CURRICULUM VITAE OF FRANCESCO TIEZZI

Personal information

Surname and first name	**Tiezzi Francesco**
Telephone	+39 0737 402593
Email	francesco.tiezzi@unicam.it
Nationality	Italian
Date of birth	08 October 1978
Current position	Associate Professor
Business address	University of Camerino
	School of Science and Technology, Computer Science Division
	Via del Bastione, 1 – 62032, Camerino (MC), Italy

Education, training and research activity

• Associate Professor

From November 2014 - Associate Professor position at School of Science and Technology, Computer Science Division, University of Camerino.
The research activity focusses on Software Engineering, Distributed Systems and Formal Methods.

• Assistant Professor

March 2011 / October 2014 - Assistant Professor position at IMT Institute for Advanced Studies Lucca, SysMA research unit (http://sysma.lab.imtlucca.it/).
The research activity focussed on the development of formal foundations, software engineering methodologies and tools for specifying, analysing and programming complex, concurrent, distributed, software-intensive systems. This activity also falls within the international research projects ASCENS and QUANTICOL, which aim at dealing with systems whose distinctive aspect is their capability of self-adapting to modifications of their execution environment and requirements.

• PostDoc

March 2010 / February 2011 - PostDoc position at Dipartimento di Sistemi e Informatica, Università degli Studi di Firenze, funded by the EU research project ASCENS.
The research activity focussed on the study of techniques supporting the development of software applications capable of adapting their behaviour to changing environmental conditions and requirements.

• Collaboration

January 2010 / February 2010 - Collaboration with Dipartimento di Sistemi e Informatica, Università degli Studi di Firenze, funded by the EU research project SENSORIA.
This collaboration aimed at developing a software tool, based on formal methods, for analysing UML specification of service-oriented systems.

• PostDoc

January 2009 / December 2009 - PostDoc position at Dipartimento di Sistemi e Informatica, Università degli Studi di Firenze, funded by the EU project SENSORIA.
The research activity focussed on the development of analysis techniques for service-oriented calculi defined within SENSORIA.

• PhD

January 2006 / December 2008 - PhD in Computer Science at Dipartimento di Sistemi e Informatica, Università degli Studi di Firenze.
The research activity focussed on the definition of formal foundations for technologies supporting Web Services and Service-Oriented Computing. Such activities also fall within the international research project SENSORIA. During the PhD, part of the research activity (from February to April 2008) has been carried out at the Department

of Computing, Imperial College of London, in collaboration with Nobuko Yoshida.
Title of the thesis: Specification and Analysis of Service-Oriented Applications
Supervisor: Prof. Rosario Pugliese
Referees: Prof. Mariangiola Dezani and Dr. Kohei Honda
Date of defence: April 30, 2009

• PhD schools

6-10 September 2010 - SEFM School 2010, Advanced applications of model-checking techniques, Pisa, Italy.

8-21 July 2007 - Summer School in Advances in Software Engineering, Lipari, Italy.

21-25 August 2006 - International Summer School GLOBAN 2006, The Global Computing Approach to Analysis of Systems, Lyngby, Denmark.

• Postdegree collaboration

April 2005 / December 2005 - Postdegree collaboration with the Dipartimento di Sistemi e Informatica, Università degli Studi di Firenze.
This collaboration aimed at studying some technologies for Web services orchestration and defining corresponding formal languages.

• Degree

January 2005 - Laurea (single-cycle, 5 years) in Computer Science, summa cum laude, at Università degli Studi di Firenze.
Title of the thesis: Assiomatizzazione di equivalenze comportamentali per calcoli basati su KLAIM (in Italian only)
Supervisor: Prof. Rosario Pugliese

Academic Qualification

2014 - Italian National Academic Qualification (Abilitazione Scientifica Nazionale) as Associate Professor in Computer Science (Informatica - 01/B1)

Institutional Assignments

From October 2015 - Computer Science Division's Delegate for International Mobility

From November 2014 - Computer Science Division's Delegate for Research Activity

Research activity

RESEARCH INTERESTS

Tiezzi's research activity focusses on the foundational study of distributed, concurrent and reactive systems, and on the application of formal methods for developing and analysing such systems. Special attention is paid to the definition of rigorous formal bases for Service-Oriented Computing (SOC) and Autonomic Computing (AC). Some outcomes of this research activity are:

– the definition of formal languages for the specification of SOC applications [C1, C2, C3, EJ1, EJ4, C7, J6, T1] and the development of corresponding analysis techniques [C4, C5, B1, C8, EJ8, J4, J8], also supported by software tools [J3, J8, B2]; in this regard, the process calculus COWS [C2, J6] (Calculus for Orchestration of Web Services) plays a central role, since it has led to collaborations with other research groups and has been used by other researchers in their own works;

– the development of languages and models for programming SOC applications [C6] and corresponding software tools supporting their implementation [C10, J2]; in this regard, B*lite* [C6], an orchestration language inspired by WS-BPEL, has been define;

- the development of a formal approach for programming AC systems [J11]; in this regard, the kernel language SCEL [J11] (http://rap.dsi.unifi.it/scel) and the related Java-based runtime environment jRESP (http://jresp.sourceforge.net/) have been defined.

Tiezzi's research activity currently focusses on:

- formalisation, analysis and implementation of access control mechanisms [C15, C16, C18, C21, C23, C32, C30, EJ11, B4];

- languages and mechanisms for specifying and programming self-adaptive applications [C14, C17, J9, C22, C24, C23, J11, C28, C29, C30, B3, B4, B5, B6, C34, C39, J16].

