

Florian Daniel

Scientific/professional curriculum vitae – 4 September 2015

Personal identifying data

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Short bio

I am a senior research fellow at the *University of Trento, Italy*. I worked as visiting research fellow in *UNSW, Sydney, Australia* and *HP Labs, Palo Alto, California*, and as post-doc researcher at the *Politecnico di Milano, Italy*, from which I hold a Ph.D. in Information Technology (2007) and a M.Sc. in Computer Engineering (2003). I am co-author of the books *Mashups: Concepts, Models and Architectures* (Springer, 2014) and *Engineering Web Applications* (Springer, 2009) as well as of more than a hundred scientific publications in international journals, conferences and workshops. I served as program chair of *BPM 2013*, *ICWE 2013* and *MobiWIS 2013*, am involved in the organization of the ICSOC international conference series, and co-organized the international workshop series Rapid Mashup Challenge, ComposableWeb, BEWEB and AEWSE. I have actively been participating in various roles in several EU FP6/FP7 research projects and a number of industry-funded research projects in Europe, the United States and China, raising about 400k euros of research funds.

Detailed bio

Current and past positions

- **Research fellow** at the Department of Information Engineering and Computer Science, University of Trento, Italy (January 2012 – today)
- **Visiting research fellow** at the University of New South Wales (UNSW), Sydney, Australia (August 2015 and August–September 2013)
- **Post-doc researcher** at the Department of Information Engineering and Computer Science, University of Trento, Italy (June 2008 – December 2011)
- **Post-doc researcher** at the Dipartimento di Elettronica e Informazione, Politecnico di Milano, Italy (June 2007 – May 2008)
- **Visiting research fellow** at HP Labs (Hewlett-Packard Company) in Palo Alto, California, USA (April 2006 – August 2006)
- **Doctoral student** in Information Technology at Politecnico di Milano, Italy (March 2004 – Feb. 2007)

Qualifications

- **Italian National Scientific Qualification** (*Abilitazione Scientifica Nazionale* according to art. 16 of law n. 240, 30 December 2010) in the area 01/B1 (Informatics) for the function of associate professor (January 2014)
- **Italian National Scientific Qualification** (*Abilitazione Scientifica Nazionale* according to art. 16 of law n. 240, 30 December 2010) in the area 09/H1 (Information Processing Systems) for the function of associate professor (December 2013)
- **Ph.D.** in Information Technology from Politecnico di Milano, Italy (March 2007)
- **M.Sc.** in Computer Engineering from Politecnico di Milano, Italy. Degree with honors (December 2003)

Research

My research in general concentrates on the intersection of three main branches of computer science: *Software/Web Engineering*, *Business Process Management* (BPM) and *Human Computer Interaction* (HCI). In this context, I am particularly intrigued by all those research questions and challenges that ask either for the conception of *new development capabilities and instruments* or for making development accessible to an *ever broader spectrum of developers*, in the extreme case, even to *end-users*. More specifically, my *research interests and contributions* can be summarized with the following five topics (listed in chronological order and with references to the most representative publications):

