Paolo Tonella – *Curriculum Vitae*

Paolo Tonella is head of the Software Engineering (SE) Research Unit at Fondazione Bruno Kessler, Trento, Italy. He is also Honorary Professor at University College London (UCL). He received his laurea degree cum laude in Electronic Engineering from the University of Padova (awarded as best student) in 1992, and his PhD degree in Software Engineering from the same University, in 1999, with the thesis *Code Analysis in Support to Software Maintenance*. Since 1994 he has been a researcher of the Software Engineering group at IRST. He was tenured in 1997 (level 3), in 2003 he was promoted to level 2 and in 2010 to level 1. He has been leading the SE unit since 2007.

Paolo Tonella participated in several research projects on software analysis and testing, among which *Gesbank Evolution*, a project funded by IBT (Informatica Bancaria Trentina) for the migration of a large legacy banking system to Java (2007–2012) and *Fittest* (2010-2013), an FP7 European project on Future Internet Testing. In 2007-2011 he acted as a project reviewer for the European Commission (projects EVOTEST, SHADOWS, PROTEST). He is the author of the book *Reverse Engineering of Object Oriented Code*, Springer, 2005. He wrote over 150 peer reviewed conference/workshop papers and over 50 journal papers (the updated publication list can be found at http://se.fbk.eu/tonella). His H-index (according to Google scholar) is 42.

In 2011, Paolo Tonella was the recipient of the ICSE Most Influential Paper (MIP) award, for his paper: Filippo Ricca and Paolo Tonella, *Analysis and Testing of Web Applications*, ICSE 2001 (487 citations according to Google scholar). His other most cited paper is: Paolo Tonella, *Evolutionary Testing of classes*, ISSTA 2004 (299 citations). In 2007, Paolo Tonella was ranked among the top-50 Software Engineering scholars by the Communications of the ACM (vol. 50, n. 6, pp. 81-85, June 2007). Paolo Tonella was Program Chair of ICSM (2011) and ICPC (2007); Program and General Chair of WSE and SCAM. He was General Chair of ISSTA 2010 (Trento-IRST) and ICSM 2012 (Riva del Garda). He will be General Chair of SSBSE 2015 (Bergamo). Among the others, he served in the program committees of ICSE, FSE, ICSM, ISSTA, ICST, ICPC, ASE, SCAM, CSMR, WCRE. He is in the editorial board of TSE, EMSE and JSEP. He regularly reviews papers for TSE, TOSEM (awarded as a distinguished referee in 2007-2008, 2009-2010 and 2011-2012), STVR, JSEP, EMSE. His current research interests include reverse engineering and re-engineering, software testing and analysis, empirical studies.

Selected publications:

1. Paolo Tonella and Alessandra Potrich. *Reverse Engineering of Object Oriented Code*. Springer, New York, USA. 2005. ISBN: 0-387-40295-0.
2. David Binkley, Mariano Ceccato, Mark Harman, Filippo Ricca, Paolo Tonella. *Tool-Supported Refactoring of Existing Object-Oriented Code into Aspects*. In IEEE Transactions on Software Engineering (**TSE**), vol. 32, n. 9, pp. 698-717. September 2006.
3. Paolo Tonella, Mariano Ceccato. *Refactoring the Aspectizable Interfaces: an Empirical Assessment*. IEEE Transactions on Software Engineering (**TSE**), vol. 31, n. 10, pp. 819-832. October 2005.
4. Paolo Tonella. *Using a Concept Lattice of Decomposition Slices for Program Understanding and Impact Analysis*, IEEE Transactions on Software Engineering (**TSE**), vol. 29, n. 6, pp. 495-509, June 2003.
5. Paolo Tonella. *Concept Analysis for Module Restructuring*. IEEE Transactions on Software Engineering (**TSE**), vol. 27, n. 4, pp. 351-363, April 2001.
6. Filippo Ricca, Massimiliano Di Penta, Marco Torchiano, Paolo Tonella, Mariano Ceccato, and Corrado Aron Visaggio. *Are Fit tables really talking? A series of experiments to understand whether Fit tables are useful during evolution tasks*. In Proceedings of the 30th International Conference on Software Engineering (**ICSE**), pages 361-370, May 2008.

7. Filippo Ricca, Massimiliano Di Penta, Marco Torchiano, Paolo Tonella, Mariano Ceccato. *The Role of Experience and Ability in Comprehension Tasks Supported by UML Stereotypes*. In Proc. of the International Conference on Software Engineering (**ICSE**), pp. 375-384. May 2007.
8. Paolo Tonella. *Evolutionary Testing of Classes*, Proc. of the International Symposium on Software Testing and Analysis (**ISSTA**) , pp. 119-128, Boston, MA, USA, July 2004.
9. F. Ricca and P. Tonella, *Analysis and Testing of Web Applications*. Proc. of the International Conference on Software Engineering (**ICSE**), pp. 25-34, Toronto, Canada, May 12-19, 2001.
10. P. Tonella, G. Antoniol, R. Fiutem and E. Merlo. *Flow Insensitive C++ Pointers and Polymorphism Analysis and its Application to Slicing*. Proc. of the International Conference on Software Engineering (**ICSE**), pp. 433-443, Boston, Massachussets, USA, May 17-23, 1997.

Education and professional career:

1987 High school Liceo Scientifico "L. Da Vinci", Treviso, Italy. Final mark: 60/60.
1992 University of Padova, Laurea degree in Electronic Engineering. Final mark: 110/110 and laude (awarded as the best student who graduated in 1992). Thesis' title: *Kohonen's Neural Networks for the Reconstruction of Grey's Timbre Space*. Advisor: prof. Giovanni De Poli.
1994 Researcher at IRST, Software Engineering group (led by Giulio Antoniol).
1997 Confirmed researcher at IRST (level 3).
1999 University of Padova, PhD in Software Engineering. Thesis' title: *Code Analysis in Support to Software Maintenance*. Advisor: prof. Franco Bombi.
2003 Level 2 researcher at IRST.
2007 Head of Software Engineering research unit at Fondazione Bruno Kessler.
2010 Level 1 researcher at FBK.
2013 Honorary Professor at University College London.

Projects:

ITALO (1997-1999): European project ITALO (Improvement of the Testing Activities for the Development of Object Oriented Software), with Sodalia, Trento, having the goal of improving the component test process.
SIA (1998): Analysis of a large software system (4.7 million lines of C code), for SIA, Milan, aimed at the identification of code clones and dead functions. Pointer analysis was used to resolve calls made through function pointers.
CERN (2000-2007): Analysis and improvement of the C++ code quality developed at CERN, Geneva, within the Alice LHC experiment. Project leader.
WebFAQ (2001-2004): Fondo Unico (PAT) project (Web: Flexible Access and Quality), whose objective was the study of techniques for the improvement of Web site access and quality. Workpackage leader.
ReTrust (2006-2009): STREP European project (Remote Entrusting) on the remote authentication of software execution, in collaboration with University of Trento, Leuven, St. Petersburg, Politecnico of Torino and Gemalto. Advisory board and external contributor.
IBT (2007-2010): Industrial project with IBT (Informatica Bancaria Trentina), for the reengineering of a large (8 million lines of BAL code) legacy application and its migration toward a modern, object-oriented architecture. Project leader.
Fittest (2010-2013): European FP7 STREP project (Future Internet Testing). Workpackage leader and key researcher for FBK.
Aspire (2013-2016): European FP7 STREP project (Advanced Software Protection: Integration, Research and Exploitation).
SEAC (2014-2015): Industrial project with SEAC, a company who has recently started the reengineering of their software system from the current platform (Cobol/ISAM) to the .NET platform with Microsoft SQL Server. The objective of this project is to support such reengineering effort, by introducing an agile development process and by adopting automated tools for testing.

Awards and recognitions:

- **Best student** who graduated at the University of Padova in the academic year 1991-1992.
- **Best paper award**: G. Antoniol, A. Potrich, P. Tonella and R. Fiutem, *Evolving Object Oriented Design to Improve Code Traceability*. Proc. of the International Workshop on Program Comprehension (IWPC), pp. 151-160, Pittsburgh, PA, USA, May 5-7, 1999.
- **Best paper award**: Filippo Ricca and Paolo Tonella, *Anomaly detection in Web applications: a review of already conducted case studies*. Proc. of the 9th European Conference on Software Maintenance and Reengineering (CSMR), pp. 385-394, Manchester, UK, March 2005.
- **Alice industrial award**: a prize which is given by CERN (Alice experiment) to project partners, in recognition of successful collaboration. The Software Engineering group at IRST was awarded for the provisioning of advanced code analysis tools used in the development of the offline software (June 2006).
- **Top-50 SE scholar**: Paolo Tonella was ranked among the top-50 Software Engineering scholars by the Communications of the ACM (vol. 50, n. 6, pp. 81-85, June 2007).
- **Best paper award**: Cu D. Nguyen, Anna Perini and Paolo Tonella. *Constraint-based Evolutionary Testing of Autonomous Distributed Systems*. In Proc. of the International Workshop on Search-Based Software Testing (SBST), April 9-11, 2008.
- **Distinguished TOSEM referee**: Paolo Tonella was awarded as one of the best reviewers of the journal *ACM Transaction of Software Engineering and Methodology*, in 2007-2008, 2009-2010 and 2011-2012.
- **Most influential WSE paper award**: Paolo Tonella and Filippo Ricca. *Dynamic Model Extraction and Statistical Analysis of Web Applications*. Proc. of WSE 2002, International Workshop on Web Site Evolution, pp. 43-52, Montreal, Canada, October 2002. Award presented at WSE 2008.
- **Best paper award:** Alessandro Marchetto and Paolo Tonella. *Search-Based Testing of Ajax Web Applications*. In Proceedings of the International Symposium on Search Based Software Engineering (SSBSE), Windsor (London), UK, 2009.
- **ICSE 2011 Most Influential Paper award**: Filippo Ricca and Paolo Tonella, *Analysis and Testing of Web Applications*, Proc. of ICSE 2001, International Conference on Software Engineering, pp. 25-34, Toronto, Canada, May 12-19, 2001.
- **Best paper award:** Soumaya Medini, Giuliano Antoniol, Yann-Gaël Guéhéneuc, Massimiliano Di Penta, Paolo Tonella, *SCAN: an Approach to Label and Relate Execution Trace Segments*. In Proceedings of the Working Conference on Reverse Engineering (WCRE), Kingston, Ontario, Canada, October 15-18, 2012.
- **IET Premium award 2013**: Alessandro Marchetto, Paolo Tonella and Filippo Ricca, *ReAjax: a reverse engineering tool for Ajax Web applications*. In IET Software, vol. 6, n. 1, pp. 33-49, 2012.

