

Curriculum Vitae

Personal Data

Walter Cazzola was born in Sestri Ponente (Genova) on July 25th, 1969. He lives in Via Carlo Rolando 23-67, Sampierdarena (Genova) CAP 16151, Mobile +393405303708.

Educational History

In 1996, he takes a **Master in Computer Science**, (with full marks), at the University of Genova. He has defended a thesis entitled:

Channel Reification: a New Reflective Model. Analysis and Comparison with Other Models and Application to Fault Tolerant Systems.

Thesis Advisors: Prof. M. Ancona, Prof. G. Dodero and Prof. V. Gianuzzi.

In 2001, he takes a **PhD in Computer Science**, at the Università degli Studi di Milano. He has defended a thesis entitled:

“Communication-Oriented Reflection: a Way to Open Up the RMI Mechanism.”

Advisor: Prof. Shigeru Chiba, University of Tsukuba, Japan (Now at Tokyo Institute of Technology, Japan).

Supervisor: Prof. Francesco Tisato, University of Milano Bicocca.

Academic Career

From November 2000 to November 2002, he was a researcher assistant at the Department of Informatics and Computer Science (DISI) of the University of Genova.

From December 2002 to October 2010, he was an assistant professor at the Department of Informatics and Communication (DICO) of the University of Milano.

From Novembre 2010 to Dicembre 2011, he was an associate professor at the Department of Informatics and Communication (DICO) of the University of Milano.

From January 2012, he is an associate professor at the Computer Science Department of the University of Milano.

Foreign Languages

Good English both spoken and written. Scholastic French both spoken and written. Italian as mother tongue.

Knowledge in Computer Science

He is a good designer and developer using: imperative, object-oriented, reflective, aspect-oriented, functional, concurrent and distributed paradigms.

He is good programmer in: C, C++, OpenC++, OpenJava, Java, AspectJ, Pascal, Eiffel, Ada, Fortran, ML (OCaML), Erlang, Scala, Python, Ruby, C#, Smalltalk and Cobol.

Scientific Curriculum

Research Topics

His research activity straddles software engineering and programming languages research areas; currently it focuses on: *domain specific languages, modular programming languages implementation, object-oriented programming and software development* and their applications, e.g., to software evolution and maintenance.

Since 2003 his research activity has been carried on in complete autonomy with sporadic national and international collaborations and participating to/coordinating several research projects.

Since December 2007, he is coordinating the **ADAPT** research laboratory (<http://cazzola.di.unimi.it/adapt-lab.html>) whose activity focuses on programming languages design and implementation, adaptive techniques (reflection and aspect-oriented programming) for software development and evolution. The laboratory can count on some assistant researchers, some PhD students and several master students.

Follows a brief overview of the most relevant activities of Walter Cazzola:

- Reflective Middleware for Software Evolution: Designing and developing a reflective middleware able to dynamically adapt the design information of a system and to deploy such an adaptation to the system itself. Research, initially, in collaboration with Prof. Gunter Saake of the University of Magdeburg then in collaboration with Prof. Robert France and Prof. Sudipto Ghosh from the Colorado State University. Significant publications on this topic: [12, 17, 30, 54, 55, 60, 67, 70, 82, 89]. The project has been partially funded by the MIUR (Italian Ministry of University and Research, EOS and DISCO projects) and by the DFG (The German Research Foundation, RAMSES project).
- Reflective Petri-Nets: from the idea developed in the RAMSES project a new model of Petri nets, called reflective Petri nets, has been developed whose target is to model the dynamic self-evolution of a system. The project has been funded by the MIUR (Italian Ministry of University and Research, EOS-DUE project). Significant publications on this topic: [14, 15, 26, 28, 71, 72, 83].
- Programming languages modular implementation: the Neverlang development framework has been developed with the goal of enabling programming languages decomposition in terms of programming concepts. Each programming concepts together with its implementation forms the basic block for building new programming languages and their tooling: this will ease domain-specific language development, language restrictions/extensions and programming concepts reuse. In Neverlang have been developed a couple of general purpose languages (Javascript and Java) and several DSLs (such as Logo). It has also been developed a graphical tool (AiDE) for easy selecting/deselecting programming concepts and automatically generating the tooling for the configured language. Significant publications on this topic: [32, 34, 84, 88, 90, 92–94, 96].
- Aspect- and concern-oriented software evaluation: designing and developing of a framework (AOP→HiddenMetrics) to dynamically measure concern-oriented software through aspects; to complete the picture we are defining a uniform ad complete framework for the definition of static and dynamic metrics to measure concern-oriented software. The work is done in collaboration with Alessandro Garcia of PUC-Rio and with Alessandro Marchetto of the Fondazione Bruno Kessler. Significant publications on this topic: [29, 33, 73, 122].
- Extension to the custom meta-data model of JAVA and C#: JAVA and C# have introduced a customizable mechanism to decorate programs with meta-data. In both cases, the mechanism is limited to decorate only declarations, the performed extension (respectively into @JAVA and [a]C#) allow to decorate any statement and expression. The work on C# has been done in collaboration with Antonio Cisternino of the University of Pisa. Significant publications on this topic: [25, 31, 62, 64, 85, 86].

In the past I worked also on the following projects (a selection):

- Multi-Channel: Designing of a new reflective model oriented to communication. Syntactic enrichment of the JAVA language in order to support his reflective model. The topic of this project was also the topic of his PhD thesis. This work has been carried out in collaboration with Prof. Massimo Ancona of the University of Genova and Prof. Shigeru Chiba of the Tokyo Institute of Technology. Significant publications on this topic: [21, 22, 115].
- Reflection and Security: definition of a reflective model to support authorization policies. The work has been carried out in collaboration with Prof. Ancona of the University of Genova and Prof. Fernandez of the Florida Atlantic University. Significant publications on this topic: [10, 48, 98].
- Architectural reflection: definition of a new model of reflection based on software architecture whose aim consists of exploiting architectural information to dynamically reconfigure a software system. The research has been carried out in collaboration with Prof. Tisato of the University of Milano Bicocca. Significant publications on this topic: [35, 45, 46, 49, 117].
- Join Point Model Evolution: designing and development of a more abstract join point model to overcome the limitations of the current approaches too coupled to the base-program syntax rather than to its behavior. As a side-effect, a more abstract join point model will allow to solve the *fragile pointcut problem* that hampers the evolution of the aspect-oriented software. The research is funded by the DFG (The German Research Foundation, RAMSES-II project). Significant publications on this topic: [13, 27, 63, 75, 106].

Developed Software

- mChARM [22, 115]: a Java distributed reflective middleware to open up the remote method invocations (<http://cazzola.di.unimi.it/mChARM.html>). This tool has been used in several thesis at the University of Genova and at the Hong Kong Polytechnic (PhD Dan He).
- Neverlang [76, 81, 84, 88, 90]: a compiler construction framework to support the development of new programming languages by reusing concepts and implementations from existing programming languages.
- AiDE [90, 93] tool for the automatic extraction of the CVL describing the programming language family that it is possible derive from a set of programming concepts written in Neverlang. The CVL can be used to graphically select which concepts should be part of the desired language and automatically generate the corresponding tooling.
- ReverseЯ [70] tool that permits to extract UML diagrams out of some annotations in the Java code. Both static and dynamic diagrams are extracted.
- JavAdaptor [30, 82, 125]: an extension to the Java framework allowing to overcome the limitation of the Java virtual machine with respect to the evolution of the application during their execution; in particular it allows to change the schema of already instantiated classed, i.e., to add and remove fields and methods.
- FiGA (Fine-Grained Adaptation) [17, 32, 89, 91, 92, 92]: a framework that uses UML diagrams as a front-end to drive the evolution of an application during its execution without stopping it.
- SmartMethod [58] and SmartReflection [24]: respectively an alternative replacement for the Method class and the Java reflection library to provide a more efficient reflective capability to Java applications.
- [a]C# [25,62] and @JAVA (<http://homes.dico.unimi.it/~cazzola/atjava.html>) programming languages that extend the meta-data model of C# and Java respectively to support a statement-level meta-data model.
- AOP→HiddenMetrics [29, 122] an aspect-oriented framework for the measurement of concern-oriented applications.
- Blueprint [27, 75], an aspect-oriented framework supporting the join point selection from the context and independently of the application's syntax.
- SNA *servant* [57], a client-side infrastructure to support service broking independently of the server-side technology. Project funded by Microsoft.
- Smart Caching System [56] developed in the PAST EU project (<http://www.beta80.it/past/>). In particular I have developed the localization algorithm in the Python programming language.

