

Domenico Bianculli

curriculum vitae

📍 NASA Ames Research Center
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Personal

Date of birth May 10, 1981
Place of birth Marsicovetere (PZ), Italy
Citizenship Italian
Marital Status single

Current Position

April 2009 - present **Visiting Researcher**, NASA Ames Research Center, Moffett Field, CA, USA.
Scientific Mentors: Dr. Dimitra Giannakopoulou, Dr. Corina Păsăreanu
April 2009 - present **Intern**, Mission Critical Technologies Inc., on site at NASA Ames Research Center, Moffett Field, CA, USA.

Employment History

September 2006 - March 2009 **Teaching and Research Assistant**, Università della Svizzera italiana, Faculty of Informatics, Lugano, Switzerland.

Education

September 2006 - present **PhD, Informatics**, Università della Svizzera italiana, Faculty of Informatics, Lugano, Switzerland.
Advisor: Prof. Carlo Ghezzi
March 2007 **Professional Engineer Qualification (Abilitazione alla Professione di Ingegnere)**, Politecnico di Milano, Milano, Italy.
Qualification in Information Technology Engineering (Ingegneria dell'Informazione)
September 2003 - July 2006 **MSc (Laurea Specialistica DM 509/99), Computing Systems Engineering (Ingegneria Informatica - orientamento Sistemi e Applicazioni dell'Informatica)**, Politecnico di Milano, V School of Engineering (Information Technology Engineering), Milano, Italy.
Final Mark: 110/110 summa cum laude
Advisors: Prof. Carlo Ghezzi, Ing. Paola Spoletini
Master Thesis: "A Model Checking Approach to Verify BPEL4WS Workflows"
September 2000 - July 2003 **BSc (Laurea DM 509/99), Computer Engineering (Ingegneria Informatica)**, Politecnico di Milano, V School of Engineering (Information Technology Engineering), Milano, Italy.
Final Mark: 110/110 summa cum laude
Advisor: Prof. Carlo Ghezzi
Final-year Project: "PeerSeaPie: a library for nodes discovery in peer-to-peer applications" (in Italian, joint work with Davide Bonicelli)
September 1995 - July 2000 **Scientific High School Degree (Diploma di Maturità Scientifica)**, Liceo Scientifico Statale "G. Peano", Marsiconuovo (PZ), Italy.
Final Mark: 100/100
Specialization in foreign languages

Publications

Journal Papers

- J1 Luciano Baresi, Domenico Bianculli, Carlo Ghezzi, Sam Guinea, and Paola Spoletini. Validation of web service compositions. *IET Softw.*, 1(6):219–232, December 2007.

Book Chapters

- BC1 Domenico Bianculli, Carlo Ghezzi, Paola Spoletini, Luciano Baresi, and Sam Guinea. A guided tour through SAVVY-WS: a methodology for specifying and validating web service compositions. In Egon Börger and Antonio Cisternino, editors, *Advances in Software Engineering*, volume 5316 of *Lecture Notes in Computer Science*, pages 131–160. Springer, November 2008.