Teaching and tutorials:

1997-2000: Lectures at the Master in Software Engineering, Padova.
2000-2001: Undergraduate course: *Software Engineering*, at the University of Brescia, Italy.
2001-2002: Graduate course: *Analysis and Testing of Software Systems*, at the International Doctorate School in Information and Communication Technologies, University of Trento, Italy.
2002-2004: Lectures at the CERN Summer School.
2004: Tutorial: *Formal Concept Analysis in Software Engineering*. Int. Conf. on Software Engineering, May 24, 2004. Edinburgh, Scotland, United Kingdom.
2005: Tutorial: *Reverse Engineering of Object Oriented Code*. Int. Conf. on Software Engineering, May 17, 2005. St. Louis, Missouri, USA.
2006: Distinguished lecture: *Test Case Prioritization using the Case Based Ranking Methodology*, at Ecole Polytechnique Montreal, August 2006.
2009: Distinguished lecture: *Research challenges in model based/search based testing*, at Queen's University, Kingston, April 2009.

2010: Invited talk: *Research challenges in model based/search based testing*, at Universidad Politecnica de Valencia, Spain, February 2010.

2010: Invited talk: *Better Together: Hybridized Search Based Techniques*, at the Second International Symposium on Search Based Software Engineering (SSBSE), Benevento, Italy, 2010.

2010: Invited talk: *Research Challenges in Service Testing*, at the 2nd International Workshop on Principles of Engineering Service-Oriented Systems (PESOS), Cape Town, South Africa, 2010.

2012-2014: Lecture: *Search Based Test Case Generation*, at the ISSSE summer school, Salerno, Italy.

2013: Lecture: *Search Based Test Case Generation*, at the TAROT summer school, Volterra, Italy.

2014: Distinguished lecture: *Model-based Testing in the Era of Web 2.0*, at the University of Luxembourg, June 2014.

2002-2012: Graduate course: *Software Analysis and Testing*, at the University of Trento, Italy.

2012-2015: Graduate course: *Security Testing*, at the University of Trento, Italy.

Committees and reviewing:

ICSE, Int. Conference on Software Engineering. Program committee (2012, 2014, 2015).

ICSM, IEEE Int. Conference on Software Maintenance. Program committee. Steering committee (2006-2009; 2012-2015). Program chair (2011). General chair (2012).

ISSTA, ACM Int. Symposium on Software testing and Analysis. Program committee. Steering Committee. General chair (2010).

FSE, International Symposium on the Foundations of Software Engineering. Program Committee.

ASE, International Conference on Automated Software Engineering. Program Committee.

SCAM, IEEE Int. Working Conf. on Source Code Analysis and Manipulation. Program committee. Steering committee (2002-2005). Program chair (2003). General chair (2005).

ICPC, IEEE Int. Conference on Program Comprehension. Program committee. Program chair (2007).

WSE, IEEE Int. Symposium on Web Site Evolution. Program committee. Program chair (2002). General chair (2004).

ICST, IEEE International Conference on Software Testing. Program committee.

CSMR, IEEE European Conference on Software Maintenance and Reengineering. Program committee.

ICSOC, International Conference on Service Oriented Computing. Program committee.

WCRE, Working Conference on Reverse Engineering. Program committee.

WebTest, Int. Workshop on Web Testing. General chair (2009).

SSBSE, Int. Symposium on Search Based Sofwtare Engineering. Program committee. General Chair (2015).

SBST, Int. Workshop on Search Based Software testing. Program committee.

IWPSE, Int. Workshop on Principles of Software Evolution. Program committee.

STEP, Software Technology and Engineering Practice. Program committee and general chair of the Workshop on Empirical Studies in Reverse Engineering (2005).

GECCO, Genetic and Evolutionary Computation Conference (SBSE track, Search-based Software Engineering). Program committee.

Taic Part, Testing–Academic and Industrial Conference, Practice and Research Techniques. Program committee.

WESS, IEEE Int. Workshop on Empirical Studies on Software Maintenance. Program committee.

TSE, IEEE Transactions on Software Engineering, IEEE Computer Society. Editorial Board and Reviewer.

TOSEM, ACM Transactions on Software Engineering and Methodology. Reviewer.

JSEP/JSME, Journal of Software Maintenance and Evolution, Wiley and Sons. Editorial Board and Reviewer.

EMSE, Empirical Software Engineering, Springer. Editorial Board and Reviewer.

JASE, Automated Software Engineering Journal, Springer. Reviewer.

IST, Information and Software Technology, Elsevier. Reviewer.

IEEE Software, IEEE Computer Society. Reviewer.

STVR, Software Testing, Verification and Reliability, Wiley and Sons. Reviewer.

JSS, Journal of Systems and Software, Elsevier. Reviewer.

SQJ, Software Quality Journal, Springer. Reviewer.

ProTest, *Property-based Testing*, ICT-215868 FP7 EU project. Project reviewer for the European Commission.
EvoTest, *Evolutionary Testing for Complex Systems*, IST-33472 FP6 EU project. Project reviewer for the European Commission.
Shadows, *Self-Healing Approach to Designing Complex Software Systems*, IST-35157 FP6 EU project. Project reviewer for the European Commission.
NSERC, *Natural Sciences and Engineering research Council of Canada*. Project proposal reviewer.
FWF, *Austrian Science Fund*. Project proposal reviewer.
NWO, *The Netherlands Organization for Scientific research*. Project proposal reviewer.
SNF, *Swiss National Science Foundation*. Project proposal reviewer.
KKS, Knowledge Foundation Sweden. Project proposal reviewer.

Full publication list:

Year 2014
1. Mariano Ceccato, Massimiliano Di Penta, Paolo Falcarin, Filippo Ricca, Marco Torchiano, Paolo Tonella, A family of experiments to assess the effectiveness and efficiency of source code obfuscation techniques, in *Empirical Software Engineering*, vol. 19, n. 4, pp. 1040-1074, 2014.
2. Paolo Tonella, Filippo Ricca, Alessandro Marchetto, Recent Advances in Web Testing, in *Advances in Computers*, vol. 93, pp. 1-51, 2014.
3. Paolo Tonella, Roberto Tiella, and Cu Duy Nguyen, Interpolated N-Grams for Model Based Testing. In *Proceedings of the 36th International Conference on Software Engineering (ICSE)*, Hyderabad, India, May 31 - June 7, 2014.
4. Alberto Goffi, Alessandra Gorla, Andrea Mattavelli, Mauro Pezze', and Paolo Tonella, Search-Based Synthesis of Equivalent Method Sequences. In *Proceedings of the 22nd ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE)*, Hong Kong, November 16-21, 2014.
5. Chiara Di Francescomarino, Roberto Tiella, Chiara Ghidini, Paolo Tonella, A Multi-Objective Approach to Business Process Repair. In *Proceedings of the 6th International Conference on Service Oriented Computing (ICSOC)*, Paris, France, November 3-6, 2014.
6. Fitsum Meshesha Kifetew, Roberto Tiella, Paolo Tonella, Combining Stochastic Grammars and Genetic Programming for Coverage Testing at the System Level. In *Proceedings of the 6th International Symposium on Search-Based Software Engineering (SSBSE)*, pp. 138-152, Fortaleza, Brazil, August 26-29, 2014.
7. Maurizio Leotta, Diego Clerissi, Filippo Ricca and Paolo Tonella, Visual vs. DOM-based Web Locators: An Empirical Study. In *Proceedings of the 14th International Conference on Web Engineering (ICWE)*, Toulouse, France, July 1 - 4, 2014.
8. Fitsum Meshesha Kifetew, Wei Jin, Roberto Tiella, Alessandro Orso and Paolo Tonella, Reproducing Field Failures for Programs with Complex Grammar Based Input. In *Proceedings of the 7th International Conference on Software Testing, Verification and Validation (ICST)*, Cleveland, Ohio USA, March 31 - April 4, 2014.
9. Tanja E. J. Vos, Paolo Tonella, Wishnu Prasetya, Peter M. Kruse, Alessandra Bagnato, Mark Harman, Onn Shehory, FITTEST: a new continuous and automated testing process for future internet applications. In *Proceedings of the IEEE CSMR-WCRE Software Evolution Week*, Antwerp, Belgium, February 3-6, 2014.
10. Andrea Stocco, Maurizio Leotta, Filippo Ricca, Paolo Tonella, PESTO: A Tool for Migrating DOM-based to Visual Web Tests. In *Proceedings of the 14th IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM)*, Victoria, Canada, September 28-29, 2014.
11. Maurizio Leotta, Andrea Stocco, Filippo Ricca, Paolo Tonella, Reducing Web Test Cases Aging by means of Robust XPath Locators, In *Proc. of the 6th International Workshop on Software Aging and Rejuvenation (WoSAR)*, Naples, Italy, November 3-6, 2014.
12. Paolo Tonella, Mariano Ceccato, Bjorn De Sutter, Bart Coppens, A Measurement Framework to Quantify Software Protections, In *Proc. of the 21st ACM Conference on Computer and Communications Security (CCS)*, Poster Session, Scottsdale, Arizona, USA, November 3-7, 2014.