- languages and types for reversible computing [EJ9, J12, C35, J14, C40, J15];

- formal approach to business process modelling [C37];

- formalisation and analysis of mobile cloud systems [C25, C36, C38, J13];

- SLA and decision support for cloud systems [C31, C39, J16];

- analysis of security properties of communication protocols for exchanging electronic health records [C9, C11, C13, J7, C18];

- specification and analysis of trust and reputation systems [C19, C20, C26, C27];

- languages and models for specifying and programming SOC applications [T1, C12, J5, C26];

- specification and verification of properties of SOC applications [T1];

- study of the relative expressiveness of process calculi [EJ5];

RESEARCH PROJECTS

SENSORIA (Software Engineering for Service-Oriented Overlay Computers) funded by the European Union (2005-2009);

DISCO (Distribution, Interaction, Specification, Composition for Object Systems) funded by the Ministry of Education and Research (2009-2011);

ASCENS (Autonomic service-component ensemble, http://www.ascens-ist.eu) funded by the European Union (2010-2014);

CINA (Compositionality, Interaction, Negotiation, Autonomicity for the future ICT society) funded by the Ministry of Education and Research (2013-2016);

QUANTICOL (A Quantitative Approach to Management and Design of Collective and Adaptive Behaviours) funded by the European Union (2013-2017).

SEMINARS AND TALKS

Tiezzi has given a few number of seminars at Dipartimento di Sistemi e Informatica, Università degli Studi di Firenze, and at IMT Institute for Advanced Studies Lucca. He has also given a seminar titled "COWS: a Calculus for Orchestration of Web Services" at the Department of Computer Science, Queen Mary, University of London, and a seminar titled "Causal-Consistent Reversibility in a Tuple-Based Distributed Language" at the Department of Computing, Imperial College London.

Tiezzi has presented his works at the following international conferences and workshops: ICTAC 2007, FSEN 2007, WWV 2007, FASE 2008, COORDINATION 2008, PLACES 2008, ICALP 2009, SAC 2010, EXPRESS 2010, Healthcom 2011, TGC 2011, ESSoS 2012, SAC 2012, ICFEM 2012, PDP 2014, PLACES 2014.

He has given talks at several project meetings, including the talk titled "Using formal methods without knowing them" at the final review of the project SENSORIA.

Tiezzi is member of the Steering Committee of the "International Workshop on Automated Specification and Verification of Web Systems (WWV)".

Tiezzi has served, and serves, as Program Chair of:

– WWV 2011 [EJ6], which has been held on June 9 in Reykjavik (Iceland), as part of the joint event "6th International Federated Conferences on Distributed Computing Techniques (DisCoTec 2011)";

– WWV 2012 [EJ7], which has been held on June 16 in Stockholm (Sweden), affiliated to DisCoTec 2012;

– "4th International Workshop on Modeling and Simulation of Peer-to-Peer and Autonomic Systems (MOSPAS 2014)", which has been held on July 2014 in Bologna (Italy) as part of the "International Conference on High Performance Computing & Simulation (HPCS 2014)";

– "16th Special Track on Coordination Models, Languages and Applications" of the "30th ACM Symposium on Applied Computing (SAC'15)", which has been held on April 2015 in Salamanca (Spain);

– "17th Special Track on Coordination Models, Languages and Applications" of the "31st ACM Symposium on Applied Computing (SAC'16)", which has been held on April 2016 in Pisa (Italy);

– "1st Special Track on Collective Adaptive Systems" of the "32nd ACM Symposium on Applied Computing (SAC'17)", which will be held on March 2017 in Marrakech (Morocco).

Tiezzi has been Publicity Chair of the events "8th International Federated Conferences on Distributed Computing Techniques (DisCoTec 2013, http://www.discotec.org/)" and "15th International Conference on Coordination Models and Languages (COORDINATION 2013, http://coordination.discotec.org/)", which have been held on June 2013 in Florence (Italy).

Tiezzi is member of the Program Committees of the following international conferences and workshops: HEALTHINF 2011, INFOCOMP 2011, WWV 2011, HEALTHINF 2012, INFOCOMP 2012, WWV 2012, ICE 2012, FOCLASA 2012, SAC SOAP 2013, HEALTHINF 2013, MOSPAS 2013, WWV 2013, FOCLASA 2013, INFOCOMP 2013, HEALTHINF 2014, INFOCOMP 2014, SAC SOAP 2014, MOSPAS 2014, WWV 2014, GLOBAL HEALTH 2014, FOCLASA 2014, FoCAS@SASO 2014, SAC CM 2015, HEALTHINF 2015, ICTCS 2015, HPCS 2015, FoCAS@SASO 2015, HEALTHINF 2016, SAC CM 2016, SAC SOAP 2016, MOBIMEDIA 2016, PLACES 2016, SEFM 2016.

Tiezzi has been reviewer for international conferences, including ACSD, CONCUR, COORDINATION, ECOWS, ESOP, FM, FACS, FASE, FMICS, FORTE, HEALTHINF, ICALP, ICFEM, ICSOFT, ICTAC, iFM, SAC, SASO, SEFM, TGC, WS-FM, WWV. He has been reviewer for international journals, including Computer Languages, Systems and Structures; Journal of Internet Services and Applications; Multiagent and Grid Systems; Science of Computer Programming; Service Oriented Computing and Applications; Software and Systems Modeling; The Computer Journal; Transactions on Petri Nets and Other Models of Concurrency.

Guest Editor of the special issue of the Journal of Logic and Algebraic Programming (JLAP, Elsevier) titled Automated Specification and Verification of Web Systems [J10].

SOFTWARE

Tiezzi's research activities has led to the development of the following software tools:

Venus (A Verification ENvironment for UML models of Services, http://rap.dsi.unifi.it/cows): Venus is a software tool that aims at automatising, as much as possible, the verification process of service models specified as UML models, actually hiding to the (non-expert) users the underlying formal methods and theories. This way, developers can concentrate on modelling the high-level behaviour of the system and use Venus at an intuitive level for analysing it. Venus takes as an input service models specified by UML 2.0 activity diagrams according to the profile UML4SOA, while its theoretical bases are the process calculus COWS and the temporal logic SocL. Venus is composed of three main components: a graphical user interface, an automatic translator from UML4SOA into COWS, and the model checker CMC.