Conference Papers

- C1 Domenico Bianculli, Walter Binder, and Mauro Luigi Drago. Automated performance assessment for service-oriented middleware: a case study on BPEL engines. In *Proceedings of the 19th International Conference on World Wide Web (WWW 2010)*, Raleigh, NC, USA. ACM, April 2010. To appear.
- C2 Luciano Baresi, Domenico Bianculli, Sam Guinea, and Paola Spoletini. Keep it small, keep it real: Efficient run-time verification of web service compositions. In *Proceedings of IFIP international conference on Formal Techniques for Distributed Systems (FMOODS/FORTE 2009)*, Lisbon Portugal, volume 5522 of *Lecture Notes in Computer Science*, pages 26–40. Springer, June 2009.
- C3 Domenico Bianculli, Walter Binder, Luigi Drago, and Carlo Ghezzi. Transparent reputation management for composite web services. In *Proceedings of the IEEE International Conference on Web Services (ICWS 2008)*, Beijing, China, pages 621–628. IEEE Computer Society Press, September 2008.
- C4 Domenico Bianculli, Radu Jurca, Walter Binder, Carlo Ghezzi, and Boi Faltings. Automated dynamic maintenance of composite services based on service reputation. In *Proceedings of ICSOC'07, International Conference on Service-Oriented Computing*, Vienna, Austria, volume 4749 of *Lecture Notes in Computer Science*, pages 449–455. Springer, September 2007.
- C5 Luciano Baresi, Domenico Bianculli, Carlo Ghezzi, Sam Guinea, and Paola Spoletini. A timed extension of WSCoL. In *Proceedings of the IEEE International Conference on Web Services (ICWS 2007)*, Salt Lake City, USA, pages 663–670. IEEE Computer Society Press, July 2007.
- C6 Domenico Bianculli, Carlo Ghezzi, and Paola Spoletini. A model checking approach to verify BPEL4WS workflows. In *Proceedings of the 2007 IEEE International Conference on Service-Oriented Computing and Applications (IEEE SOCA 2007)*, Newport Beach, USA, pages 13–20. IEEE Computer Society Press, June 2007.
- C7 Domenico Bianculli, Paola Spoletini, Angelo Morzenti, Matteo Pradella, and Pierluigi San Pietro. Model checking temporal metric specification with Trio2Promela. In *Proceedings of International Symposium on Fundamentals of Software Engineering (FSEN 2007)*, Teheran, Iran, volume 4767 of *Lecture Notes in Computer Science*, pages 388–395. Springer, April 2007.

Workshop Papers

- WS1 Domenico Bianculli, Carlo Ghezzi, and Cesare Pautasso. Embedding continuous lifelong verification in service life cycles. In *Proceedings of Principles of Engineering Service Oriented Systems (PESOS 2009)*, co-located with ICSE 2009, Vancouver, Canada, pages 99–102. IEEE Computer Society Press, May 2009.
- WS2 Domenico Bianculli and Carlo Ghezzi. SAVVY-WS at a glance: supporting verifiable dynamic service compositions. In *Proceedings of the the 1st International Workshop on Automated engineering of Autonomous and run-time evolving Systems (ARAMIS 2008)*, co-located with ASE 2008, L'Aquila, Italy, pages 49–56. IEEE Computer Society Press, September 2008.

- WS3 Domenico Bianculli and Carlo Ghezzi. Towards a methodology for lifelong validation of service compositions. In *Proceedings of the 2nd International Workshop on Systems Development in SOA Environments (SDSOA 2008), co-located with ICSE 2008, Leipzig, Germany*, pages 7–12. ACM, May 2008.
- WS4 Domenico Bianculli and Carlo Ghezzi. Monitoring conversational web services. In *Proceedings of the 2nd International Workshop on Service-Oriented Software Engineering (IW-SOSWE'07), co-located with ESEC/FSE 2007, Dubrovnik, Croatia*, pages 15–21. ACM, September 2007.

Demo Papers

- DM1 Domenico Bianculli, Walter Binder, and Mauro Luigi Drago. SOABench: Performance evaluation of service-oriented middleware made easy. In *Proceedings of the 32nd International Conference on Software Engineering (ICSE 2010), Cape Town, South Africa*. ACM, May 2010. Informal Research Demo. To appear.
- DM2 Domenico Bianculli, Walter Binder, Luigi Drago, and Carlo Ghezzi. ReMan: A pro-active reputation management infrastructure for composite web services. In *Proceedings of the 31st International Conference on Software Engineering (ICSE 2009), Vancouver, Canada*, pages 623–626. IEEE Computer Society Press, May 2009. Formal Research Demo.
- DM3 Domenico Bianculli, Angelo Morzenti, Matteo Pradella, and Pierluigi San Pietro and Paola Spoletini. Trio2Promela: a model checker for temporal metric specifications. In *ICSE 2007 Companion: Companion of the proceedings of the 29th International Conference on Software Engineering, Minneapolis, USA*, pages 61–62. IEEE Computer Society Press, May 2007. Informal Research Demo.

Technical Reports

- TR1 Domenico Bianculli, Walter Binder, and Mauro Luigi Drago. Automated performance assessment for service-oriented middleware. Technical Report 2009/07, Faculty of Informatics - University of Lugano, November 2009.
- TR2 Luciano Baresi, Domenico Bianculli, Sam Guinea, and Paola Spoletini. Keep it small, keep it real: Efficient run-time verification of web service compositions. Technical Report 2009.9, Politecnico di Milano - Dipartimento di Elettronica e Informazione, April 2009.