Year 2013
1. Surafel Lemma Abebe, Anita Alicante, Anna Corazza, Paolo Tonella, Supporting concept location through identifier parsing and ontology extraction, in *Journal of Systems and Software*, vol. 86, n. 11, pp. 2919-2938, 2013.
2. Chiara Di Francescomarino, Alessandro Marchetto, Paolo Tonella, Cluster-based modularization of processes recovered from web applications, in *Journal of Software: Evolution and Process*, vol. 25, n. 2, pp. 113-138, 2013.
3. Paolo Tonella, Angelo Susi, Francis Palma, Interactive requirements prioritization using a genetic algorithm, in *Information and Software Technology*, vol. 55, n. 1, pp. 173-187, 2013.

4. Fitsum Meshesha Kifetew, Wei Jin, Roberto Tiella, Alessandro Orso, Paolo Tonella, SBFR: A Search-Based Approach for Reproducing Failures of Programs with Grammar Based Input. In *Proceedings of the 28th IEEE/ACM International Conference on Automated Software Engineering (ASE),* Silicon Valley, California, USA, November 11-15, 2013.
5. Cu Duy Nguyen, Paolo Tonella, Automated Inference of Classifications and Dependencies for Combinatorial Testing. In *Proceedings of the 28th IEEE/ACM International Conference on Automated Software Engineering (ASE),* Silicon Valley, California, USA, November 11-15, 2013.
6. Paolo Tonella, Roberto Tiella and Cu Duy Nguyen, N-Gram Based Test Sequence Generation from Finite State Models. In *Proceedings of the International Workshop on Future Internet Testing (FITTEST),* Silicon Valley, California, USA, November 11-15, 2013.
7. Maurizio Leotta, Diego Clerissi, Filippo Ricca, and Paolo Tonella, Capture-Replay vs. Programmable Web Testing: An Empirical Assessment During Test Case Evolution. In *Proceedings of the 20th Working Conference on Reverse Engineering (WCRE),* Koblenz-Landau, Germany, October 14-17, 2013.
8. Filippo Ricca, Maurizio Leotta, Andrea Stocco, Diego Clerissi, Paolo Tonella, Web Testware Evolution. In *Proceedings of the 15th IEEE International Symposium on Web Systems Evolution (WSE),* Eindhoven, The Netherlands, September 27, 2013.
9. Cu Duy Nguyen, Alessandro Marchetto, Paolo Tonella, Automated oracles: an empirical study on cost and effectiveness. In *Proceedings of the 9th Joint Meeting on the Foundations of Software Engineering (FSE),* St. Petersburg, Russia, pp. 136-146, August 18-26, 2013.
10. Fitsum Meshesha Kifetew, Annibale Panichella, Andrea De Lucia, Rocco Oliveto, Paolo Tonella, Orthogonal Exploration of the Search Space in Evolutionary Test Case Generation. In *Proceedings of the International Symposium on Software Testing and Analysis (ISSTA),* Lugano, Switzerland, July 15-20, 2013.
11. Paolo Tonella, Cu Duy Nguyen, Alessandro Marchetto, Kiran Lakhotia, Mark Harman, Automated Generation of State Abstraction Functions using Data Invariant Inference. In *Proceedings of the 8th International Workshop on Automation of Software Test (AST),* S. Francisco, CA, USA, May 18-19, 2013.
12. Surafel Lemma Abebe, Paolo Tonella, Automated Identifier Completion and Replacement. In *Proceedings of the 17th European Conference on Software Maintenance and Reengineering,* Genova, Italy, March 5-8, 2013.

Year 2012
1. Cu D. Nguyen, Simon Miles, Anna Perini, Paolo Tonella, Mark Harman, Michael Luck, Evolutionary testing of autonomous software agents, in *Autonomous Agents and Multi-Agent Systems,* vol. 25, n. 2, pp. 260-283, 2012.
2. C. Ghidini, C. Di Francescomarino, M. Rospocher, P. Tonella, L. Serafini, Semantics-Based Aspect-Oriented Management of Exceptional Flows in Business Processes, in *IEEE Transactions on Systems, Man, and Cybernetics. Part C, Applications and Reviews,* vol. 42, n. 1, pp. 25-37, 2012.
3. Alessandro Marchetto, Paolo Tonella and Filippo Ricca, ReAjax: a reverse engineering tool for Ajax Web applications In *IET Software ,* vol. 6, n. 1, pp. 33-49, 2012.
4. Tanja Vos, Paolo Tonella, Joachim Wegener, Mark Harman, Wishnu Prasetya, Shmuel Ur. Testing of Future Internet Applications Running in the Cloud. In *Software Testing in the Cloud: Perspectives on an Emerging Discipline.* Scott Tilley and Tauhida Parveen (eds.). Chapter no. XIV: pp. 305-321. 2012. IGI Global, Hershey, Pennsylvania, USA. [ISBN: 9781466625365]
5. Leonardo Mariani, Alessandro Marchetto, Cu Duy Nguyen, Paolo Tonella, Arthur Baars, Revolution: Automatic Evolution of Mined Specifications. In *Proceedings of the 23rd IEEE International Symposium on Software Reliability Engineering,* Dallas, TX, USA, November 27-30, 2012.
6. Soumaya Medini, Giuliano Antoniol, Yann-Gaël Guéhéneuc, Massimiliano Di Penta, Paolo Tonella, SCAN: an Approach to Label and Relate Execution Trace Segments. In *Proceedings of the Working Conference on Reverse Engineering,* Kingston, Ontario, Canada, October 15-18, 2012 (best paper award).
7. Surafel Lemma Abebe, Venera Arnaoudova, Paolo Tonella, Giuliano Antoniol, Yann-Gaël Guéhéneuc, Can Lexicon Bad Smells improve fault prediction? In *Proceedings of the Working Conference on Reverse Engineering,* Kingston, Ontario, Canada, October 15-18, 2012.
8. Cu D. Nguyen, Alessandro Marchetto, Paolo Tonella, Combining model-based and combinatorial testing for effective test case generation. In *Proceedings of the International Symposium on Software Testing and Analysis (ISSTA),* pp. 100-110, June 2012.
9. Mariano Ceccato, Alessandro Marchetto, Leonardo Mariani, Cu D. Nguyen, Paolo Tonella, An Empirical Study about the Effectiveness of Debugging When Random Test Cases Are Used. In *Proceedings of the 34th International Conference on Software Engineering (ICSE),* pp. 452-462, June 2012.
10. Paolo Tonella, Alessandro Marchetto, Cu Duy Nguyen, Yue Jia, Kiran Lakhotia, Mark Harman, Finding the Optimal Balance between Over and Under Approximation of Models Inferred from Execution Logs. In *Proceedings of the International Conference on Software Testing (ICST),* pp. 21-30, IEEE Computer Society, April 2012.
11. Nadia Alshahwan, Mark Harman, Alessandro Marchetto, Roberto Tiella, Paolo Tonella, Crawlability Metrics for Web Applications. In *Proceedings of the International Conference on Software Testing (ICST),* pp. 151-160, IEEE Computer Society, April 2012.

Year 2011
1. Alessandro Marchetto, Paolo Tonella, Using search-based algorithms for Ajax event sequence generation during testing. In *Empirical Software Engineering,* vol. 16, n. 1, pp. 103-140, 2011.
2. Chiara Di Francescomarino, Chiara Ghidini, Marco Rospocher, Luciano Serafini, Paolo Tonella, A framework for the collaborative specification of semantically annotated business processes. In *Journal of Software*

Maintenance and Evolution: Research and Practice, vol. 23, n. 4, pp. 261-295, 2011.

3. Alessandro Marchetto, Roberto Tiella, Paolo Tonella, Nadia Alshahwan and Mark Harman, Crawlability metrics for automated web testing. In *International Journal on Software Tools for Technology Transfer,* vol. 13, n. 2, pp. 131-149, 2011.

4. Mariano Ceccato, Paolo Tonella, Codebender: Remote software protection using orthogonal replacement. In *IEEE Software,* vol. 28, n. 2, pp. 28-34, 2011.