CMC (COWS Model Checker, http://fmt.isti.cnr.it/cmc): CMC is a tool supporting specification and verification of COWS terms. In particular, CMC permits deriving all computations originating from a COWS term in an automated way and supports model checking of SocL formulae. CMC has been developed in collaborations with ISTI-CNR of Pisa. A prototypical version of the tool, implemented by Dr. Franco Mazzanti, can be experimented via a web interface or by locally executing a binary distribution (available for Linux, Solaris, Windows or Mac OS X platforms).

Korc (Klaim-orc, http://cse.lab.imtlucca.it/korc): Korc is a formalism aiming at reconciling the orchestration paradigm of Orc with the tuple-based coordination one of Klaim. Intuitively, a Korc program consists of an Orc expression and a collection of Klaim nets. Expressions are enriched with primitives for acting on the tuple spaces within the Klaim nets, the latter are named and can be referred within the expressions. A proof-of-concept implementation supporting Korc programming have been developed by exploiting the compile- and run-time support tools for Klaim and Orc.

B*lite*C (B*lite* Compiler, http://rap.dsi.unifi.it/blite): B*lite*C is a software tool designed for supporting a rapid and easy development of WS-BPEL applications. B*lite*C accepts as an input a specification written in B*lite* and returns the corresponding WS-BPEL program together with the associated WSDL and deployment descriptor files. The returned files are properly packaged to be immediately executed in a WS-BPEL engine.

NEVER (Network-aware Evaluation Environment for Reputation Systems, http://sysma.lab.imtlucca.it/tools/never): NEVER is a software tool that permits describing, implementing and evaluating reputation systems while taking into account specific aspects of both the reputation systems and the networked environment where they will run. Network-aware evaluation of reputation systems and their rapid prototyping is carried out through experiments performed according to user-specified parameters. Currently, NEVER supports reputation models based on the beta distribution and the maximum likelihood estimation, and some of their variants.

FACPL (Formal Access Control Policy Language, http://rap.dsi.unifi.it/facpl): FACPL is a formal language for expressing access control policies. It is based on the OASIS standard XACML but has solid mathematical foundations. Its simple and clear syntax and semantics makes FACPL easy to learn and use. FACPL is equipped with a dedicated powerful IDE, implemented as an Eclipse plug-in, supporting users in the process of developing policies by means of such features as code auto-completion, syntax checks, generation of XACML code and of Java code. The latter feature relies on a sort of compiler that transforms FACPL policies into Java classes following the rules of the FACPL's formal semantics. Policy decisions are then computed by executing the generated policy code with the access request code passed as parameter.

Teaching activities

LECTURES

March/April 2016 - Course *Programmazione Web* (Università di Camerino, Laurea in Informatica, 21 hours).

October/December 2015 - Course *Project* (Università di Camerino, Laurea in Informatica, 21 hours).

Last update: May 27, 2016

October/December 2015 - Course *Formal Modelling of Software Intensive Systems* (Università di Camerino, Master degree in Computer Science, 42 hours).

October/December 2015 - Course *Programmazione - Teoria* (Università di Camerino, Laurea in Informatica, 42 hours).

October/December 2015 - Course *Programmazione - Teoria* (Università di Camerino, Laurea in Informatica, 42 hours).

February/May 2015 - Lab lectures within the course *Distributed Calculus and Coordination* (Università di Camerino, Master degree in Computer Science, 21 hours).

October 2014 - Course *Software Engineering for Service-Oriented and Autonomic Systems* (IMT Institute for Advanced Studies Lucca, 10 hours).

February/June 2014 - Course *Informatica* (Università Europea di Roma, Laurea in Economia e Gestione Aziendale, 48 hours).

November 2013 - Course *Formal Methods in Computer Science* (GSSI Gran Sasso Science Institute, L'Aquila, 10 hours).

September 2013 - Course *Software Engineering and Service-Oriented Systems* (IMT Institute for Advanced Studies Lucca, 10 hours).

February/June 2013 - Course *Informatica* (Università Europea di Roma, Laurea in Economia e Gestione Aziendale, 48 hours).

April 2013 - Course *Formal Methods in Computer Science* (IMT Institute for Advanced Studies Lucca, 10 hours).

September/October 2012 - Course *Software Engineering and Service-Oriented Systems* (IMT Institute for Advanced Studies Lucca, 10 hours).

September/December 2011 - Computer lab lectures within the course *Sistemi Distribuiti e Reti di Calcolatori* (Università degli Studi di Firenze, Laurea Magistrale in Informatica, 24 hours).

September/December 2010 - Computer lab lectures within the course *Sistemi Distribuiti e Reti di Calcolatori* (Università degli Studi di Firenze, Laurea Magistrale in Informatica, 24 hours).

October 2009 / February 2010 - Computer lab lectures within the course *Sistemi Distribuiti e Reti di Calcolatori* (Università degli Studi di Firenze, Laurea Magistrale in Informatica, 24 hours).

PHD SCHOOLS

June 2013 - Member of the Program Committee of the PhD Forum (AWASS Summer School 2013, IMT Lucca, Italy).

September 2010 - Lecture "Applications in orchestration of web services - Specifying and analisying SOC applications with COWS" (SEFM School 2010, CNR Pisa, Italy).

TRAINING COURSES

April/June 2012 - Training course *World Wide Web e guida a Office 2007* at MAROIL S.r.l. (38 hours).