Other

- O1 Domenico Bianculli. Lifelong verification of dynamic service compositions. In *Proceedings of the 2008 Foundations of Software Engineering Doctoral Symposium (FSEDS '08), co-located with ACM SIGSOFT 2008/FSE 16, Atlanta, USA*, pages 1–4. ACM, November 2008.

Teaching Activities

Courses

- Spring 2009 **Teaching assistant**, *Università della Svizzera Italiana*, Lugano, Switzerland. Automata and Formal Languages. Instructor: Prof. Jürg Nievergelt
- Autumn 2008 **Teaching assistant**, *Università della Svizzera Italiana*, Lugano, Switzerland. Programming Languages. Instructor: Prof. Mehdi Jazayeri
- August 2008 **Teaching Assistant**, *Università della Svizzera Italiana*, Lugano, Switzerland. Remixing the web: Fundamentals of Mashup Development
Course taught to high-school students as part of the Swiss initiative “Informatica '08”
- Spring 2008 **Teaching assistant**, *Università della Svizzera Italiana*, Lugano, Switzerland. Automata and Formal Languages. Instructor: Prof. Laura Pozzi
- Autumn 2007 **Teaching assistant**, *Università della Svizzera Italiana*, Lugano, Switzerland. Programming Languages. Instructor: Prof. Mehdi Jazayeri
- Spring 2007 **Teaching assistant**, *Università della Svizzera Italiana*, Lugano, Switzerland. Automata and Formal Languages. Instructor: Prof. Laura Pozzi
Software Design. Instructor: Prof. Walter Binder

- Autumn 2006 **Teaching assistant**, *Università della Svizzera italiana*, Lugano, Switzerland.
Introduction to Programming in C. Instructor: Prof. Antonio Carzaniga
Hardware-Software Codesign. Instructor: Prof. Laura Pozzi
- Spring 2006 **Programming Lab Tutor**, *Politecnico di Milano*, Milano, Italy.
Software Engineering. Instructor: Prof. Luciano Baresi
- Autumn 2005 **Programming Lab Tutor**, *Politecnico di Milano*, Milano, Italy.
Computer Science B. Instructor: Ing. Paola Spoletini

Supervised MSc Theses

- April 2007 Mauro Luigi Drago, "Transparent reputation management for composite web services" (co-advisor). Advisor: prof. Carlo Ghezzi, *Politecnico di Milano*, Milano, Italy

Formal Presentations

- May 2009 "ReMan: A pro-active reputation management infrastructure for composite web services". Demo at the 31st International Conference on Software Engineering (ICSE 2009), Vancouver, Canada
- May 2009 "Embedding continuous lifelong verification in service life cycles". Workshop on Principles of Engineering Service-Oriented Systems (PESOS 2009), co-located with ICSE 2009, Vancouver, Canada
- November 2008 "Lifelong verification of dynamic service compositions". Doctoral Symposium of the 16th ACM SIGSOFT International Symposium on the Foundations of Software Engineering (SIGSOFT 2008/FSE 16), Atlanta, USA
- September 2008 "SAVVY-WS at a glance: supporting verifiable dynamic service compositions". 1st International Workshop on Automated engineering of Autonomous and run-time evolving Systems (ARAMIS 2008), co-located with ASE 2008, L'Aquila, Italy
- May 2008 "Towards a methodology for lifelong validation of service compositions". 2nd International Workshop on Systems Development in SOA Environments (SDSOA 2008), co-located with ICSE 2008, Leipzig, Germany
- September 2007 "Automated Dynamic Maintenance of Composite Services based on Service Reputation", International Conference on Service Oriented Computing (ICSOC 2007), Vienna, Austria
- September 2007 "Monitoring Conversational Web Services", 2nd International Workshop on Service-Oriented Software Engineering (IW-SOSWE'07), co-located with ESEC/FSE 2007, Dubrovnik, Croatia
- June 2007 "A Model Checking approach to verify BPEL4WS Workflows", IEEE International Conference on Service-Oriented Computing and Applications (SOCA 2007), Newport Beach, USA