5. Chiara Di Francescomarino, Paolo Tonella, Crosscutting concern mining in business processes. IET Software vol. 5, n. 6, pp. 552-562, 2011.

6. Arthur Baars, Mark Harman, Youssef Hassoun, Kiran Lakhotia, Phil McMinn, Paolo Tonella, Tanja Vos, Symbolic Search-Based Testing. In *Proc. of the IEEE/ACM Automated Software Engineering Conference (ASE),* Lawrence, Kansas, USA, November 2011.

7. Surafel Lemma Abebe, Paolo Tonella, Towards the Extraction of Domain Concepts from the Identifiers. In *Proc. of Eleventh IEEE International Working Conference on Reverse Engineering (WCRE)* , pp. 77-86, Limerick, Ireland, October 2011.

8. Surafel Lemma Abebe, Sonia Haiduc, Paolo Tonella, Andrian Marcus, The Effect of Lexicon Bad Smells on Concept Location in Source Code. In *Proc. of Eleventh IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM)*, pp. 125-134, Williamsburg, Virginia, USA, September 2011.

9. Francis Palma, Angelo Susi, Paolo Tonella, Using an SMT solver for interactive requirements prioritization. In *Proc. of Foundations of Software Engineering (FSE)*, pp. 48-58, September 2011.

10. Alessandro Marchetto, Chiara Di Francescomarino, Paolo Tonella. Optimizing the Trade-Off between Complexity and Conformance in Process Reduction. In *Proc. of the Int. Symposium on Search Based Software Engineering (SSBSE)*, pp. 158-172, September 2011.

11. Cu D. Nguyen, Alessandro Marchetto, Paolo Tonella, Test Case Prioritization for Audit Testing of Evolving Web Services using Information Retrieval Techniques, In *Proc. of the 9th International Conference on Web Services (ICWS)*, Washington DC, July 2011.

12. Tanja E. J. Vos, Paolo Tonella, Joachim Wegener, Mark Harman, Wishnu Prasetya, Elisa Puoskari, Yarden Nir-Buchbinder. Future Internet Testing with FITTEST. In *Proceedings of the European Conference on Software Maintenance and Reengineering (CSMR)*, pp. 355-358, 2011.

13. Cu D. Nguyen, Alessandro Marchetto, Paolo Tonella, Change Sensitivity Based Prioritization for Audit Testing of Webservice Compositions, In *Proc. of the 6th International Workshop on Mutation Analysis,* Berlin, Germany, 2011.

14. Cu D. Nguyen, Alessandro Marchetto, Paolo Tonella, Challenges in Audit Testing of Web Services, In *Proc of the 1st International Workshop on Regression Testing,* Berlin, Germany, 2011.

15. Alessandro Marchetto, Cu D. Nguyen, Paolo Tonella, Automated Detection of Discontinuities in Models Inferred from Execution Traces, In *Proc. of the 1st Int. Workshop on Variability-intensive Systems Testing, Validation and Verification,* Berlin, Germany, 2011.

Year 2010

1. Filippo Ricca, Massimiliano Di Penta, Marco Torchiano, Paolo Tonella, Mariano Ceccato, How Developers' Experience and Ability Influence Web Application Comprehension Tasks Supported by UML Stereotypes: A Series of Four Experiments. In *IEEE Transactions on Software Engineering,* vol. 36, n. 1, pp. 96-118. January-February 2010.

2. Mariano Ceccato, Thomas Roy Dean, Paolo Tonella, Davide Marchignoli, Migrating legacy data structures based on variable overlay to Java, in *Journal of Software Maintenance and Evolution,* vol. 22, n. 3, pp. 211-237, April 2010.

3. Cu Nguyen, Anna Perini, Paolo Tonella, Goal-oriented testing for MASs, in *International Journal of Agent-Oriented Software Engineering,* vol. 4, n. 1, pp. 79-109, 2010.

4. Marco Torchiano, Filippo Ricca, Paolo Tonella, Empirical comparison of graphical and annotation-based re-documentation approaches. In *IET Software,* vol. 4, n. 1, pp. 15-31. February 2010.

5. Chiara Di Francescomarino, Paolo Tonella, Supporting Ontology-based Semantic Annotation of Business Processes with Automated Suggestions. In *Int. Journal of Information System Modeling and Design* vol. 1, n. 2, pp. 59-84, April-June 2010.

6. Mariano Ceccato, Paolo Tonella, Static analysis for enforcing intra-thread consistent locks in the migration of a legacy system, In *Proceedings of the International Conference on Software Maintenance (ICSM)*, Timisoara, Romania, September 2010.

7. Paolo Tonella, Angelo Susi, Francis Palma, Using Interactive GA for Requirements Prioritization, In *Proceedings of the International Symposium on Search Based Software Engineering (SSBSE),*, Benevento, Italy, September 2010.

8. Surafel Lemma Abebe, Paolo Tonella, Natural Language Parsing of Program Element Names for Concept Extraction, In *Proceedings of the International Conference on Program Comprehension (ICPC),*, Braga, Minho, Portugal, pp. 156-159, 2010.

9. Alessandro Marchetto, Paolo Tonella, Filippo Ricca, Under and Over Approximation of State Models Recovered for Ajax Applications, In *Proceedings of the European Conference on Software Maintenance and Reengineering (CSMR)*, IEEE Computer Society, pp. 241-245, Madrid, Spain, 2010.

10. Alessandro Marchetto, Cu D. Nguyen, Chiara Di Francescomarino, Nauman A. Qureshi, Anna Perini, Paolo Tonella, A Design Methodology for Real Services, In *Proceedings of the Int. Workshop on Principles of Engineering Service Oriented Systems,* Cape Town, South Africa, 2010.

11. N. Alshahwan, Y. Jia, K. Lakhotia, G. Fraser, D. Shuler, and P. Tonella. Automock: Automated synthesis of a

mock environment for test case generation. In M. Harman, H. Muccini, W. Schulte, and T. Xie, editors, *Practical Software Testing : Tool Automation and Human Factors,* number 10111 in Dagstuhl Seminar Proceedings, Dagstuhl, Germany, 2010.

12. Tanja Vos and Paolo Tonella, Future Internet Testing Challenges. In *Proc. of the 4th workshop on Modeling, Design, and Analysis for the Service Cloud (MDA4ServiceCloud),* Paris, France, 15th June 2010.

13. C. Di Francescomarino, C. Leonardi, A. Marchetto, Nauman A. Qureshi, Cu D. Nguyen, L. Sabatucci, A. Perini, A. Susi, P. Tonella, and M. Zancanaro, A bit of Persona, a bit of Goal, a bit of Process ... a recipe for Analyzing User Intensive Software Systems. In *Proc. of iStar 2010, 4th International i* Workshop,* pp. 36-40, Hammamet, Tunisia, June 07-08, 2010.

Year 2009

1. Mariano Ceccato, Thomas Roy Dean and Paolo Tonella, Recovering structured data types from a legacy data model with overlays, *Information and Software Technology*, vol. 51, no. 10, pp. 1454-1468, Elsevier 2009.

2. Mariano Ceccato, Paolo Tonella, Dynamic Aspect Mining, In *IET Software*, vol. 3, no. 4, pp. 321-336, 2009.

3. Mariano Ceccato, Mila Dalla Preda, Jasvir Nagra, Christian Collberg and Paolo Tonella, Trading-off security and performance in barrier slicing for remote software entrusting, In *Journal of Automated Software Engineering*, vol. 16, no. 2, pp. 235-261, Springer 2009.

4. Filippo Ricca, Marco Torchiano, Massimiliano Di Penta, Mariano Ceccato, Paolo Tonella, Using Acceptance Tests as a Support for Clarifying Requirements: a Series of Experiments, In *Information and Software Technology*, volume 51, issue 2, pages 270-283, February 2009.

5. Shin Yoo, Mark Harman, Paolo Tonella, Angelo Susi, Clustering test Cases to Achieve Effective and Scalable Prioritisation Incorporating Expert Knowledge, In *Proceedings of the International Symposium on Software testing and Analysis (ISSTA)*, Chicago, USA, 2009.

6. Cu Nguyen, Simon Miles, Anna Perini, Paolo Tonella, Mark Harman, Michael Luck, Evolutionary Testing of Autonomous Software Agents, In *Proceedings of the 8th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Budapest, Hungary, 2009.

7. M. Ceccato, M. Di Penta, J. Nagra, P. Falcarin, F. Ricca, M. Torchiano and P. Tonella, The Effectiveness of Source Code Obfuscation: an Experimental Assessment, In *Proceedings of the 17th IEEE International Conference on Program Comprehension (ICPC)*, Vancouver, Canada, 2009.

8. Surafel Lemma Abebe, Sonia Haiduc, Paolo Tonella and Andrian Marcus, Lexicon Bad Smells in Software, In *Proceedings of the 16th Working Conference on Reverse Engineering (WCRE)*, Lille, France, 2009.

9. Chiara Di Francescomarino, Chiara Ghidini, Marco Rospocher, Luciano Serafini and Paolo Tonella, Semantically-aided business process modeling, In *Proceedings of the 8th International Semantic Web Conference (ISWC)*, Westfields Conference Center, Washington, DC, USA,2009.