April/May 2010 - CSIAF (Centro Servizi Informatici dell'Ateneo Fiorentino) training course *JSP: Tecnologia Java per lo sviluppo di applicazioni web* (32 hours).

October/December 2006 - CSIAF (Centro Servizi Informatici dell'Ateneo Fiorentino) training course on technologies used in the PEOPLE (60 hours).

THESIS TUTORSHIP

Tiezzi has been co-supervisor of many graduates at the Università degli Studi di Firenze (Supervisors Prof. Rosario Pugliese and Prof. Rocco De Nicola). He has been also co-supervisor of the PhD thesis of Massimiliano Masi (Dipartimento di Sistemi e Informatica, Università degli Studi di Firenze, XXIII Cycle, SSD INF/01, Supervisor Prof. Rosario Pugliese) and of the PhD thesis of Alessandro Celestini, Rafael Brundo Uriarte, Andrea Morichetta, and Andrea Morichetta (IMT Lucca, XXV/XXVII/XXVIII Cycles, SSD INF/01, Supervisor Prof. Rocco De Nicola). Tiezzi is currently supervising at University of Camerino many graduates and a PhD student, namely Chiara Muzi.

Personal skills and competences

LANGUAGE KNOWLEDGE

Italian native speaker. Excellent knowledge of spoken and written English certified by English for Speakers of Other Languages of University of Cambridge (FCE level). School knowledge of French.

SOCIAL SKILLS AND COMPETENCES

The three years of PhD, the research activity at the Dipartimento di Sistemi e Informatica in Florence and in the SysMA group at IMT Advanced Studies Lucca, the attendance at many international workshops and conferences, and the long experience in national and international projects, allowed me to acquire social skills and competences suitable for various kinds of collaboration circumstances.

TECHNICAL SKILLS AND COMPETENCES

Good knowledge of: Java and related technologies (Servlet, JSP, ...); Web Services and related technologies (HTML, XML, XSD, DTD, SOAP, WSDL, WS-BPEL, ...); (programming) languages C, C++, SQL, PHP, Pascal, Matlab; operative systems Windows, Linux and Mac OS X; Microsoft Office and OpenOffice.

Peer-reviewed publications

INTERNATIONAL JOURNALS

[J16] Supporting Autonomic Management of Clouds: Service Clustering with Random Forest. R. Brundo Uriarte, S. Tsaftaris, F. Tiezzi. *Transactions on Network and Service Management*, IEEE, 2016. To appear.

[J15] Causal-Consistent Rollback in a Tuple-Based Language. E. Giachino, I. Lanese, C.A. Mezzina, F. Tiezzi. *Journal of Logic and Algebraic Methods in Programming*, Elsevier, 2016. To appear.

[J14] Reversible session-based pi-calculus. F. Tiezzi, N. Yoshida. *Journal of Logic and Algebraic Methods in Programming*, volume 84, number 5, pages 684-707. Elsevier, 2015. (doi: 10.1016/j.jlamp.2015.03.004)

[J13] A formalized framework for mobile cloud computing. M. Amoretti, A. Grazioli, V. Senni, F. Tiezzi, F. Zanichelli. *Service Oriented Computing and Applications*, volume 9, number 3-4, pages 229-248. Springer, 2015. (doi: 10.1007/s11761-014-0169-3)

[J12] Causal-Consistent Reversibility. I. Lanese, C.A. Mezzina, F. Tiezzi. *Bulletin of the EATCS*, volume 114, 2014.

[J11] A formal approach to autonomic systems programming: The SCEL Language. R. De Nicola, M. Loreti, R. Pugliese, F. Tiezzi. *Transactions on Autonomous and Adaptive Systems*, volume 9, number 2, pages 7:1-7:29. ACM Press, 2014. (doi: 10.1145/2619998)

[J10] Special issue on Automated Specification and Verification of Web Systems. L. Kovács, R. Pugliese, J. Silva, F. Tiezzi. *Journal of Logic and Algebraic Programming*, volume 82, number 8, pages 242-242. Elsevier, 2013. (doi: 10.1016/j.jlap.2013.05.007)

[J9] Modeling Adaptation with Klaim. E. Gjondrekaj, M. Loreti, R. Pugliese, F. Tiezzi. *SIGAPP Applied Computing Review*, volume 12, number 4, pages 21-35. ACM Press, 2012. (doi: 10.1145/2432546.2432548)

[J8] A Logical Verification Methodology for Service-Oriented Computing. A. Fantechi, S. Gnesi, A. Lapadula, F. Mazzanti, R. Pugliese, F. Tiezzi. *ACM Transactions on Software Engineering and Methodology*, volume 21, number 3, pages 16:01-16:46. ACM Press, 2012. (doi: 10.1145/2211616.2211619)

[J7] Security Analysis of Standards-Driven Communication Protocols for Healthcare Scenarios. M. Masi, R. Pugliese, F. Tiezzi, *Journal of Medical Systems*, volume 36, number 6, pages 3695-3711. Springer, 2012. (doi: 10.1007/s10916-012-9843-1)

[J6] A Calculus for Orchestration of Web Services. R. Pugliese, F. Tiezzi. *Journal of Applied Logic*, volume 10, number 1, pages 2-31. Elsevier, 2012. (doi: 10.1016/j.jal.2011.11.002)

[J5] Using formal methods to develop WS-BPEL applications. A. Lapadula, R. Pugliese, F. Tiezzi. *Science of Computer Programming*, volume 77, number 3, pages 189-213. Elsevier, 2012. (doi: 10.1016/j.scico.2011.03.002)

[J4] A WSDL-based type system for asynchronous WS-BPEL processes. L. Lapadula, R. Pugliese, F. Tiezzi. *Formal Methods in System Design*, volume 38, number 2, pages 119-157. Springer, 2011. (doi: 10.1007/s10703-010-0110-0)