Project Coordinator

- 2002-2003** WIDGET: Web-based Interface and Distributed Graphical Environment for TEMP. Funded by the Department of Electric Engineering of the University of Genova. Scientific coordinator: Walter Cazzola.
- 2003-2004** Grant Microsoft “A Service-Oriented Middleware for Seamless Nomadic System-Aware (SNA) Servants”.
- 2005-2007** (24 months) RAMSES: Reflective and Adaptive Middleware for Software Evolution of Non-Stopping Information Systems. Project funded by the DFG (The German Research Foundation). Scientific coordinators: Walter Cazzola and Gunter Saake.
- 2006-2008** (24 months) EOS-DUE: Extensible Object Systems for Dynamic and Unpredictable Environments. Project funded by the MIUR (The Italian Ministry of University and Research). Scientific coordinator the team at the University of Milano: Walter Cazzola.
- 2008-2011** (40 months) RAMSES II: Reflective and Adaptive Middleware for Software Evolution of Non-Stopping Information Systems. Project funded by the DFG (The German Research Foundation). Scientific Coordinators: Walter Cazzola and Gunter Saake.
- 2010-2012** (24 months) DISCO: Distribution, Interaction, Specification and Composition of Object Systems. Project funded by the MIUR (The Italian Ministry of University and Research). Scientific coordinator the team at the University of Milano: Walter Cazzola.
- 2012-2014** IP-ViOpe: Learning Computer Programming in Virtual Environment. Funded by the European Community in the Lifelong Learning: Erasmus Intensive Programme chapter. Scientific coordinator the team at the University of Milano: Walter Cazzola.
- 2012** Industrial Project: Enel-Care. Funded by ENEL. Scientific Coordinator of the team at the University of Milano: Walter Cazzola.
- 2012-2014** Industrial Project: TylFramework. Funded by Tyl Consulting. Scientific Coordinator: Walter Cazzola.

Projects (Involved as a Participant)

2001-2002 (30 months) PAST: exPeriencing Archaeology across Space and Time (IST 20805). Project funded by the European Community (5FP). Scientific coordinator: Massimo Ancona, University of Genova, Italy.

2002-2006 (36 months) FIRB: Web-Minds (n. RBNE01WEJT_005). Project funded by the MIUR (The Italian Ministry of University and Research). Scientific coordinator: Giovanni Chiola, University of Genova, Italy.

2004-2007 (30 months) Agamemnon: Pictures from the Past: a Wireless Network of Magical Digital Cameras and Palm-tops for Archaeological Travels Through Time (IST 508013-STP). Project funded by the European Community (6FP). Scientific coordinator: Massimo Ancona, University of Genova, Italy.

2004-2007 (30 months) Doc@Hand: Knowledge Sharing and Decision Support for Healthcare Professionals (IST-1-508015). Project funded by the European Community (6FP). Scientific coordinator: Massimo Ancona, University of Genova, Italy.

2012-2015 (36 months) CINA: Compositionality, Interaction, Negotiation, Autonomicity. Scientific Coordinator: Rocco De Nicola.