10. Chiara Di Francescomarino, Alessandro Marchetto and Paolo Tonella, Reverse Engineering of Business Processes exposed as Web Applications, In *Proceedings of the European Conference on Software Maintenance and Reengineering (CSMR)*, Kaiserslautern, Germany, 2009.

11. Surafel Lemma Abebe, Sonia Haiduc, Andrian Marcus, Paolo Tonella, Giuliano Antoniol, Analyzing the Evolution of the Source Code Vocabulary, In *Proceedings of the European Conference on Software Maintenance and Reengineering (CSMR)*, Kaiserslautern, Germany, 2009.

12. Alessandro Marchetto, Paolo Tonella, Search-Based Testing of Ajax Web Applications, In *Proceedings of the International Symposium on Search Based Software Engineering (SSBSE),* Windsor (London), UK, 2009. *Best paper award.*

13. Marco Rospocher, Chiara Di Francescomarino, Chiara Ghidini, Luciano Serafini and Paolo Tonella, Collaborative Specification of Semantically Annotated Business Processes, In *Proceedings of the 3rd International Workshop on Collaborative Business Processes (CBP),* Ulm, Germany, September 2009.

14. Mariano Ceccato, Paolo Tonella, Mila Dalla Preda and Anirban Majumdar, Remote software protection by orthogonal client replacement, In *Proceedings of the 24th ACM Symposium on Applied Computing (SAC),* Honolulu, Hawaii, USA, 2009.

15. Chiara Di Francescomarino and Paolo Tonella, Cooperative Aspect Oriented Programming for Executable Business Processes, In *Proceedings of the Int. Workshop on Principles of Engineering Service Oriented Systems,* Vancouver, Canada, 2009.

16. Chiara Di Francescomarino and Paolo Tonella, Supporting Ontology-based Semantic Annotation of Business Processes with Automated Suggestions In *Proceedings of the Int. Conf. on Exploring Modeling Methods for Systems Analysis and Design,* Amsterdam, The Netherlands, 2009.

17. Nadia Alshahwan, Mark Harman, Alessandro Marchetto and Paolo Tonella, Improving Web Application Testing Using Testability Measures In *Proceedings of the Int. Symp. on Web Systems Evolution,* Edmonton, Canada, September 25-26, 2009.

18. Paolo Tonella, Surafel Lemma Abebe, Code Quality from the Programmer's Perspective In *Proceedings of the 12th Int. Workshop on Advanced Computing and Analysis Techniques in Physics Research,* Erice, Italy, March 2009.

Year 2008

1. Alessandro Marchetto, Filippo Ricca and Paolo Tonella, A Case Study-based Comparison of Web Testing Techniques applied to AJAX Web Applications, *International Journal on Software Tools for Technology Transfer (STTT),* vol. 10, no. 6, pp. 477-492, Springer Berlin / Heidelberg 2008.

2. Filippo Ricca, Emanuele Pianta, Paolo Tonella, Christian Girardi. Improving Web site understanding with keyword-based clustering. In *Journal of Software Maintenance and Evolution: Research and Practice,* vol. 20, n. 1, pp. 1-29. January/February 2008.

3. Sapna Ponaraseri, Angelo Susi, Paolo Tonella, Using the Planning Game for Test Case Prioritization, In *Proceedings of the 19th International Symposium on Software Reliability Engineering (ISSRE),* Seattle / Redmond, WA, USA, 2008.

4. Mariano Ceccato, Thomas Roy Dean, Paolo Tonella and Davide Marchignoli, Data Model Reverse Engineering in Migrating a Legacy System to Java, In *Proceedings of the 15th Working Conference on Reverse Engineering, (WCRE),* Antwerp, Belgium, 2008.

5. Chiara Di Francescomarino, Chiara Ghidini, Marco Rospocher, Luciano Serafini and Paolo Tonella, Reasoning on Semantically Annotated Processes, In *Proceedings of the International Conference on Service-Oriented Computing,* pages 132-146, 2008.

6. Mariano Ceccato, Thomas Roy Dean and Paolo Tonella, Using Program Transformations to Add Structure to a Legacy Data Model, In *Proceedings of the Working Conference on Source Code Analysis and Manipulation,* pages 197-206, IEEE Computer Society, 2008.

7. Filippo Ricca, Massimiliano Di Penta, Marco Torchiano, Paolo Tonella, Mariano Ceccato, and Corrado Aron Visaggio. Are Fit tables really talking? A series of experiments to understand whether Fit tables are useful during evolution tasks. In *Proceedings of the 30th International Conference on Software Engineering (ICSE 2008),* pages 361-370. IEEE Computer Society, 10-18 May 2008.

8. Alessandro Marchetto and Paolo Tonella. State-based testing of Ajax web applications. In *Proceedings of the International Conference on Software Testing (ICST),* IEEE Computer Society, April 2008.

9. Cu Nguyen, Anna Perini, Paolo Tonella. Ontology-based Test Generation for Multi Agent Systems. In *Proceedings of the 7th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2008),* pages 1315-1318, 12-16 May 2008.

10. Mariano Ceccato, Jasvir Nagra and Paolo Tonella. Distributing trust verification to increase application performance. In D. E. Baz, J. Bourgeois and F. Spies editors, *Proc. of the 16th Euromicro Conference on Parallel, Distributed and Network-based Processing (PDP 2008),* pages 604-610. IEEE Computer Society, February 2008.

11. Mariano Ceccato, Yoram Ofek and Paolo Tonella. Remote entrusting by run-time software authentication. In V. Geffert, J. Karhumaki, A. Bertoni, B. Preneel, P. Navrat, and M. Bielikova, editors, *Proceedings of the 34th Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2008),* volume 4910 of Lecture Notes in Computer Science, pages 83-97. Springer, 2008.

12. Mariano Ceccato, Paolo Tonella, and Cristina Matteotti. Goto elimination strategies in the migration of legacy code to java. In K. Kontogiannis, C. Tjortjis, and A. Winter, editors, *Proceedings of the 12th European Conference on Software Maintenance and Reengineering (CSMR),* pages 53-62. IEEE Computer Society, April 2008.

13. M. Ceccato, M. Di Penta, J. Nagra, P. Falcarin, F. Ricca, M. Torchiano and P. Tonella, Towards experimental evaluation of code obfuscation techniques, In *Proceedings of the QoP `08: Proceedings of the 4th ACM workshop on Quality of protection,* Alexandria (Virginia), USA, 2008.

14. Chiara Di Francescomarino and Paolo Tonella, Crosscutting Concern Documentation by Visual Query of Business Processes, In *Proceedings of the International Workshop on Business Process Design,* 2008.

15. Francesca Longo, Roberto Tiella, Paolo Tonella and Adolfo Villafiorita, Measuring the Impact of Different Categories of Software Evolution, In *Proceedings of the International Workshop on Software Measurement,* pages 344-351, 2008.

16. Paolo Tonella, Filippo Ricca, Dynamic Model Extraction and Statistical Analysis of Web Applications: Follow-up after 6 years, In *Proceedings of the International Symposium on Web Site Evolution,* pages 3-10, IEEE Computer Society, 2008.

17. Cu D. Nguyen, Anna Perini and Paolo Tonella. Experimental Evaluation of Ontology-based Test Generation for Multi-Agent Systems. In *Proc. of the 9th International Workshop on Agent-Oriented Software Engineering,* at AAMAS, 2008.

18. Cu D. Nguyen, Anna Perini and Paolo Tonella. Constraint-based Evolutionary Testing of Autonomous Distributed Systems. In *Proc. of the International Workshop on Search-Based Software Testing (SBST),* April 9-11, 2008. *Best paper award.*

Year 2007

1. Filippo Ricca, Massimiliano Di Penta, Marco Torchiano, Paolo Tonella, Mariano Ceccato. How Design Notations affect the Comprehension of Web Applications. In *Journal of Software Maintenance and Evolution: Research and Practice,* vol. 19, n. 5, pp. 339-359. September/October 2007.

2. Paolo Tonella, Marco Torchiano, Bart Du Bois, and Tarja Systa. Empirical studies in reverse engineering: state of the art and future trends. In *Empirical Software Engineering,* vol. 12, n. 5, pp 551-571. October 2007.

3. Andy Kellens, Kim Mens, Paolo Tonella. A Survey of Automated Code-Level Aspect Mining Techniques. In *Transactions on Aspect Oriented Software Development,* vol. 4 (LNCS 4640), pp. 145-164. Springer, 2007.

4. Giuliano Antoniol, Yann-Gaël Guéhéneuc, Ettore Merlo and Paolo Tonella. Mining the Lexicon Used by Programmers during Software Evolution. In *Proc. of the International Conference on Software Maintenance (ICSM),* pp. 14-23. October 2007.

5. Mariano Ceccato, Mila Dalla Preda, Jasvir Nagra, Christian Collberg and Paolo Tonella. Barrier Slicing for Remote Software Trusting. In *Proc. of the Working Conference on Source Code Analysis and Manipulation (SCAM),* pp. 27-36. September-October 2007.

6. Filippo Ricca, Massimiliano Di Penta, Marco Torchiano, Paolo Tonella, Mariano Ceccato. The Role of Experience and Ability in Comprehension Tasks Supported by UML Stereotypes. In *Proc. of the International Conference on Software Engineering (ICSE),* pp. 375-384. May 2007.