[J3] An Accessible Verification Environment for UML Models of Services. F. Banti, R. Pugliese, F. Tiezzi. *Journal of Symbolic Computation* volume 46, number 2, pages 119-149. Elsevier, 2011. (doi: 10.1016/j.jsc.2010.08.005)

[J2] A tool for rapid development of WS-BPEL applications. L. Cesari, R. Pugliese, F. Tiezzi. *SIGAPP Applied Computing Review*, volume 11, number 1, pages 27-40. ACM Press, 2010. (doi: 10.1145/1869687.1869690)

[J1] TAPAs: a Tool for the Analysis of Process Algebras. F. Calzolai, R. De Nicola, M. Loreti, F. Tiezzi. *Transactions on Petri Nets and Other Models of Concurrency*, volume 1, LNCS 5100, pages 54-70. Springer, 2008. (doi: 10.1007/978-3-540-89287-8_4)

INTERNATIONAL ELECTRONIC JOURNALS

[EJ11] On Properties of Policy-Based Specifications. A. Margheri, R. Pugliese, F. Tiezzi. In *Proc. of 11th International Workshop on Automated Specification and Verification of Web Systems* (WWV 2015), volume 188 of EPTCS, pages 33-50. 2015. (doi: 10.4204/EPTCS.188.5)

[EJ10] Domain-specific queries and Web search personalization: some investigations. V.T. Hoang, A. Spognardi, F. Tiezzi, M. Petrocchi, R. De Nicola. In *Proc. of 11th International Workshop on Automated Specification and Verification of Web Systems* (WWV 2015), volume 188 of EPTCS, pages 51-58. 2015. (doi: 10.4204/EPTCS.188.6)

[EJ9] Towards Reversible Sessions. F. Tiezzi, N. Yoshida. In *Proc. of 7th Workshop on Programming Language Approaches to Concurrency and Communication-cEntric Software* (PLACES 2014), volume 155 of EPTCS, pages 17-24. 2014. (doi: 10.4204/EPTCS.155.3)

[EJ8] Blind-date Conversation Joining. L. Cesari, R. Pugliese, F. Tiezzi. In *Proc. of 9th International Workshop on Automated Specification and Verification of Web Systems* (WWV 2013), volume 123 of EPTCS, pages 3-18. 2013. (doi: 10.4204/EPTCS.123.3)

[EJ7] Proc. of 8th International Workshop on Automated Specification and Verification of Web Systems (WWV 2012). J. Silva, F. Tiezzi. Volume 98 of EPTCS, 2012. (doi: 10.4204/EPTCS.98)

[EJ6] Proc. of 7th International Workshop on Automated Specification and Verification of Web Systems (WWV 2011). L. Kovács, R. Pugliese, F. Tiezzi. Volume 61 of EPTCS, 2011. (doi: 10.4204/EPTCS.61)

[EJ5] A criterion for separating process calculi. F. Banti, R. Pugliese, F. Tiezzi. In *Proc. of 17th International Workshop on Expressiveness in Concurrency* (EXPRESS 2010), volume 41 of EPTCS, pages 16-30, 2010. (doi: 10.4204/EPTCS.41.2)

[EJ4] A Symbolic Semantics for a Calculus for Service-Oriented Computing. R. Pugliese, F. Tiezzi, N. Yoshida. In *Proc. of 1st Programming Language Approaches to Concurrency and Communication-cEntric Software* (PLACES'08), volume 241 of ENTCS, pages 135-164. Elsevier, 2009. (doi: 10.1016/j.entcs.2009.06.008)

[EJ3] From Architectural to Behavioural Specification of Services. L. Bocchi, J.L. Fiadeiro, A. Lapadula, R. Pugliese, F. Tiezzi. In *Proc. of 6th International Workshop on Formal Engineering approaches to Software Components and Architectures* (FESCA'09), volume 253/1 of ENTCS, pages 3-21. Elsevier, 2009. (doi: 10.1016/j.entcs.2009.09.025)

[EJ2] Specification and analysis of SOC systems using COWS: A finance case study. F. Banti, A. Lapadula, R. Pugliese, F. Tiezzi. In *Proc. of 4th International Workshop on Automated Specification and Verification of Web Systems* (WWV'08), volume 235 of ENTCS, pages 71-105. Elsevier, 2009. (doi: 10.1016/j.entcs.2009.03.006)

[EJ1] Service discovery and negotiation with COWS. A. Lapadula, R. Pugliese, F. Tiezzi. In *Proc. of 3rd International Workshop on Automated Specification and Verification of Web Systems* (WWV'07), volume 200/3 of ENTCS, pages 133-154. Elsevier, 2008. (doi: 10.1016/j.entcs.2008.04.097)

BOOK CHAPTERS

[B6] Programming Autonomic Systems with Multiple Constraint Stores. U. Montanari, R. Pugliese, F. Tiezzi. In "Software, Services, and Systems" (R. De Nicola, R. Hennicker, Eds.), LNCS 8950, pages 641-661. Springer, 2015 (doi: 10.1007/978-3-319-15545-6_36)

[B5] The SCEL Language: Design, Implementation, Verification. R. De Nicola, D. Latella, A. Lluch-Lafuente, M. Loreti, A. Margheri, M. Massink, A. Morichetta, R. Pugliese, F. Tiezzi, A. Vandin. In "Software Engineering for Collective Autonomic Systems - The ASCENS Approach" (M. Wirsing, M. Hölzl, N. Koch, P. Mayer, Eds.), LNCS 8998, pages 3-71. Springer, 2015 (doi: 10.1007/978-3-319-16310-9_1)