Research Projects

- April 2009 - present **125337 CLAVOS - "Continuous Lifelong Analysis and Verification of Open Services"**, *Università della Svizzera Italiana*, funded by the Swiss National Science Foundation.
Technical Contributor
- September 2006 - July 2008 **IST-FP6-026995 PLASTIC - "Providing Lightweight and Adaptable Service Technology for Pervasive Information and Communication"**, *Università della Svizzera Italiana*, funded by the European Union.
Technical Contributor

Professional Service

Program Committee Membership

- 3rd International Workshop on Dynamic and Declarative Business Processes (DDBP 2010)
- 2nd International Conference on Advances in System Testing and Validation Lifecycle (VALID 2010)
- 1st International Conference on Advances in System Testing and Validation Lifecycle (VALID 2009)
- 2nd International Workshop on Dynamic and Declarative Business Processes (DDBP 2009)
- Special Issue of the International Journal of Business Process Integration and Management (IJBPIIM) on Dynamic and Declarative Business Processes 2008
- 1st International Workshop on Dynamic and Declarative Business Processes (DDBP 2008)

Reviewer Service

- IEEE Transactions on Software Engineering (TSE), 2010
- Elsevier Information and Software Technology (IST), 2009
- ACM Transactions on Software Engineering and Methodology (TOSEM), 2008

External Referee Service

- Fundamental Approaches to Software Engineering (FASE'10)
- 32nd International Conference on Software Engineering (ICSE 2010)
- 7th International Joint Conference on Service Oriented Computing, (ICSOC & ServiceWave 2009)
- 24th International Conference on Automated Software Engineering (ASE 2009)
- 7th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE 2009)
- 47th International Conference Objects, Models, Components, Patterns - TOOLS Europe 2009
- 31st International Conference on Software Engineering (ICSE 2009), New Ideas and Emerging Results Track
- 3rd Workshop on Middleware for Service Oriented Computing (MW4SOC 2008)
- 6th International Conference on Service Oriented Computing (ICSOC'08)
- ServiceWave 2008
- 15th Asia-Pacific Software Engineering Conference (APSEC 2008)
- 6th IEEE European Conference on Web Services (ECOWS 2008)
- 16th International Symposium on Foundations of Software Engineering (ACM SIGSOFT 2008 - FSE 16)
- 7th International Symposium on Software Testing and Analysis (ISSTA 2008)
- 7th International Symposium on Software Composition (SC 2008)
- 17th International World Wide Web Conference (WWW'08)
- 30th International Conference on Software Engineering (ICSE'08)
- 1st European Conference on Software Architecture (ECSA 2007)
- 1st International Workshop on Distributed Event Processing, Systems and Applications (DEPSA'07)
- 29th International Conference on Software Engineering (ICSE 2007)

Conference/Workshop Organization

- Local Arrangements, NASA Formal Methods Symposium (NFM 2009)
- Webmaster of the International Workshop on the Engineering of Software Services for Pervasive Environments (ESSPE'07)

Other

- October 2009 - present - Administrator of the SEWORLD mailing list
- January 2007 - September 2009 - Moderator of the SEWORLD mailing list
- Student volunteer at the 31st International Conference on Software Engineering (ICSE 2009)
- Student volunteer at the 30th International Conference on Software Engineering (ICSE 2008)

Fellowships and Grants

- April 2009 - March 2010 Fellowship for prospective researchers, supporting a visit at *NASA Ames Research Center*, granted by the Swiss National Science Foundation (SNSF)
- November 2008 Student travel grant for attending the *16th ACM SIGSOFT International Symposium on the Foundations of Software Engineering (SIGSOFT 2008/FSE 16)*, granted by ACM SIGSOFT
- September 2008 Fellowship for attending the *GLOBAN 2008* summer school
- May 2007 Student travel grant for attending the *29th International Conference on Software Engineering (ICSE'07)*, granted by ACM SIGSOFT

Memberships

- ACM SIGSOFT Student Member
- IEEE Student Member

Languages

- Italian **native**
- English **fluent**
- French **beginner**
- German **beginner**

Moffett Field, CA, USA, February 26, 2010