7. Filippo Ricca, Marco Torchiano, Mariano Ceccato, Paolo Tonella. Talking Tests: an Empirical Assessment of the Role of Fit Acceptance Tests in Clarifying Requirements. In *Proc. of the International Workshop on the Principles of Software Evolution,* September 3-4, 2007.
8. Alessandro Marchetto, Filippo Ricca and Paolo Tonella. Empirical Validation of a Web Fault Taxonomy and its usage for Fault Seeding. In *Proc. of the 9th IEEE International Symposium on Web Site Evolution,* October 5-6, 2007.
9. Filippo Ricca, Marco Torchiano, Massimiliano Di Penta, Mariano Ceccato and Paolo Tonella. Executable Fit tables are useful in maintenance tasks? In *Proceedings of the Third International ERCIM Symposium on Software Evolution (Software Evolution 2007),* October 5, 2007.
10. Alessandro Marchetto, Paolo Tonella and Filippo Ricca. Testing Techniques applied to AJAX Web Applications. *Workshop on Web Quality, Verification and Validation (WQVV)*, at the *International Conference on Web Engineering*, July 2007.
11. Duy Cu Nguyen, Anna Perini, and Paolo Tonella. A Goal-Oriented Software Testing Methodology. *Workshop on Agent Oriented Software Engineering (AOSE)*, at the *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)* , May 2007.
12. Cu D. Nguyen, Anna Perini and Paolo Tonella. Automated Continuous Testing of Multi-Agent Systems. *Fifth European Workshop on Multi-Agent Systems (EUMAS)*, December 2007.

Year 2006
1. David Binkley, Mariano Ceccato, Mark Harman, Filippo Ricca, Paolo Tonella. Tool-Supported Refactoring of Existing Object-Oriented Code into Aspects. In *IEEE Transactions on Software Engineering,* vol. 32, n. 9, pp. 698-717. September 2006.
2. M. Ceccato, M. Marin, K. Mens, L. Moonen, P. Tonella and T. Tourwe'. Applying and Combining three different Aspect Mining Techniques. *Software Quality Journal.* Vol. 14, n.3, pp. 209-231. September 2006.
3. Paolo Tonella, Filippo Ricca, Emanuele Pianta and Christian Girardi. Automatic Support for the Alignment of Multilingual Web Sites. *Journal of Software Maintenance and Evolution.* Vol. 18, n. 3, pp. 153-179. May-June 2006.
4. Filippo Ricca, Paolo Tonella. Detecting Anomaly and Failure in Web Applications. *IEEE MultiMedia.* Vol. 13, n. 2, pp. 44-51. April-June 2006.
5. Christian Girardi, Filippo Ricca, Paolo Tonella, Web crawlers compared. *International Journal of Web Information Systems* Vol. 2, n. 2, pp. 85-94. 2006.
6. Paolo Tonella, Paolo Avesani, Angelo Susi. Using the Case-Based Ranking Methodology for Test Case Prioritization. In *Proc. of the International Conference on Software Maintenance (ICSM),* pp. 123-133. September 2006.
7. Phil McMinn, Mark Harman, David Binkley, Paolo Tonella. The species per path approach to SearchBased test data generation. In *Proc. of the International Symposium on Software Testing and Analysis (ISSTA), pp. 13-24.* July 2006.
8. Filippo Ricca, Massimiliano Di Penta, Marco Torchiano, Paolo Tonella, Mariano Ceccato. An Empirical Study on the Usefulness of Conallen's Stereotypes in Web Appllication Comprehension. In *Proc. of the International Symposium on Web Site Evolution (WSE)*, pp. 58-68. September 2006.
9. Paolo Tonella, Filippo Ricca, Massimiliano Di Penta, Marco Torchiano. Towards Empirical Validation of Design Notations for Web Applications: An Experimental Framework. In *Proc. of Web Maintenance and Reengineering (WMR)*, pp. 41-46. March, 2006.

Year 2005
1. Paolo Tonella and Alessandra Potrich, *Reverse Engineering of Object Oriented Code.* Springer, New York, USA. 2005. ISBN: 0-387-40295-0
2. Paolo Tonella, Mariano Ceccato. Refactoring the Aspectizable Interfaces: an Empirical Assessment. *IEEE Transactions on Software Engineering.* Vol. 31, n. 10, pp. 819-832. October, 2005.
3. Paolo Tonella and Filippo Ricca. Web Application Slicing in Presence of Dynamic Code Generation. *Automated Software Engineering.* Vol 12, n. 2, pp. 259-288. April, 2005.
4. Filippo Ricca and Paolo Tonella. Program Transformations for Web Application Restructuring. In *Web Engineering: Principles and Techniques.* Woojong Suh (eds.). chapter no. XI: pp. 242-260. 2005. Idea Group Publishing, Hershey, London, Melbourne, Singapore. [ISBN: 1-59140-432-0]
5. Paolo Tonella and Filippo Ricca, A Toolkit to Restructure Static Web Sites into Dynamic Web Applications. In *Tools for Software Maintenance and Reengineering.* M. Di Penta and M. Harsu (eds.). pp. 141-158. 2005. FrancoAngeli, Milano, Italy.
6. Marco Torchiano, Filippo Ricca, Paolo Tonella. A comparative study on the re-documentation of existing software: Code annotations vs. drawing editors. In *Proc. of the 4th International Symposium on Empirical Software Engineering (ISESE), pp. 277-286.* November, 2005.
7. Dave Binkley, Mariano Ceccato, Mark Harman, Filippo Ricca, Paolo Tonella. Automated Refactoring of Object Oriented Code into Aspects. In *Proc. of the International Conference on Software Maintenance (ICSM).* Tibor Gyimothy, Vaclav Rajlich (eds.): pp. 27-36. September, 2005. IEEE Computer Society.
8. Filippo Ricca and Paolo Tonella. Anomaly detection in Web applications: a review of already conducted case studies. In *Proc. of the 9th European Conference on Software Maintenance and Reengineering.* Nicolas Gold and Tarja Systa (eds.): pp. 385-394. March, 2005. IEEE Computer Society. Note: Awarded as the best paper of the conference.
9. Filippo Ricca and Paolo Tonella. Web Testing: a Roadmap for the Empirical Research. In *Proc. of the International Symposium on Web Site Evolution (WSE).* Damiano Distante (ed.): pp. 63-70. September,

2005. IEEE Computer Society.

10. M. Ceccato, M. Marin, K. Mens, L. Moonen, P. Tonella, T. Tourwe'. A Qualitative Comparison of Three Aspect Mining Techniques. In *Proc. of the 13th Int. Workshop on Program Comprehension (IWPC)*. James R. Cordy, Harald Gall, Jonathan I. Maletic (eds.): pp. 13-22. May, 2005. IEEE Computer Society.

11. Dave Binkley, Mariano Ceccato, Mark Harman, Paolo Tonella. Automated Pointcut Extraction. In On-line Proceedings of the First Linking Aspect Technology and Evolution Workshop (LATE 2005). March, 2005. Chicago, Illinois.

12. Mariano Ceccato, Paolo Tonella, Filippo Ricca. Is AOP code easier or harder to test than OOP code? In On-line Proceedings of the First Workshop on Testing Aspect-Oriented Programs (WTAOP 2005). March, 2005. Chicago, Illinois.

Year 2004

1. Paolo Tonella and Filippo Ricca, Statistical testing of Web applications, *Journal of Software Maintenance and Evolution* , Vol 16, n. 1-2, pp. 103-127, January - April 2004.

2. Paolo Tonella and Mariano Ceccato, Aspect Mining through the Formal Concept Analysis of Execution Traces , In Proc. of the *11th Working conference on Reverse Engineering,* pp. 112-121. November, 2004. IEEE Computer Society, Delft, The Netherlands.

3. Paolo Tonella and Mariano Ceccato, Migrating Interface Implementations to Aspects , In Proc. of the *20th IEEE Int. Conf. on Software Maintenance.* Mark Harman and Bogdan Korel (eds.). pp. 220-229. September, 2004. IEEE Computer Society, Chicago, Illinois, USA.

4. Paolo Tonella, Evolutionary Testing of Classes , Proc. of the *International Symposium on Software Testing and Analysis (ISSTA)* , pp. 119-128, Boston, MA, USA, July 2004.

5. Filippo Ricca, Paolo Tonella, Emanuele Pianta and Christian Girardi, Experimental Results on the Alignment of Multilingual Web Sites, Proc. of the *8th European Conference on Software Maintenance and Reengineering (CSMR)*, pp. 288-295, Tampere, Finland, March 2004.

6. Mariano Ceccato and Paolo Tonella, Measuring the Effects of Software Aspectization , In Proc. of the 1st Workshop on Aspect Reverse Engineering (CD-ROM). November, 2004. Delft, The Netherlands.

7. Mariano Ceccato and Paolo Tonella, Adding Distribution to Existing Applications by means of Aspect Oriented Programming , In Proc. of the *4th IEEE Int. Workshop on Source Code Analysis and Manipulation.* Rainer Koschke and Michael Van de Vanter (eds.). pp. 107-116. September, 2004. IEEE Computer Society, Chicago, Illinois, USA.

