) pp. 231248
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- JR.14. A. Koziolok, D. Ardagna, R. Mirandola Hybrid Multi-Attribute QoS Optimization in Component Based Software Systems *Journal of Systems and Software, Elsevier* Volume 86, no. 10 (2013), pp.2542-2558
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- JR.15. R. Calinescu, C. Ghezzi, M. Kwiatkowska, R. Mirandola Self-adaptive software needs quantitative verification at runtime *Communications of ACM* Volume 55, no. 9 (2012), pp. 69-77
[doi: <http://dx.doi.org/10.1145/2330667.2330686>]
- JR.16. Diego Perez Palacin, Raffaella Mirandola, Jose Meseguer QoS and energy management with Petri nets: a self-adaptive framework *Journal of Systems and Software, Elsevier* Volume 85, no. 12 (2012), pp.2796-2811
[doi: <http://dx.doi.org/10.1016/j.jss.2012.04.077>]
- JR.17. M. L. Drago, C. Ghezzi, R. Mirandola A Quality Driven Extension to the QVT-Relations Transformation Language *Computer Science - Research and Development, Springer* Volume 27, no. 2, (2012)
[doi: <http://dx.doi.org/10.1007/s00450-011-0202-0>]
- JR.18. V. Cardellini, E. Casalicchio, V. Grassi, S. Iannucci, F. Lo Presti, R. Mirandola MOSES: a Framework for QoS Driven Runtime Adaptation of Service-oriented Systems *IEEE Transactions on Software Engineering* Volume 38, no.5 (2012) pp. 1138-1159
[doi: <http://dx.doi.org/10.1109/TSE.2011.68>]
- JR.19. R. Calinescu, L. Grunske, M. Kwiatkowska, R. Mirandola, and G. Tamburrelli Dynamic QoS Management and Optimisation in Service-Based Systems *IEEE Transactions on Software Engineering* Volume 37, no.3 (2011) pp. 377-409
[doi: <http://dx.doi.org/10.1109/TSE.2010.92>]
- JR.20. D. Ardagna, R. Mirandola Per-flow optimal service selection for Web services based processes *Journal of Systems and Software, Elsevier* Volume 83, no. 8 (2010), pp. 1512-1523
[doi: <http://dx.doi.org/10.1016/j.jss.2010.03.045>]
- JR.21. A. Bertolino, E. Marchetti, R. Mirandola Performance Measures for Supporting Project Manager Decision *Software Process Improvement and Practice Journal, Wiley* Volume 12, no. 2 (2007), pp. 528-558
[doi: <http://dx.doi.org/10.1002/spip.312>]
- JR.22. V. Grassi, R. Mirandola, A. Sabetta Filling the Gap Between Design and Performance/Reliability Models of Component-Based Systems: A Model-Driven Approach *Journal of Systems and Software, Elsevier* Volume 80, no. 4 (2007), pp. 1512-1523
[doi: <http://dx.doi.org/10.1016/j.jss.2006.07.023>]
- JR.23. V. Grassi, R. Mirandola Derivation of Markov Models for Effectiveness Analysis of Adaptable Software Architectures for Mobile Computing *IEEE Transaction on Mobile Computing* Volume 2, no. 2 (2003), pp. 114-131
[doi: <http://dx.doi.org/10.1109/TMC.2003.1217232>]
- JR.24. Bertolino A., G.Lombardi, E.Marchetti, R. Mirandola, E. Peciola A Reported Experience: Statistical Control of an Industrial Test Process *IEE-Proceedings on Software* Volume 149, no. 4 (2002), pp. 98-101
- JR.25. Cortellessa V., Mirandola R. PRIMA-UML: a Performance Validation Incremental Methodology on Early UML Diagrams *Science of Computer Programming, Elsevier* Volume 44, no. 1 (2002), pp. 101-129
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- JR.26. Cortellessa V., Iazeolla G., Mirandola R. Early Generation of Performance Models for Object-Oriented Systems *IEE-Proceedings on Software* Volume 147, no. 3 (2000), pp. 61-72
- JR.27. A. Bertolino, R. Mirandola, E. Peciola A Case Study in Branch Testing Automation *Journal of Systems and Software, Elsevier* Volume 38, no. 1 (1997), pp.47-59
[doi: [http://dx.doi.org/10.1016/S0164-1212\(97\)00061-7](http://dx.doi.org/10.1016/S0164-1212(97)00061-7)]
- JR.28. R. Mirandola, D. Hollinger A New Approach to Performance Modelling of Client/Server Distributed Data Base Architectures *Performance Evaluation, Elsevier* Volume 29, no. 4 (1997), pp.255-272
[doi: [http://dx.doi.org/10.1016/S0166-5316\(96\)00047-8](http://dx.doi.org/10.1016/S0166-5316(96)00047-8)]

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- OJ.1. M. Marzolla, R. Mirandola PARSY: Performance-Aware Reconfiguration of Software Systems *International Journal of Performability Engineering, RAMS Consultants* Volume 7, no. 5 (2011) pp. 479-492, ISSN 0973-1318