- **Model-driven Web engineering:** Web engineering is the branch of software engineering that focuses on *Web applications*. Model-driven Web engineering is the development practice and research area that specifically explores (graphical) *modeling languages* for the assisted development of Web applications. As a Ph.D. candidate, my interest in this context was supporting the development of advanced application features, such as *adaptive* and *context-aware* behaviors, which are typically taken into account only as afterthoughts in development, while they actually are first-class design concerns. References [J3] and [J5] describe an extension of the Web Modeling Language (WebML), which allows a developer to model at a high level of abstraction application behaviors that are autonomous, active and context-aware. [J2] extends the user profile underlying the approach with the capability to track and react to long-running user navigation goals, while [J6] and [J7] explore the use of Event-Condition-Action (ECA) rules and a detached rule engine for the provisioning of active behaviors in Web applications. Book [B1] summarizes the field of Web engineering with a special attention for model-driven, conceptual development practices.
- **Service-oriented computing (SOC):** SOC is the computing paradigm that focuses on the engineering of *composite, distributed applications* out of reusable application logic encapsulated as *Web services*. The core challenge faced by the SOC community is the development of so-called *orchestrations* and *choreographies* [J1] out of a given set of existing Web services. My research interest in the specific context of SOC is however more the analysis of how well a given orchestration performs and how well it actually behaves as expected by its developer and, hence, its design. [C8] and [C10], in this respect, study how to identify which observable Web service invocations (e.g., logged or sniffed) are likely to belong to a same composite service, so as to re-construct the full conversation (the so-called *protocol*) of the composite service with its component services without knowledge of the internals of the composite service itself. [C22] pushes this thread further and also discovers the actual protocol from message exchanges, also taking into account possible *inaccuracies* in the logged data, while [J23] complements the approach with a complete software suite (algorithms and a dashboard) for the analysis of complex business *compliance constraints* in service-based business processes. The survey [J36] provides a comprehensive reference of SOC and discusses open research questions.
- **Business process management (BPM):** BPM concentrates on the *understanding, design, analysis and improvement* of business processes with the help of information technology. The field evolved from workflow management systems, is multi-faceted, and involves skills like modeling, code generation/interpretation, data mining, and business intelligence. My research interests focus on two major aspects, i.e., process discovery and modeling language extensions. *Process discovery* is particularly challenging if the data to mine from is of low quality, e.g., incomplete or noisy. For instance, [J23] focuses on service-based business processes, but it does so with special attention to data quality, which it communicates to users in its dashboard. [J13] more specifically focuses on how to compute key indicators for processes in the presence of low-quality data and introduces the concept of *uncertain key indicator*. The *extension of process languages* (e.g., BPMN or BPEL) is challenging in that it requires conciliating the needs of a given domain with the typically control flow oriented paradigm of business process modeling languages. Research in this direction has produced modeling languages and runtime environments for project-centered learning [J11], user interface orchestration [J17,C24], and wireless sensor networks [C44].
- **Mashups:** Mashups are composite Web applications that are developed by *integrating resources available on the Web*, i.e., data, application logic and user interfaces [B12]. As such, mashups aim to bring together Web engineering, SOC and BPM in a *holistic* fashion, a challenging and intriguing endeavor. My interests are specifically on the interplay of these three areas and, more recently, on making mashup development accessible to end-users. In [C6], we developed one of the first frameworks for the integration of presentation (UI) components inside the client browser, which we

embedded in [C18] into a so-called *universal integration* approach for data, application logic and UIs. The approach proposes an *imperative* mashup paradigm (data flow models), while [J9] also proposes a *declarative* approach (Datalog-like queries). [J28] goes one step further and devises a complete, conceptual tool suite for the development of *custom mashup platforms*, including custom languages and design/runtime environments. In order to enable *end-users* to develop own mashups, two approaches have been followed so far: simplifying mashup environments and actively assisting development. For the former, [J22] fosters the development of *domain-specific mashup tools* and demonstrates how these in fact lower the barriers to end-users. For the latter, [18] and [C37] respectively mine *mashup model patterns* from a repository of ready models and *recommend and weave* patterns interactively inside the mashup editor. The latest user studies we conducted [J31] provide statistically relevant evidence for the effectiveness of the approach. As crosscutting concern, important to both developers and end-users, references [J14], [C46] and [C32] study the *quality* of mashups and propose a quality-aware recommendation approach for mashup development. Book [B12] describes the mashup ecosystem in terms of concepts, models and architectures and brings the above contributions under one hood.