8. Paolo Tonella and Filippo Ricca, A 2-Layer Model for the White-Box Testing of Web Applications , In Proc. of the *6th IEEE Int. Workshop on Web Site Evolution.* Cem Kaner (eds.). pp. 11-19. September, 2004. IEEE Computer Society, Chicago, Illinois, USA.

9. Filippo Ricca, Paolo Tonella, Christian Girardi and Emanuele Pianta, An Empirical Study on Keyword-based Web Site Clustering , Proc. of the *12th International Workshop on Program Comprehension (IWPC)*, pp. 204-213, Bari, Italy, June 2004.

Year 2003

1. Paolo Tonella, Using a Concept Lattice of Decomposition Slices for Program Understanding and Impact Analysis, *IEEE Transactions on Software Engineering.* vol. 29, n. 6, pp. 495-509, June 2003.

2. G. Giraudo and P. Tonella, "Designing and Conducting a Process Improvement Experiment on Test Management Automation", *Empirical Software Engineering.* vol. 8, n. 1, pp. 59-81, March 2003. Kluwer Academic Publishers.

3. Paolo Tonella and Alessandra Potrich, Reverse Engineering of the Interaction Diagrams from C++ Code, Proc. of *ICSM 2003, International Conference on Software Maintenance*, pp. 159-168, Amsterdam, The Netherlands, September 2003.

4. Filippo Ricca and Paolo Tonella, Using Clustering to Support the Migration from Static to Dynamic Web Pages , *11th International Workshop on Program Comprehension* , pp. 207-216, Portland, Oregon, USA, May 2003.

5. P. Tonella, F. Ricca, E. Pianta, C. Girardi, G. Di Lucca, A. R. Fasolino, P. Tramontana, Evaluation Methods for Web Application Clustering, Proc. of *WSE 2003, International Workshop on Web Site Evolution*, Amsterdam, The Netherlands, September 2003.

6. Paolo Tonella, Filippo Ricca, Emanuele Pianta and Christian Girardi, Using Keyword Extraction for Web Site Clustering, Proc. of *WSE 2003, International Workshop on Web Site Evolution*, Amsterdam, The Netherlands, September 2003.

7. B. Caprile, A. Potrich, F. Ricca, and P. Tonella, Model Centered Interoperability for Source Code Analysis, *STEP 2003, Software Technology and Engineering Practice, Workshop on Software Analysis and Maintenance: Practices, Tools, Interoperability (SAM)*, Amsterdam, The Netherlands, September 2003.

Year 2002

1. Filippo Ricca, Paolo Tonella, and Ira D. Baxter, "Web Application Transformations based on Rewrite Rules", *Information and Software Technology*, vol. 44, n. 13, pp. 811-825, October 2002.

2. Filippo Ricca and Paolo Tonella, "Testing Processes of Web Applications", *Annals of Software Engineering*, vol. 14, pp. 93-114, 2002.

3. P. Tonella and A. Potrich, "Cjj: a subset of C++ compliant with Java", *Science of Computer Programming*, Vol 42/2-3, pp. 229-271, January 2002.

4. Filippo Ricca and Paolo Tonella, "Web Application Quality: Supporting Maintenance and Testing", chapter XI (pp. 231-258) of the book *Information Modeling for Internet Applications*, edited by P. van Bommel, published by Idea Group Publishing, Hershey, PA, USA, 2002.

5. P. Tonella and G. Antoniol, "Techniques in Data Compression for Electroencephalograms", chapter XII of the book *Computational Methods in Biophysics, Biomaterials, Biotechnology and Medical Systems* (vol. IV, Diagnostic Methods), edited by Cornelius T. Leondes, published by Kluwer Academic Publishers, Dordrecht, The Netherlands, 2002.

6. Paolo Tonella, Filippo Ricca, Emanuele Pianta and Christian Girardi, "Restructuring Multilingual Web Sites", Proc. of *ICSM 2002, International Conference on Software Maintenance*, pp. 290-299, Montreal, Canada, October 2002.

7. Paolo Tonella and Alessandra Potrich, "Static and Dynamic C++ Code Analysis for the Recovery of the Object Diagram", Proc. of *ICSM 2002, International Conference on Software Maintenance*, pp. 54-63, Montreal, Canada, October 2002.

8. Filippo Ricca and Paolo Tonella, "Construction of the System Dependence Graph for Web Application Slicing", Proc. of *SCAM 2002, International Workshop on Source Code Analysis and Manipulation*, pp. 123-132, Montreal, Canada, October 2002.

9. Paolo Tonella and Filippo Ricca, "Dynamic Model Extraction and Statistical Analysis of Web Applications", Proc. of *WSE 2002, International Workshop on Web Site Evolution*, pp. 43-52, Montreal, Canada, October 2002.

Year 2001

1. P. Tonella and G. Antoniol, "Inference of Object Oriented Design Patterns", *Journal of Software Maintenance and Evolution* , Vol 13, n. 5, pp. 309-330, September-October 2001.

2. F. Calzolari, P. Tonella and G. Antoniol, "Maintenance and Testing Effort Modelled by Linear and Non Linear Dynamic Systems", *Information and Software Technology*, vol. 43, n. 8, pp. 477-486, July 2001.

3. G. Antoniol, Bruno Caprile, A. Potrich and P. Tonella, 'Design-Code Traceability Recovery: Selecting the Basic Linkage Properties', *Science of Computer Programming*, vol. 40, issue 2-3, pp. 213-234, July 2001.

4. Paolo Tonella, 'Concept Analysis for Module Restructuring', *IEEE Transactions on Software Engineering*, vol. 27, n. 4, pp. 351-363, April 2001.

5. F. Ricca and P. Tonella, "Understanding and Restructuring Web Sites with ReWeb", *IEEE MultiMedia*, vol.8, n. 2, pp. 40-51, April-June 2001.

6. Paolo Tonella and Alessandra Potrich, "Reverse Engineering of the UML Class Diagram from C++ Code in Presence of Weakly Typed Containers", Proc. of *ICSM 2001, International Conference on Software Maintenance*, pp. 376-385, Florence, Italy, November 7-9, 2001.

7. Filippo Ricca and Paolo Tonella, "Web Application Slicing", Proc. of *ICSM 2001, International Conference on Software Maintenance*, pp. 148-157, Florence, Italy, November 7-9, 2001.

8. F. Ricca and P. Tonella, "Analysis and Testing of Web Applications", Proc. of *ICSE'2001, International Conference on Software Engineering*, pp. 25-34, Toronto, Canada, May 12-19, 2001.

9. F. Ricca and P. Tonella, "Building a Tool for the Analysis and Testing of Web Applications: Problems and Solutions", Proc. of *TACAS'2001, 7th International Conference on Tools and Algorithms for the Construction and Analysis of Systems*, held as part of the *Joint European Conferences on Theory and Practice of Software, ETAPS'2001.* pp. 373-388, Genova, Italy, April 2001.

10. Filippo Ricca, Paolo Tonella and Ira D. Baxter, "Restructuring Web Applications via Transformation Rules", Proc. of *SCAM 2001, International Workshop on Source Code Analysis and Manipulation*, pp. 150-160, Florence, Italy, November 10, 2001.

11. Paolo Tonella, Filippo Ricca, Emanuele Pianta and Christian Girardi, "Recovering Traceability Links in Multilingual Web Sites", Proc. of *WSE 2001, International Workshop on Web Site Evolution*, pp. 14-21, Florence, Italy, November 10, 2001.

12. P. Tonella, "Geographically Distributed Software Engineering and Maintenance, a Challenge for Code Analysis and Empirical Studies", Proc. of *WESS 2001, 7th Workshop on Empirical Studies of Software Maintenance*, pp. 35-38, Florence, Italy, November 9, 2001.

Year 2000

1. G. Antoniol, B. Caprile, A. Potrich and P. Tonella, 'Design-Code Traceability for Object Oriented Systems'. *Annals of Software Engineering, vol. 9, pp. 35-58, 2000.*

2. P. Tonella, G. Antoniol, R. Fiutem and F. Calzolari, 'Reverse Engineering 4.7 Million Lines of Code'. *Software Practice and Experience, vol. 30, n. 2, pp. 129-150, February 2000.*

3. F. Ricca and P. Tonella, 'Web Site Analysis: Structure and Evolution', Proc. of *ICSM'2000, International Conference on Software Maintenance*, pp. 76-86, San Jose, California, USA, October 11-14, 2000.

4. B. Caprile and P. Tonella, 'Restructuring Program Identifier Names', Proc. of *ICSM'2000, International Conference on Software Maintenance*, pp. 97-107, San Jose, California, USA, October 11-14, 2000.

5. Alessandra Potrich and Paolo Tonella, 'C++ Code Analysis: an Open Architecture for the Verification of Coding Rules', *Proc. of CHEP'2000, International Conference on Computing in High Energy and Nuclear Physics, pp. 758-761, Padova, Italy, February 7-11, 2000.*

6. B. Caprile, G. Giraudo and P. Tonella 'Process Improvement Experiments in Perspective', *WESS'2000, International Workshop on Empirical Studies of Software Maintenance*, San Jose, California, USA, October 14, 2000.