- OJ.2. Raffaella Mirandola, Pasqualina Potena, "A QoS-based framework for the adaptation of service-based systems," *Scalable Computing: Practice and Experience* Volume 12, no. 1, (2011), ISSN 1895-1767
- OJ.3. Basanieri, F. Bertolino A., Marchetti E., Mirandola R. UML-based Performance Analysis Techniques Applied to Software Multiprojects Management *International Journal of Computer and Information Science (IJCIS)* Volume 4, no. 1 (2003), pp. 1-13
- OJ.4. Antonia Bertolino, Raffaella Mirandola, "Modeling and Analysis of Non-functional Properties in Component-based Systems," *Electronic Notes in Theoretical Computer Science, Elsevier* Volume 82, no. 6, (2003), pp. 158-168, [doi: [http://dx.doi.org/10.1016/S1571-0661\(04\)81034-X](http://dx.doi.org/10.1016/S1571-0661(04)81034-X)]

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- MAG.1. A. Bertolino A., E.Marchetti, R. Mirandola Decision support for Personnel and Resources Management in Multi-project environments *ERCIM news* Volume 56, no. 1 (2004)
- MAG.2. A. Bertolino, M. Marr, R. Mirandola "The number of tests required for branch coverage" *Cross Talk* Volume 9, no. 9, (1996)

EDITORIAL CONTRIBUTIONS

- ED.1. Danny Weyns, Raffaella Mirandola, Ivica Crnkovic "Introduction to the special issue on New frontiers in software architecture" *Journal of System and Software, Elsevier* Volume 130: 57-58 (2017) [doi: <http://dx.doi.org/10.1007/978-3-319-23727-5>]
- ED.2. Danny Weyns, Raffaella Mirandola, Ivica Crnkovic "Proceedings of 9th European Software Architecture Conference - ECSA 2015" *Lecture Notes on Computer Science, Springer* LNCS 9278, Springer 2015, ISBN 978-3-319-23726-8 [doi: <http://dx.doi.org/10.1007/978-3-319-23727-5>]
- ED.3. David J. Lilja, Raffaella Mirandola, "Introduction to the theme issue on performance modeling," *Journal of Software and Systems Modeling, Springer* Volume 12, no. 4, (2013), pp. 679-680 [doi: <http://dx.doi.org/10.1007/s10270-012-0269-5>]
- ED.4. Vincenzo Grassi, Raffaella Mirandola, Nenad Medvidovic, Magnus Larsson "Proceedings of the 15th ACM SIGSOFT Symposium on Component Based Software Engineering, CBSE 2012" *Comparch '12 Federated Events on Component-Based Software Engineering and Software Architecture* ACM 2012, ISBN 978-1-4503-1345-2
- ED.5. Vincenzo Grassi, Raffaella Mirandola, Jorge Cullar, Javier Lpez "Proceedings of the 3rd international ACM SIGSOFT symposium on Architecting Critical Systems, ISARCS 2012" *Comparch '12 Federated Events on Component-Based Software Engineering and Software Architecture* ACM 2012, ISBN 978-1-4503-1347-6
- ED.6. Vincenzo Grassi, Raffaella Mirandola, Barbora Buhnova, Antonio Vallecillo "Proceedings of the 8th international ACM SIGSOFT conference on Quality of Software Architectures, QoSA 2012" *Comparch '12 Federated Events on Component-Based Software Engineering and Software Architecture* ACM 2012, ISBN 978-1-4503-1346-9
- ED.7. Samuel Kounev, Vittorio Cortellessa, Raffaella Mirandola, David J. Lilja " ICPE'11 - Second Joint WOSP/SIPEW International Conference on Performance Engineering" ACM 2011, ISBN 978-1-4503-0519-8
- ED.8. Geri Georg, Jan yvind Aagedal, Raffaella Mirandola, Ileana Ober, Dorina C. Petriu, Wolfgang Theilmann, Jon Whittle, Steffen Zschaler " Workshop on Models for Non-functional Properties of Component-Based Software - NfC, MoDELS Satellite Events 2005" LNCS 3844 Springer: 210-216 [doi: http://dx.doi.org/10.1007/11663430_22]

REFEREED CHAPTERS IN INTERNATIONAL BOOKS

- IB.1. D. Weyns, B. Schmerl, V. Grassi, S. Malek, R. Mirandola, C. Prehofer, J. Wuttke, J. Andersson, H. Giese, and K. Goschka Danny Weyns, Nelly Bencomo, Radu Calinescu, Javier Camara, Carlo Ghezzi, Vincenzo Grassi, Lars Grunske, Paola Inverardi, Jean-Marc Jezequel, Sam Malek, Raffaella Mirandola, Marco Mori and Giordano Tamburrelli *Perpetual Assurances for Self-Adaptive Systems, SefsAS III*, LNCS 9640, pp 31-63, Springer 2017, ISBN 978-3-319-74182-6
- IB.2. Valeria Cardellini, Emiliano Casalicchio, Vincenzo Grassi, Iannucci Stefano, Francesco Lo Presti and Raffaella Mirandola *MOSES: a platform for experimenting QoS-driven self-adaptation policies for service oriented systems, SefsAS III*, LNCS 9640, pp 409-433, Springer 2017, ISBN 978-3-319-74182-6
- IB.3. R. Mirandola, P. Potena, E. Riccobene, P. Scandurra "Formal Reliability Models for Web Services" in *Correct Software in Web Applications and Web Services*, pp. 229-256 Springer 2015, ISBN 978-3-319-17111-1 [doi: http://dx.doi.org/10.1007/978-3-319-17112-8_7]