Cazzola is also involved in the project entitled «Research on Consistency Checking for Adaptive Service-Based System Based on Reflective Petri Nets» coordinated by Dr. Ying Liu of Northeastern University (China) and funded by the National Science Funding (2 years project since September 2012).

Reviewer for International Projects

Feb. 2010 Reviewer for the ETH Zürich Research Commission for the scientific project entitled “Automatic Identification of Unusual Patterns in Library Usage” submitted by Thomas Gross.

Scientific Awards

The middleware mChARM (developed for my PhD thesis) has been largely described and cited as a novel approach to middlewares in the following books and surveys:

- Max Goff. *Network Distributed Computing: Fitscapes and Fallacies*. Prentice Hall PTR, April 2004.
- Fabio Kon, Fábio Costa, Gordon Blair and Roy H. Campbell. The Case for Reflective Middleware. *Communication of the ACM*, 45(6):33–38, June 2002. ACM Press.

The package SmartReflection [24, 58] has been cited for its performance improvements and used in the book:

- Ira R. Forman and Nate B. Forman. *Java Reflection in Action*. Manning Publications, November 2004.

The paper:

- Walter Cazzola and Sonia Pini. Join Point Patterns: a High-Level Join Point Selection Mechanism. In *Lecture Notes in Computer Science* 4364, pages 17–26. October 2006. Springer.

has been awarded as the best paper at the 9th International Workshop on Aspect-Oriented Modeling.

I was invited speaker at:

- the AOSD-Europe Network of Excellence Annual meeting in Glasgow in July 2005
- the Workshop on Self-Organizing Architecture (SOAR’09) in Cambridge in September 2009.

Visiting at International Institutions

- **September and October 2001**. Tokyo Institute of Technology (Titech), Japan.
- **July 2005**. Otto-von-Guericke-Universität at Magdeburg, Germany.
- **December 2005**. Otto-von-Guericke-Universität at Magdeburg, Germany.
- **February 2007**. Otto-von-Guericke-Universität at Magdeburg, Germany.
- **May 2012**. Colorado State University, USA.

National and International Collaborations

Current National and International Collaborations

- Professor Robert France and Prof. Sudipto Ghosh, Colorado State University, USA
- Professor Awais Rashid, Computing Department, Lancaster University - United Kingdom.
- Professor Ruzanna Chytyan, Leicester University - United Kingdom.

- Professor Benoît Combemale, and Professor Mathieu Acher Université de Rennes 1, France
- Professor Kim Mens e Dr. Sebastián Gonzáles, Université Catholique de Louvain, Belgium.
- Dr. Ying Liu, Northeastern University, China.
- Professor Shigeru Chiba, University of Tokyo, Japan.
- Dottor Alessandro Marchetto, Fondazione Bruno Kessler, Trento, Italia.
- Dottor Lorenzo Capra, Università degli Studi di Milano, Italia.

Past National and International Collaborations

- Professor Gunter Saake, Otto-von-Guericke-Universität Magdeburg, Germany
- Professor Alessandro Garcia, Informatics Department, PUC-Rio, Brasil
- Professor Massimo Ancona, Dipartimento di Informatica e Scienze dell’Informazione, Università degli Studi di Genova - Italia.
- Professor Francesco Tisato, Dipartimento di Informatica Sistemistica e Comunicazioni, Università degli Studi di Milano Bicocca - Italia.
- Professor James O. Coplien, University of Manchester Institute of Science and Technology, United Kingdom, and Computer Science, North Central College, Naperville, Illinois.
- Dottor Alfonso Pierantonio, Dipartimento di Informatica, Università degli Studi dell’Aquila - Italia.
- Dottor Antonio Cisternino, Dipartimento di Informatica, Università degli Studi di Pisa - Italia.
- Professor Rajit Gadh e Dr. B.S. Prabhu, Henry Samueli School of Engineering and Applied Sciences, University of California at Los Angeles - USA.
- Professor Eduardo B. Fernandez, Department of Computer Science and Engineering, Florida Atlantic University - USA.
- Professor Jean-Marc Jézéquel, IRISA, Université de Rennes 1 - France.