7. Filippo Ricca and Paolo Tonella, 'Visualization of Web Site History', *Proc. of WSE'2000, International Workshop on Web Site Evolution, pp. 30-33, Zurich, Switzerland, March 1, 2000.*

8. G. La Commare, G. Giraudo, P. Tonella, 'Test Management Automation: Lessons Learned from a Process Improvement Experiment', *Proc. of EWSPT'2000, European Workshop on Software Process Technology, pp. 156-160, Kaprun, Austria, February 21-25, 2000.*

Year 1999

1. R. Fiutem, G. Antoniol, P. Tonella and E. Merlo, 'ART: An Architectural Reverse Engineering Environment'. *Journal of Software Maintenance, vol. 11, n. 5, pp.339-364, September-October 1999.*
2. P. Tonella, G. Antoniol, R. Fiutem and E. Merlo, 'Variable Precision Reaching Definitions Analysis'. *Journal of Software Maintenance, vol. 11, n. 2, pp.117-142, March-April 1999.*
3. R. Fiutem, P. Tonella, G. Antoniol, E. Merlo, 'Points-to Analysis for Program Understanding'. *Journal of Systems and Software, vol. 44, n. 3, pp. 213-227, January 1999.*
4. B. Caprile and P. Tonella, 'Nomen Est Omen: Analyzing the Language of Function Identifiers', *Proc. of WCRE'99, Working Conference on Reverse Engineering, pp. 112-122, Atlanta, Georgia, USA, October 6-8, 1999.*
5. P. Tonella and G. Antoniol, 'Object Oriented Design Pattern Inference', *Proc. of ICSM'99, International Conference on Software Maintenance, pp. 230-238, Oxford, England, 30 August-3 September, 1999.*
6. S. Lapierre, E. Merlo, G. Savard, G. Antoniol, R. Fiutem and P. Tonella, 'Automatic Unit Test Data Generation Using Mixed-Integer Linear Programming and Execution Trees', *Proc. of ICSM'99, International Conference on Software Maintenance, pp. 189-198, Oxford, England, 30 August-3 September, 1999.*
7. G. Antoniol, G. La Commare, G. Giraudo, P. Tonella, 'Effective Feature Analysis for Tool Selection'. *Proc. of Profes'99, International Conference on Product Focused Software Process Improvement, pp. 103-117, Oulu, Finland, June 22-24, 1999.*
8. Paolo Tonella, 'Effects of Different Flow Insensitive Points-to Analyses on DEF/USE Sets'. *Proc. of the 3rd European Conference on Software Maintenance and Reengineering (CSMR), pp. 62-69, Amsterdam, The Netherlands, March 3-5, 1999.*
9. G. Antoniol, F. Calzolari and P. Tonella, 'Impact of Function Pointers on the Call Graph'. *Proc. of the 3rd European Conference on Software Maintenance and Reengineering (CSMR), pp. 51-59, Amsterdam, The Netherlands, March 3-5, 1999.*
10. G. Antoniol, A. Potrich, P. Tonella and R. Fiutem, 'Evolving Object Oriented Design to Improve Code Traceability'. *Proc. of the International Workshop on Program Comprehension (IWPC), pp. 151-160, Pittsburgh, PA, USA, May 5-7, 1999.* Awarded as the best paper of the conference.

Year 1998
1. Paolo Tonella, 'Using the O-A Diagram to Encapsulate Dynamic Memory Access'. *Proc. of the International Conference on Software Maintenance (ICSM), pp. 326-335, Bethesda, Maryland, USA, November 16-20, 1998.*
2. F. Calzolari, P. Tonella and G. Antoniol, 'Dynamic Model for Maintenance and Testing Effort'. *Proc. of the International Conference on Software Maintenance (ICSM), pp. 104-112, Bethesda, Maryland, USA, November 16-20, 1998.*
3. F. Calzolari and P. Tonella, 'Modeling client/server interactions by means of dynamic systems'. *Proc. of the 24th Euromicro Conference, pp. 499-505, Vasteras, Sweden, August 25-27, 1998.*
4. F. Calzolari, P. Tonella and G. Antoniol, 'Modeling Maintenance Effort by means of Dynamic Systems'. *Proc. of the 2nd Euromicro Conference on Software Maintenance and Reengineering (CSMR), pp. 150-156, Florence, Italy, March 8-11, 1998.*
5. G. Antoniol, F. Calzolari, R. Fiutem, P. Tonella, 'Living with 4.7 Million Lines of Code'. *Proc. of the Fourth Workshop on Empirical Studies of Software Maintenance (WESS), Bethesda, Maryland, USA, November 16, 1998.*
6. P. Tonella, R. Fiutem, G. Antoniol, F. Calzolari, 'Reverse Engineering Information Flows based on Shared Files'. *Proc. of the 6th Reengineering Forum, Florence, Italy, March 8-11, 1998.*
7. J. F. Girard, R. Koschke, R. Fiutem, G. Antoniol, P. Tonella, F. Calzolari, 'Applying File-Based Information Flow and ASE Elicitation to a Legacy System'. *Proc. of the 6th Reengineering Forum, Florence, Italy, March 8-11, 1998.*
8. Paolo Tonella, 'Code Analysis in Support to Software Maintenance'. *PhD Thesis, University of Padua, December 1998.*

Year 1997
1. G. Antoniol, P. Tonella, 'EEG Data Compression Techniques', *IEEE Transactions On Biomedical Engineering*, pp. 105-114, vol. 44, n. 2, February, 1997.
2. G. Antoniol, R. Fiutem, G. Lutteri, P. Tonella and S. Zanfei, 'Program Understanding and Maintenance with the CANTO Environment'. *IRST Technical Report 9703-02. Also in Proc. of the International Conference on Software Maintenance (ICSM), pp. 72-81, Bari, Italy, October 1-3, 1997.*
3. P. Tonella, G. Antoniol, R. Fiutem and E. Merlo, 'Flow Insensitive C++ Pointers and Polymorphism Analysis and its Application to Slicing'. *Proc. of the International Conference on Software Engineering (ICSE), pp. 433-443, Boston, Massachussets, USA, May 17-23, 1997.*
4. P. Tonella, G. Antoniol, R. Fiutem and E. Merlo, 'Variable Precision Reaching Definitions Analysis for Software Maintenance'. *Proc. of the Euromicro Working Conf. on Soft. Maintenance and Reengineering*, pp. 60-67, Berlin, Germany, March 17-19, 1997.
5. P. Tonella, G. Antoniol, R. Fiutem and E. Merlo, 'Points-to Analysis for Program Understanding'. *Proc. of the International Workshop on Program Comprehension*, pp. 90-99, Dearborn, Michigan, USA, May 28-30, 1997.

Year 1996
1. L. Rozza, P. Tonella, C. Bertamini, D. Orrico, G. Antoniol, L. Castellaro, 'Telephone Transmission of 20-Channel Digital Electroencephalogram Using Lossless Data Compression', *Telemedicine Journal*, pp. 267-271, vol. 2, n. 4, 1996.
2. R. Fiutem, P. Tonella, G. Antoniol and E. Merlo, 'Augmenting Pattern-Based Architectural Recovery with Flow

Analysis: Mosaic - a Case Study'. *Proceedings of the IEEE Third Working Conference on Reverse Engineering,* , pp. 198-207, Monterey, California, USA, November 8-10, 1996.

3. R. Fiutem, P. Tonella, G. Antoniol and E. Merlo, 'A Cliche'-Based Environment to Support Architectural Reverse Engineering'. *Proceedings of the IEEE International Conference on Software Maintenance*, pp. 319-328, Monterey, California, USA, November 4-8, 1996. Also in *Proceedings of the IEEE Third Working Conference on Reverse Engineering,* , pp. 277-286, Monterey, California, USA, November 8-10, 1996.

4. R. Fiutem, E. Merlo, G. Antoniol and P. Tonella, 'Understanding the Architecture of Software Systems', *Proc. of the 4th Workshop on Program Comprehension*, pp. 187-196, Berlin, March 29-31, 1996. Publisher: IEEE Computer Society Press.

Year 1995

1. G. Antoniol, R. Fiutem, E. Merlo and P. Tonella, 'Application and User Interface Migration From Basic to Visual C++', *Proc. of the International Conference on Software Maintenance*, pp. 76-85, Nice, Oct. 1995. Publisher: IEEE Computer Society Press.

2. R. Battiti, G. Tecchiolli, P. Tonella, 'Vector Quantization with the Reactive Tabu Search', *Proc. Metaheuristics Int. Conf.*, Breckenridge (Colorado), July 1995. Also in I.H. Osman, J.P. Kelly, 'Meta-Heuristics. Theory and Applications', Kluwer Academic Publishers, pp. 331-342, 1996.

3. R. Battiti, A. Sartori, G. Tecchiolli, P. Tonella, A. Zorat, 'Neural Compression: an Integrated Application to EEG Signals', *Proc. Int. Workshop on Applications of Neural Networks to Telecommunications*, pp. 210-219, Stockholm, 1995.

Year 1993

1. G. De Poli, P. Tonella, 'Self-organizing neural networks and Grey's timbre space', *Proc. Int. Computer Music Conf.*, pp. 260-263, Tokyo, 1993.

2. G. De Poli, P. Prandoni, P. Tonella, 'Timbre clusterization and self-organizing neural networks', *Proc. Colloquium on Musical Informatics*, pp. 102-108, Milan, 1993