- IB.4. Rogrio De Lemos , Holger Giese, Hausi A Muller, Mary Shaw, Jesper Andersson, Luciano Baresi, Basil Becker, Nelly Bencomo, Yuriy Brun, Bojan Cukic, Ron Desmarais, Schahram Dustdar, Gregor Engels, Kurt Geihs, Karl M Goeschka, Alessandra Gorla, Vincenzo Grassi, Paola Inverardi, Gabor Karsai, Jeff Kramer, Marin Litoiu, Antonia Lopes, Jeff Magee, Sam Malek, Serge Mankovskii, Raffaella Mirandola, John Mylopoulos, Oscar Nierstrasz, Mauro Pezz, Christian Prehofs, Wilhelm SchLfer, Rick Schlichting, Bradley Schmerl, Dennis B Smith, Joo P Sousa, Gabriel Tamura, Ladan Tahvildari, Norha M Villegas, Thomas Vogel, Danny Weyns, Kenny Wong, Jochen Wuttke “ Software engineering for self-adaptive systems: A second research roadmap,” in *Self-Adaptive Systems, Software Engineering for Self-Adaptive Systems, SefSAS II*, LNCS 7475, Springer 2012 pp. 1-32
[doi: http://dx.doi.org/10.1007/978-3-642-35813-5_1]
- IB.5. D. Weyns, B. Schmerl, V. Grassi, S. Malek, R. Mirandola, C. Prehofer, J. Wuttke, J. Andersson, H. Giese, and K. Goschka ”On Patterns for Decentralized Control in Self-Adaptive Systems” in *Self-Adaptive Systems, Software Engineering for Self-Adaptive Systems, SefSAS II*, LNCS 7475, Springer 2012 pp. 76-107
[doi: http://dx.doi.org/10.1007/978-3-642-35813-5_4]
- IB.6. Antonio Filieri, Carlo Ghezzi, Raffaella Mirandola, and Giordano Tamburrelli ”Conquering Complexity via Seamless Integration of Design-Time and Run-Time Verification” in *Conquering complexity*, Springer 2012 pp. 253-275
[doi: http://dx.doi.org/10.1007/978-1-4471-2297-5_12]
- IB.7. D. Barbagallo, E. Di Nitto, D. J. Dubois, R. Mirandola ”A bio-inspired algorithm for energy optimization in a self-organizing data center” in *Self-Organizing Architectures*, Springer 2010, LNCS 6090, pp. 101-126
[doi: http://dx.doi.org/10.1007/978-3-642-14412-7_7]
- IB.8. V. Cardellini, E. Casalicchio, V. Grassi, F. Lo Presti, R. Mirandola ”Towards Self-adaptation for Dependable Service-Oriented Systems” in *Architecting Dependable Systems VI*, LNCS 5835, Springer 2009, pp 24-48
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- IB.9. Betty H. C. Cheng, Rogrio de Lemos, Holger Giese, Paola Inverardi, Jeff Magee, Jesper Andersson, Basil Becker, Nelly Bencomo, Yuriy Brun, Bojan Cukic, Giovanna Di Marzo Serugendo, Schahram Dustdar, Anthony Finkelstein, Cristina Gacek, Kurt Geihs, Vincenzo Grassi, Gabor Karsai, Holger M. Kienle, Jeff Kramer, Marin Litoiu, Sam Malek, Raffaella Mirandola, Hausi A. Mller, Sooyong Park, Mary Shaw, Matthias Tichy, Massimo Tivoli, Danny Weyns, Jon Whittle ”Software Engineering for Self-Adaptive Systems: A Research Roadmap” in *Software Engineering for Self-Adaptive Systems*, LNCS 5525, Springer 2009 pp. 1-26
[doi: http://dx.doi.org/10.1007/978-3-642-02161-9_1]
- IB.10. Vincenzo Grassi, Raffaella Mirandola, Enrico Randazzo ”Model-Driven Assessment of QoS-Aware Self-Adaptation” in *Software Engineering for Self-Adaptive Systems*, LNCS 5525, Springer 2009 pp. 201-222
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- IB.11. Vincenzo Grassi, Raffaella Mirandola, Enrico Randazzo, Antonino Sabetta ”KLAPER: an Intermediate Language for Model-Driven Predictive Analysis of Performance and Reliability” in *The Common Component Modeling Example: Comparing Software Component Models*, LNCS 5153, Springer 2008 pp. 327-356
[doi: http://dx.doi.org/10.1007/978-3-540-85289-6_13]
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