Organizational Activities

Organizer and part of the programme committee of the following international workshops:

- DCCS’98 — 15th IFAC Workshop on Distributed Computer Control Systems. Como, Italy 9th-11th of September 1998.
- OORaSE’99 — OOPSLA’99 Workshop on Object-Oriented Reflection and Software Engineering. Denver, Colorado, 1st of November 1999.
- EWRMA’2000 — ECOOP’2000 Workshop on Reflection and Meta-Level Architectures. Cannes, France, 13th of June 2000.
- WERS’01 — Workshop on Experience with Reflective Systems. Kyoto, Japan, 25th of September 2001.
- RAM-SE’04 — ECOOP’04 Workshop on Reflection, AOP and Meta-Data for Software Evolution. Oslo, Norway, 13th of June 2004.
- RAM-SE’05 — ECOOP’05 Workshop on Reflection, AOP and Meta-Data for Software Evolution (2^a edition). Glasgow, Scotland, 25 of July 2005.
- RAM-SE’06 — ECOOP’06 Workshop on Reflection, AOP and Meta-Data for Software Evolution (3^a edition). Nantes, France, 3rd of July 2006.
- AOM@MoDELS’06 — MoDELS’06 Workshop on Aspect-Oriented Modeling (9^a edition). Genova, Italy 1st of October 2006.
- AOM@AOSD’07 — AOSD’07 Workshop on Aspect-Oriented Modeling (10^a edition). Vancouver, Canada, 12th of March 2007.
- RAM-SE’07 — ECOOP’07 Workshop on Reflection, AOP and Meta-Data for Software Evolution (4^a edition). Berlin, Germany, 31st of July 2007.
- AOM@MoDELS’07 — MoDELS’07 Workshop on Aspect-Oriented Modeling (11^a edition). Nashville, TN, USA, 2nd of October 2007.
- AOM@AOSD’08 — AOSD’08 Workshop on Aspect-Oriented Modeling (12^a edition). Brussels, Belgium, 1st of April 2008.
- RAM-SE’08 — ECOOP’08 Workshop on Reflection, AOP and Meta-Data for Software Evolution (5^a edition). Paphos, Cyprus, 7th of July 2008.
- AOM@AOSD’09 — AOSD’09 Workshop on Aspect-Oriented Modeling (13^a edition). Charlottesville, VA, USA, 2nd of March 2009.

- RAM-SE'09 — ECOOP'09 Workshop on Reflection, AOP and Meta-Data for Software Evolution (6^a edition). Genova, Italy, the 7th of July 2009.
- AOM@MoDELS'09 — MoDELS'09 Workshop on Aspect-Oriented Modeling (14^a edition). Denver, CO, USA, 4th of October 2009.
- RAM-SE'10 — ECOOP'10 Workshop on Reflection, AOP and Meta-Data for Software Evolution (7^a edition). Maribor, Slovenia, 22nd of June 2010.
- AOM@MoDELS'10 — MoDELS'10 Workshop on Aspect-Oriented Modeling (15^a edition). Oslo, Norway 4th of October 2010.
- RAM-SE'11 — TOOLS'11 Workshop on Reflection, AOP and Meta-Data for Software Evolution (8^a edition). Zürich, Switzerland, 27th of June 2011.
- RAM-SE'12 — ECOOP'12 Workshop on Reflection, AOP and Meta-Data for Software Evolution (9^a edition). Beijing, China, 13th of June 2010.
- GlobslDSL'13 — ECOOP'13 Workshop on the Globalization of Domain Specific Languages. Montpellier, France, 2nd of July 2013.

In the case of OORaSE'99, RAM-SE'04, RAM-SE'05, RAM-SE'06, RAM-SE'07, RAM-SE'08, RAM-SE'09, RAM-SE'10 Cazzola was also the co-editor of the proceedings; for RAM-SE'09, RAM-SE'10, RAM-SE'11 e RAM-SE'12 i proceedings was published by the ACM in their digital library.