[B4] Correctness of Service Components and Service Component Ensembles. J. Combaz, S. Bensalem, F. Tiezzi, A. Margheri, R. Pugliese, J. Kofron. In "Software Engineering for Collective Autonomic Systems - The ASCENS Approach" (M. Wirsing, M. Hölzl, N. Koch, P. Mayer, Eds.), LNCS 8998, pages 107-159. Springer, 2015 (doi: 10.1007/978-3-319-16310-9_3)

[B3] The Autonomic Cloud. P. Mayer, J. Velasco, A. Klarl, R. Hennicker, M. Puviani, F. Tiezzi, R. Pugliese, J. Keznikl, T. Bures. In "Software Engineering for Collective Autonomic Systems - The ASCENS Approach" (M. Wirsing, M. Hölzl, N. Koch, P. Mayer, Eds.), LNCS 8998, pages 495-512. Springer, 2015 (doi: 10.1007/978-3-319-16310-9_16)

[B2] The Sensoria Approach Applied to the Finance Case Study. S. Gnesi, R. Pugliese, F. Tiezzi. In "Rigorous Software Engineering for Service-Oriented Systems - Results of the SENSORIA Project on Software Engineering for Service-Oriented Computing" (M. Wirsing, M. Hölzl, Eds.), LNCS 6582, pages 698-718. Springer, 2011. (doi: 10.1007/978-3-642-20401-2_34)

[B1] Specifying and Analysing SOC Applications with COWS. A. Lapadula, R. Pugliese, F. Tiezzi. In "Concurrency, Graphs and Models" (P. Degano, R. De Nicola, J. Meseguer, Eds.), LNCS 5065, pages 701-720. Springer, 2008. (doi: 10.1007/978-3-540-68679-8_43)

PROCEEDINGS OF INTERNATIONAL CONFERENCES

[C40] Reversing Single Sessions. F. Tiezzi, N. Yoshida. In *Proc. of 8th Conference on Reversible Computation* (RC 2016), LNCS, Springer, 2016. To appear.

[C39] Service Clustering for Autonomic Clouds Using Random Forest. R. Brundo Uriarte, S. Tsaftaris, F. Tiezzi. In *Proc. of 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing* (CCGrid 2015), pages 515-524. IEEE, 2015. (doi: 10.1109/CCGrid.2015.41)

[C38] A Cost/Reward Method for Optimal Infinite Scheduling in Mobile Cloud Computing. L. Aceto, K.G. Larsen, A. Morichetta, F. Tiezzi. In *Proc. of 12th International Conference on Formal Aspects of Component Software* (FACS 2015), volume 9539 of LNCS, pages 66-85. Springer, 2015. (doi: 10.1007/978-3-319-28934-2_4)

[C37] An Operational Semantics of BPMN Collaboration. F. Corradini, A. Polini, B. Re, F. Tiezzi. In *Proc. of 12th International Conference on Formal Aspects of Component Software* (FACS 2015), volume 9539 of LNCS, pages 161-180. Springer, 2015. (doi: 10.1007/978-3-319-28934-2_9)

[C36] Decision Support for Mobile Cloud Computing Applications via Model Checking. L. Aceto, A. Morichetta, F. Tiezzi. In *Proc. of 3rd International Conference on Mobile Cloud Computing, Services, and Engineering* (MobileCloud 2015), pages 199-204. IEEE, 2015. (doi: 10.1109/MobileCloud.2015.21)

[C35] Causal-Consistent Reversibility in a Tuple-Based Language. E. Giachino, I. Lanese, C.A. Mezzina, F. Tiezzi. In *Proc. of 23rd Euromicro International Conference on Parallel, Distributed, and Network-Based Processing* (PDP 2015), pages 467-475. IEEE, 2015. (doi: 10.1109/PDP.2015.98)

[C34] A calculus for attribute-based communication. Y.A. Alrahman, R. De Nicola, M. Loreti, F. Tiezzi, R. Vigo. In *Proc. of 30th Annual ACM Symposium on Applied Computing* (SAC 2015), pages 1840-1845, ACM Press, 2015. (doi: 10.1145/2695664.2695668)

[C33] Twitlang(er): Interactions Modeling Language (and Interpreter) for Twitter. R. De Nicola, A. Maggi, M. Petrocchi, A. Spognardi, F. Tiezzi. In *Proc. of 13th International Conference on Software Engineering and Formal Methods* (SEFM 2015), volume 9276 of LNCS, pages 327-343. Springer, 2015. (doi: 10.1007/978-3-319-22969-0_23)

[C32] Trust-Based Enforcement of Security Policies. R. Vigo, A. Celestini, F. Tiezzi, R. De Nicola, F. Nielson, H.R. Nielson. In *Proc. of 9th International Symposium on Trustworthy Global Computing* (TGC 2014), volume 8902 of LNCS, pages 176-191. Springer, 2014. (doi: 10.1007/978-3-662-45917-1_12)

[C31] SLAC: A Formal Service-Level-Agreement Language for Cloud Computing. R. Brundo Uriarte, F. Tiezzi, R. De Nicola. In *Proc. of 7th IEEE/ACM International Conference on Utility and Cloud Computing* (UCC 2014), pages 419-426. IEEE, 2014. (doi: 10.1109/UCC.2014.53)

[C30] On Programming and Policing Autonomic Computing Systems. M. Loreti, A. Margheri, R. Pugliese, F. Tiezzi. In *Proc. of 6th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation* (ISOLA 2014), volume 8802 of LNCS, pages 164-183. Springer, 2014. (doi: 10.1007/978-3-662-45234-9_12)

[C29] Self-expression and Dynamic Attribute-based Ensembles in SCEL. G. Cabri, N. Capodieci, L. Cesari, R. De Nicola, R. Pugliese, F. Tiezzi, F. Zambonelli. In *Proc. of 6th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation* (ISOLA 2014), volume 8802 of LNCS, pages 147-163. Springer, 2014. (doi: 10.1007/978-3-662-45234-9_11)