Cazzola is (or was) member of one of the following international programme committees:

- International Conference on Reflection: Reflection'2001, 3rd edition;
- Euromicro Conference on Parallel, Distributed and Network-Based Programming (PDP): PDP 2003 (11th edition), PDP 2004 (12th edition) and PDP 2005 (13th edition);
- International Workshop on Emerging Technologies for Next generation GRID (ETNGRID): ETNGRID'04 (1st edition), ETNGRID'05 (2nd edition), ETNGRID'06 (3rd edition), ETNGRID'07 (4th edition);
- ACM Symposium on Applied Computing (SAC) track on “Programming for Separation of Concerns” (PSC): from 2005 (first edition) to 2013 (9th edition);
- ACM Symposium on Applied Computing (SAC) track on “Object-Oriented Programming and Systems” (OOPS): 2013 (9th edition).
- Models@Run.time — MoDELS'06 Workshop on Models at Run-Time.
- International Workshop on Ontology, Conceptualization and Epistemology for Software and System Engineering — ONTOSE'07 (2nd edition) and of the related special issue of the “The Knowledge Engineering Review” Cambridge University Press.
- SASE'08 — Workshop on Self-Adaptive Software Engineering.
- AOSD'11 — International Conference on Aspect-Oriented Software Development.
- AOSD'13 — International Conference on Aspect-Oriented Software Development.
- CSMR'13 — International Conference on Software Maintenance and Reengineering.
- Modularity'14 — International Conference on Modularity.
- Modularity'15 — International Conference on Modularity.

Member of WINMEC: Wireless INternet for the Mobile Enterprise Consortium (<http://www.wireless.ucla.edu/winmec/>).

Member of AITO: Association Internationale pour les Technologies Objects (<http://www.aito.org>) since 2010 and member of the executive board of AITO since January 2013.

Tool Exhibition Chair at ACM/IEEE 9th International Conference on Model Driven Engineering Languages and Systems (MoDELS/UML 2006), Genova, October 2006.

Organizing Co-Chair at the 23rd European Conference on Object-Oriented Programming (ECOOP 2009), July 2009.

Workshop Chair at the 17th European Conference on Software Maintenance and Reengineering (CSMR'13), June 2013.

Demos Chair at the 13th International Conference on Modularity (Modularity'14), April 2014.

Workshop Chair at the 14th International Conference on Modularity (Modularity'15), March 2015.

Co-Editor of the book: “*Reflection and Software Engineering*”. July 2000. The book is published by Springer-Verlag as volume 1826 of the Lecture Notes in Computer Science series.

Co-Editor of the special issue on “*Aspect-Oriented Programming and Development for Software Evolution*” in the journal “*Transaction on Aspect-Oriented Software Development*” published by Springer-Verlag.

Co-Editor of the special issue on “*Aspect-Oriented Modeling*” of the journal “*Journal of Object Technology*” published by ETH Zürich, Chair on SW Engineering.

National and International Seminars

- 2001-02-12.** “Communication-Oriented Reflection: a Way to Open Up the RMI Mechanism”. PhD thesis defence, Università degli Studi di Milano, Milano, Italia.
- 2001-10.** “Communication-Oriented Reflection: a Way to Open Up the RMI Mechanism”. Tokyo Institute of Technology (Titech), Tokyo, Japan.
- 2003-03-28.** “Smart Data Caching in Archaeological Wireless Applications: the PAST Solution”. Final Review for the EU project PAST (IST 20805). Luxembourg City, Luxembourg.
- 2003-06-18.** “Riflessione Computazionale: Definizioni, Proprietà ed Applicazioni”. Final meeting of the FIRB project Web-Minds. Università di Napoli, Napoli, Italia.
- 2003-11-11.** “Implementing the Essence of Reflection: a Reflective Run-Time Environment”. Final meeting of the MIUR project NAPOLI. Università degli Studi di Pisa, Pisa, Italia.
- 2004-02-12.** “Seamless Nomadic System-Aware Servants”. Università degli Studi di Pisa, Pisa, Italia.
- 2005-05-07.** “RAMSES: Reflective and Aspect-oriented Middleware for Software Evolution”. Università degli Studi di Firenze, Italia.
- 2005-06-22.** “Seamless Nomadic System-Aware Servants”. Università di Salerno, Italia.
- 2005-07-14.** “Client Adaptation to Face the Servers Heterogeneity Problem”. Fakultät für Informatik, Otto-von-Guericke-Universität Magdeburg, Germany.
- 2005-07-24.** “On the Join Point Model Problems: Design Information Based Approaches”. Keynote Speech at the Network of Excellence: AOSD-Europe Workshop, Glasgow, Scotland.
- 2005-12-09.** “A Petri-Net Based Reflective Framework for the Evolution of Dynamic Systems”. Fakultät für Informatik, Otto-von-Guericke-Universität Magdeburg, Germany.
- 2006-01-09.** “@Java: Annotations in Freedom”. EOS Final Year Review. Genova, Italia.
- 2006-04-06.** “Ethical & Security Issues”. Invited Speaker at the Med-e-Tel Conference. Luxembourg City, Luxembourg.
- 2006-04-21.** “RAMSES: A Reflective Middleware for Design-Oriented Software Evolution”. Università degli Studi di Pisa, Pisa, Italia.
- 2007-12-03.** “Aspect-Oriented Programming”. Università degli Studi di Milano Bicocca, Milano, Italia.
- 2008-09-11.** “Reverse \mathcal{E} : a Quasi-Automatic Approach to SW Documentation”. ETH Zürich, Switzerland.
- 2009-01-09.** “Reverse \mathcal{E} : a Quasi-Automatic Approach to SW Documentation”. Università di Torino, Torino, Italia.
- 2009-04-21.** “Tecniche Speciali di Programmazione: Come, Cosa e Perché”. PARAMed Medical Systems, Genova, Italia.
- 2009-09-14.** “Cogito, Ergo Muto!”. Invite Speech at SOAR’09 Workshop, Cambridge, United Kingdom.
- 2009-10-12.** “Cogito, Ergo Muto!”. Fakultät für Informatik, Otto-von-Guericke-Universität Magdeburg, Germany.
- 2010-04-21.** “Aspect-Oriented Programming & AspectJ”. Università degli Studi di Genova, Genova, Italia.
- 2011-11-28.** “Self-Evolution under the Hood”. Dagstuhl on MoDELS@Run-Time, Warden, Germany.
- 2012-03-23.** “Neverlang: A Compiler for an Non-Existent Language”. Fakultät für Informatik, Otto-von-Guericke-Universität Magdeburg, Germany.
- 2012-05-22.** “Neverlang: A Compiler for an Non-Existent Language”. Computer Science Department, Colorado State University, USA.
- 2013-02-04.** “Dynamic Adaptation under the Hood: JavAdaptor”. Università degli Studi di Pisa, Pisa, Italia.
- 2013-02-09.** “Fine-Grained Adaptation: Model-Driven Dynamic Software Adaptation”. Bellairs Research Institute, McGill University, Barbados/Canada.
- 2013-07-04.** “Evolvable and Reusable DSLs in Neverlang”. Seminar in the ECOOP’13 Summer School, Montpellier, France.
- 2013-09-27.** “Dynamic Adaptation under the Hood: JavAdaptor”. Computer Science Department, Colorado State University, USA.

Teaching Activities

Teaching Activities in Undergraduate and Graduate Curricula

From a.a. 1996-97 to a.a. 2004-05

- Lecturer in the distributed systems course in the computer science undergraduate curriculum of the University of Genova.

From a.a. 2004-2005 to a.a. 2006-07

- Lecturer in the special programming languages and techniques course in the computer science graduate curriculum of the University of Genova.