[C28] Programming and Verifying Component Ensembles. R. De Nicola, A. Lluch Lafuente, M. Loreti, A. Morichetta, R. Pugliese, V. Senni, F. Tiezzi. In *Proc. of ETAPS Workshop From Programs to Systems* (FPS 2014), volume 8415 of LNCS, pages 69-83. Springer, 2014. (doi: 10.1007/978-3-642-54848-2_5)

[C27] Reputation-based Cooperation in the Clouds. A. Celestini, A. Lluch Lafuente, P. Mayer, S. Sebastio, F. Tiezzi. In *Proc. of 8th IFIP WG 11.11 International Conference on Trust Management* (IFIPTM 2014), volume 430 of IFIP AICT, pages 213-220. Springer, 2014. (doi: 10.1007/978-3-662-43813-8_15)

[C26] Reputation-based Composition of Social Web Services. A. Celestini, G. Costantino, R. De Nicola, Z. Maamar, F. Martinelli, M. Petrocchi, F. Tiezzi. In *Proc. of 28th IEEE International Conference on Advanced Information Networking and Applications* (AINA 2014), pages 735-742. IEEE, 2014. (doi: 10.1109/AINA.2014.90)

[C25] Towards a Formal Approach to Mobile Cloud Computing. M. Amoretti, A. Grazioli, V. Senni, F. Tiezzi, F. Zanichelli. In *Proc. of 22nd EUROMICRO International Conference on Parallel, Distributed and Network-Based Processing* (PDP 2014), pages 743-750. IEEE, 2014. (doi: 10.1109/PDP.2014.42)

[C24] Formalising Adaptation Patterns for Autonomic Ensembles. L. Cesari, R. De Nicola, R. Pugliese, M. Puviani, F. Tiezzi, F. Zambonelli. In *Proc. of 10th International Symposium on Formal Aspects of Component Software* (FACS 2013), volume 8348 of LNCS, pages 100-118. Springer, 2014. (doi: 10.1007/978-3-319-07602-7_8)

[C23] Linguistic Abstractions for Programming and Policing Autonomic Computing Systems. A. Margheri, R. Pugliese, F. Tiezzi. In *Proc. of 10th IEEE International Conference on Autonomic and Trusted Computing* (ATC 2013), pages 404-409. IEEE, 2013. (doi: 10.1109/UIC-ATC.2013.33)

[C22] The Autonomic Cloud: A Vision of Voluntary, Peer-2-Peer Cloud Computing. P. Mayer, A. Klarl, R. Hennicker, M. Puviani, F. Tiezzi, R. Pugliese, J. Keznikl, T. Bures. In *Proc. of 7th International Conference on Self-Adaptation and Self-Organizing Systems Workshops* (SASOW 2013), pages 89-94. IEEE, 2013. (doi: 10.1109/SASOW.2013.16)

[C21] Developing and Enforcing Policies for Access Control, Resource Usage, and Adaptation: A Practical Approach. A. Margheri, M. Masi, R. Pugliese, F. Tiezzi. In *Proc. of 10th International Workshop on Web Services and Formal Methods* (WS-FM 2013), volume 8379 of LNCS, pages 85-105. Springer, 2014. (doi: 10.1007/978-3-319-08260-8_6)

[C20] Network-aware Evaluation Environment for Reputation Systems. A. Celestini, R. De Nicola, F. Tiezzi. In *Proc. of 7th IFIP WG 11.11 International Conference on Trust Management* (IFIPTM 2013), volume 401 of IFIP AICT, pages 231-238. Springer, 2013. (doi: 10.1007/978-3-642-38323-6_17)

[C19] Specifying and Analysing Reputation Systems with Coordination Languages. A. Celestini, R. De Nicola, F. Tiezzi. In *Proc. of 28th Symposium On Applied Computing* (SAC 2013), pages 1363-1368, ACM Press, 2013. (doi: 10.1145/2480362.2480618)

[C18] On a Formal and User-friendly Linguistic Approach to Access Control of Electronic Health Data. A. Margheri, M. Masi, R. Pugliese, F. Tiezzi. In *Proc. of 6th International Conference on Health Informatics* (HEALTHINF 2013). SciTePress, 2013. (doi: 10.5220/0004328202630268)

[C17] Towards a Formal Verification Methodology for Collective Robotic Systems. E. Gjondrekaj, M. Loreti, R. Pugliese, F. Tiezzi, C. Pinciroli, M. Brambilla, M. Birattari, M. Dorigo. In *Proc. of 14th International Conference on Formal Engineering Methods* (ICFEM 2012), volume 7635 of LNCS, pages 54-70. Springer, 2012. (doi: 10.1007/978-3-642-34281-3)

[C16] Towards Model-Driven Development of Access Control Policies for Web Applications. M. Busch, N. Koch, M. Masi, R. Pugliese, F. Tiezzi. In *Proc. of 1st International Workshop on Model-Driven Security* (MDsec 2012), Article No. 4, ACM Press, 2012. (doi: 10.1145/2422498.2422502)

[C15] Formalisation and Implementation of the XACML Access Control Mechanism. M. Masi, R. Pugliese, F. Tiezzi. In *Proc. of 2nd International Symposium on Engineering Secure Software and Systems* (ESSoS 2012), volume 7159 of LNCS, pages 60-74. Springer, 2012. (doi: 10.1007/978-3-642-28166-2_7)

[C14] Modeling adaptation with a tuple-based coordination language. E. Gjondrekaj, M. Loreti, R. Pugliese, F. Tiezzi. In *Proc. of 27th Symposium On Applied Computing* (SAC 2012), pages 1522-1527, ACM Press, 2012. (doi: 10.1145/2245276.2232019)