From a.a. 2003-04 to a.a. 2008-09

- Lecturer in the programming laboratory in the digital communication undergraduate curriculum of the University of Milano.

a.a. 2010-2011

- Lecturer in the operating system course in the digital communication undergraduate curriculum of the University of Milano.

From a.a. 2005-2006 to now

- Lecturer in the special programming techniques course in the computer science graduate curriculum of the University of Milano.

From a.a. 2009-2010 to now

- Lecturer in the advanced programming course in the computer science graduate curriculum of the University of Milano.

From a.a. 2011-2012 to now

- Lecturer in the programming languages course in the computer science undergraduate curriculum of the University of Milano.

Teaching Activities in PhD Curricula

Since June 2008 I'm the coordinator of the curriculum entitled "Advanced SW Development Techniques" in the PhD program in computer science at the University of Milano.

A.A. 2003-2004 Lecturer of the "Computational Reflection: State of the Arts and Future" course in the PhD program in computer science at the University of Milano.

A.A. 2004-2005 Lecturer of the "From Reflection to Aspect Oriented Programming: Advanced Techniques for SW Development" course in the PhD program in computer science at the University of Milano.

A.A. 2008-2009 Lecturer of the "Advanced Development Paradigms" course in the PhD program in computer science at the University of Milano.

A.A. 2013-2014 Lecturer of the "Modular Language Implementation" course in the PhD program in computer science at the University of Milano.

Since October 2007 I'm a member of the steering committee of the "International Summer School on Aspect Oriented SW Development".

I have supervised or I am still supervising the activity of the following PhD students:

Ahmed Ghoneim PhD in Computer Science (February 2007) at the Otto-von-Guericke-Universität at Magdeburg defending the thesis entitled: "RAMSES: a Reflective and Adaptive Middleware for Software Evolution of Nonstopping Systems".

Sonia Pini PhD in Computer Science (June 2007) at the University of Genova defending the thesis entitled "Blueprint: A High-Level Pattern Based AOP Language".

Mario Pukall PhD in Computer Science (March 2012) at the Otto-von-Guericke-Universität at Magdeburg, defending a thesis on "Dynamic Evolution in Java".

Edoardo Vacchi PhD in Computer Science (Spring 2015) at the University of Milan, defending a thesis on "Programming Languages à la Carte".

Albert Shaqiri PhD in Computer Science (Spring 2017) at the University of Milan, research topic: "Formalization of Modular Language Decomposition".

Mehdi Jalili PhD in Computer Science (Spring 2017) at the University of Milan, research topic: "Dynamic Software Updating and Validation".

References

Editor for Journals, Books and Proceedings

- [1] Walter Cazzola, Robert J. Stroud, and Francesco Tisato, editors. *Proceedings of the 1st Workshop on Object-Oriented Reflection and Software Engineering (OORaSE'99)*. University of Milano Bicocca, Denver, Colorado, USA, on 1st November 1999.
- [2] Walter Cazzola, Robert J. Stroud, and Francesco Tisato, editors. *Reflection and Software Engineering*, volume 1826 of *Lecture Notes in Computer Science*. Springer-Verlag, Heidelberg, Germany, June 2000.
- [3] Walter Cazzola, Shigeru Chiba, and Gunter Saake, editors. *Proceedings of the 1st ECOOP Workshop on Reflection, AOP and Meta-Data for Software Evolution (RAM-SE'04)*. Research Report C-196 of the Dept. of Mathematical and Computing Sciences, Tokyo Institute of Technology. Preprint No. 10/2004 of Fakultät für Informatik, Otto-von-Guericke-Universität Magdeburg, July 2004.
- [4] Walter Cazzola, Shigeru Chiba, Gunter Saake, and Tom Tourwé, editors. *Proceedings of the 2nd ECOOP Workshop on Reflection, AOP and Meta-Data for Software Evolution (RAM-SE'05)*. Preprint No. 9/2005 of Fakultät für Informatik, Otto-von-Guericke-Universität Magdeburg, November 2005.
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