[C13] e-Health for Rural Areas in Developing Countries: Lessons from the Sebokeng Experience. M. Masi, R. Pugliese, F. Tiezzi. In *Proc. of 3rd International ICST Conference on e-Infrastructure and e-Services for Developing Countries* (AFRICOMM 2011), volume 92 of LNICST, pages 187-196. Springer, 2012. (doi: 10.1007/978-3-642-29093-0_18)

[C12] Orchestrating Tuple-based Languages. R. De Nicola, A. Margheri, F. Tiezzi. In *Proc. of 6th International Symposium on Trustworthy Global Computing* (TGC 2011), volume 7173 of LNCS, pages 160-178. Springer, 2012. (doi: 10.1007/978-3-642-30065-3_10)

[C11] A standard-driven communication protocol for disconnected clinics in rural areas. M. Masi, R. Pugliese, F. Tiezzi. In *Proc. of 13th IEEE International Conference on e-Health Networking, Application Services* (Healthcom'11), pages 304-311. IEEE, 2011. (doi: 10.1109/HEALTH.2011.6026770)

[C10] A tool for rapid development of WS-BPEL applications. L. Cesari, A. Lapadula, R. Pugliese, F. Tiezzi. In *Proc. of 25th Symposium On Applied Computing* (SAC 2010), pages 2438-2442. ACM Press, 2010. (doi: 10.1145/1774088.1774594)

[C9] On secure implementation of an IHE XUA-based protocol for authenticating healthcare professionals. M. Masi, R. Pugliese, F. Tiezzi. In *Proc. of 5th International Conference on Information Systems Security* (ICISS'09), volume 5905 of LNCS, pages 55-70. Springer, 2009. (doi: 10.1007/978-3-642-10772-6_6)

[C8] On observing dynamic prioritised actions in SOC. R. Pugliese, F. Tiezzi, N. Yoshida. In *Proc. of 36th International Colloquium on Automata, Languages and Programming* (ICALP'09), volume 5556 of LNCS, pages 558-570. Springer, 2009. (doi: 10.1007/978-3-642-02930-1_46)

[C7] SENSORIA Patterns: Augmenting Service Engineering with Formal Analysis, Transformation and Dynamicity. M. Wirsing, et al. In *Proc. of 3rd International Symposium on Leveraging Applications of Formal Methods, Verification and Validation* (ISoLA'08), volume 17 of Communications in Computer and Information Science, pages 170-190. Springer, 2008. (doi: 10.1007/978-3-540-88479-8_13)

[C6] A formal account of WS-BPEL. A. Lapadula, R. Pugliese, F. Tiezzi. In *Proc. of 10th International conference on Coordination Models and Languages* (COORDINATION'08), volume 5052 of LNCS, pages 199-215. Springer, 2008. (doi: 10.1007/978-3-540-68265-3_13)

[C5] A model checking approach for verifying COWS specifications. A. Fantechi, S. Gnesi, A. Lapadula, F. Mazzanti, R. Pugliese, F. Tiezzi. In *Proc. of 11th International Conference on Fundamental Approaches to Software Engineering* (FASE'08), volume 4961 of LNCS, pages 230-245. Springer, 2008. (doi: 10.1007/978-3-540-78743-3_17)

[C4] Regulating data exchange in service oriented applications. A. Lapadula, R. Pugliese, F. Tiezzi. In *Proc. of 2nd IPM International Symposium on Fundamentals of Software Engineering* (FSEN'07), volume 4767 of LNCS, pages 223-239. Springer, 2007. (doi: 10.1007/978-3-540-75698-9_15)

[C3] C⊕WS: A timed service-oriented calculus. A. Lapadula, R. Pugliese, F. Tiezzi. In *Proc. of 4th International Colloquium on Theoretical Aspects of Computing* (ICTAC'07), volume 4711 of LNCS, pages 275-290. Springer, 2007. (doi: 10.1007/978-3-540-75292-9_19)

[C2] Calculus for Orchestration of Web Services. A. Lapadula, R. Pugliese, F. Tiezzi. In *Proc. of 16th European Symposium on Programming* (ESOP'07), volume 4421 of LNCS, pages 33-47. Springer, 2007. (doi: 10.1007/978-3-540-71316-6_4)

[C1] A WSDL-based type system for WS-BPEL. A. Lapadula, R. Pugliese, F. Tiezzi. In *Proc. of 8th International Conference on Coordination Models and Languages* (COORDINATION'06), volume 4038 of LNCS, pages 145-163. Springer, 2006. (doi: 10.1007/11767954_10)

OTHER PUBLICATIONS

[O3] B*lite*C: a tool for developing WS-BPEL applications. L. Cesari, R. Pugliese, F. Tiezzi. In *Proc. of 8th IEEE International Conference on Software Engineering and Formal Methods* (SEFM 2010), Poster and Tool Demo Session (F. Mazzanti, G. Trentanni, Eds.), ISBN 978-88-7958-006-9, pages 41-46. CNR Pisa, 2010.

[O2] Towards a Framework for the Verification of UML Models of Services. F. Banti, R. Pugliese, F. Tiezzi. In *5th Int'l Workshop on Automated Specification and Verification of Web Systems* (WWV'09), pages 21-36, 2009 (url: http://www.risc.jku.at/publications/download/risc_3852/WWV-2009-Proceedings.pdf).

[O1] TAPAs: a Tool for the Analysis of Process Algebras. F. Calzolai, R. De Nicola, M. Loreti, F. Tiezzi. In *2nd Workshop on Teaching Concurrency* (TeaConc'07), 2007.

PHD THESIS

[T1] Specification and Analysis of Service-Oriented Applications. F. Tiezzi. PhD thesis in Computer Science (Informatica e Applicazioni, XXI cycle), National Libraries of Roma and Firenze, 2009.