- **Crowdsourcing:** Crowdsourcing is the practice of outsourcing (externalizing) a piece of work (a so-called task) to group of people (the crowd) via an open call for contributions. Typically, this call is published through an online crowdsourcing platform that allows the members of the crowd (the workers) to perform tasks voluntarily in exchange of some reward. Crowdsourcing is a recent phenomenon that is particularly interesting from a computational perspective for its capability to integrate human as well as automated “processors” into the resolution of problems that a machine alone would not be able to solve, for instance, if the solution requires human judgments or opinions. My work in crowdsourcing has so far focused on three correlated aspects: *modeling and enactment of complex crowdsourcing processes*, *data mining with the crowd*, and *quality control*. Article [J35] surveys the state of the art in composite crowdsourcing processes, while contribution [J34] proposes an own approach to the modeling and execution of crowdsourcing processes that is seamlessly integrated with common BPM practices. As for the mining with the crowdsourcing processes, [J37] investigates whether it is possible to mine complex mashup model patterns with the help of the crowd and concludes (i) that is indeed feasible to do so, but also (ii) that it is much harder to use the crowd to assess the quality of patterns to understand which patterns to retain for further processing. Given these difficulties, I am currently specifically looking into the problem of quality control in crowdsourcing, while contribution [C56] already aims to attack one concrete quality attribute, i.e., the speed of crowdsourcing processes. More results in this area are to come.
- **UI-oriented computing:** The recent attempts to lower the development of mashups to end-users yielded one important lesson learned: research so far has tried to make accessible to end-users artifacts that are simply not meant for them and require profound software development skills, i.e., APIs and Web services. Acknowledging that the software artifacts end-users are most familiar with are graphical UIs, *UI-oriented computing* aims to leverage on UIs to enable end-users to define own “computations,” e.g., the extraction of data from Web pages, the reuse of forms, or the automation of simple Web processes. The challenge is to understand how much in terms of software development capabilities can be provided through the sensible reuse of UIs (and parts thereof) and to implement suitable tools and middleware. The goal is to develop an interactive, live, point-and-click, drag-and-drop development paradigm as anticipated in [W23], which proposes a possible model and implementation for the first ingredient, a so-called *interactive API (iAPI)*. The idea of iAPIs is to equip pieces of Web UIs (e.g., a table or form) with graphical controls that allow the user to specify desired behaviors and integration logics directly in the browser without writing any new line of code. A first example of UI-oriented computing applied to data integration is shown in [C53]. This line of research is still in its infancy, but one of the topics I would like to expand in the future.

Methodologically, I like to approach problems from a conceptual point of view, make use of models, draw figures and architectures, and implement tools that work and that allow one to demonstrate the viability of the conceived solution, e.g., with the help of user studies or empirical tests. The goal is to solve something that matters, to do so in a way that works, and to provide concrete scientific contributions that are worth being published and disseminated.

Research projects

The above research was partly conducted in the context of research projects funded by the *European Commission* (FP6 and FP7), the Italian *Ministero dell'Istruzione, dell'Università e della Ricerca*, the *Provincia Autonoma di Trento*, and industry. I participated with different roles in the following research projects:

- **Technical lead of research group** in *e2Call: Algoritmi e tecniche per l'analisi e l'elaborazione delle informazioni veicolari ed extra-veicolari* (Provincia Autonoma di Trento, Applied Research, Law 6/99, 2012-2014). The project aims to provide advanced emergency support in case of accidents of cars with an on-board unit, similar to the black box of airplanes but with data and voice communication capability. The research specifically concentrates on the design of algorithms and software architectures for the classification of accidents, driving behaviors, and the detection of outliers (near accidents) from the data collected through live data streams generated by the cars.
- **Technical lead of research group** in *MEPI: Medical Equipment Profiling and Identification System* (Provincia Autonoma di Trento, Applied Research, Law 6/99, 2012-2014). The research in this project concentrates on the engineering of requirements for the tracking of devices inside hospitals or people inside retirement homes and on the design of abstractions and middleware support for the provisioning of context-aware application behaviors (e.g., alerts in response to given events).
- **Co-principal investigator** of *BPM4People: Business Process Modeling for Participatory Enterprises, Organizations, and Public Administration Bodies* (EU FP7 Research for the benefit of SMEs, 2010-2013, <http://www.bpm4people.org/cms/content/en/home>). The project aimed to develop a social BPM paradigm able to bring together the structured world of BPM with the unstructured world of social networks. A part of the project was also dedicated to the study of the integration with crowdsourcing platforms, so as to be able to seamlessly integrate crowd workforce into business processes.
- **Co-principal investigator** of *OMELETTE: Open Mashup Enterprise service platform for LinkEd data in The TELco domain* (EU FP7 STREP, 2010-2013, <http://www.ict-omelette.eu/home>). The own research in the context of this project concentrated on the conceptual aspects and the software architecture for telco mashups, i.e., mashups that specifically support the live communication and collaboration among multiple users, as well as the design, implementation and test of a mashup model pattern mining and recommendation approach for visual mashup editors.
- **Researcher** in *MakeSense: Easy Programming of Integrated Wireless Sensor Networks* (EU FP7 STREP, 2010-2013, <http://makesense.sics.se>). The challenge approached in this project was the extension of the Business Process Model and Notation (BPMN) language with constructs and runtime support for the modeling of Wireless Sensor Networks (WSNs). Special attention was paid to the separation of the design of the internal logic of the WSN and its interaction with external business processes.
- **Technical lead of research group** in *IANUS: Platform for the Simplification, Re-organization and Improvement of Business Processes* (Provincia Autonoma di Trento, Applied Research, Law 6/99, 2010-2012). The core of the research in this project was the design, implementation and test of business process discovery algorithms that do not start from nicely correlated event logs but from a snapshot of an operational database filled with data by a process-aware information system.
- **Researcher** in *MDO: Manuale dell'Opera / Electronic Record for Constructions* (Provincia Autonoma di Trento, Applied Research, Law 6/99, 2010-2013). The goal of MDO was the implementation and test of an online service/platform for the management of a distributed electronic record for buildings/public works (similar to the idea of electronic health records for people).
- **Co-principal investigator** of *MarcoFlow* (Industrial project in cooperation with Huawei Technologies, Shenzhen, China, 2010-2011). MarcoFlow aimed at devising models, languages, tools and a methodology for the development of web applications that are composed of Web services and user interface components and that are able to orchestrate multiple Web browsers, i.e., users.
- **Researcher** in *MoPAL: Mobile Palm for Assisted Living* (Provincia Autonoma di Trento, Applied Research, Law 6/99, 2010-2012). The goal of MoPAL is to equip home/social assistants with mobile devices and a mobile software solution that, jointly, allow them to collect data of, monitor, manage, and analyze the socio-sanitary services they provide in their territory.
- **Technical lead of research group** in *MASTER: Managing Assurance, Security and Trust for Services* (EU FP7 IP, 2008-2011, <http://www.master-fp7.eu>). The contribution to this project was the design, implementation and test of a tool suite for the monitoring and assessment of the security of service-oriented business processes. Particular emphasis was paid to the design of root cause analysis algorithms able to identify possible sources of registered problems for future improvement.

- **Technical lead of research group** in *COMPAS: Compliance-driven Models, Languages, and Architectures for Services* (EU FP7 STREP, 2008-2011, <http://www.compas-ict.eu>). This project had a strong modeling orientation and required the development of dedicated algorithms and instruments for the analysis of generic business compliance constraints for service-oriented business processes. The solution can be seen as a business process intelligence suite with special focus on compliance.
- **Co-principal investigator** of *MashArt* (Industrial project in cooperation with SAP Research, Palo Alto, California, 2008-2009). The aim of mashArt was to develop novel composition technologies for the Web, ranging from data integration and UI composition to universal composition. The goal was to develop an integration platform with hosted development, execution and analysis capabilities.
- **Researcher** in *COOPER: Collaborative Open Environment for Project-Centered Learning* (EU FP6 STREP, 2005-2007, http://cordis.europa.eu/ist/telearn/fp6_cooper.htm). The key outcome of this project was the development of a flexible, process-based environment enabling the online collaboration of multiple learners in the context of projects supported by ad-hoc processes.
- **Researcher** in *MAIS: Multichannel Adaptive Information Systems* (MIUR FIRB, 2002-2006). The focus of the own research in the context of this project was on the development of a conceptual, model-driven development approach for adaptive, multi-channel Web applications. The work produced an extension of the Web Modeling Language (WebML).

Involvement in the scientific community

- **Program Chair** of the
 - 11th International Conference on Business Process Management (BPM 2013)
 - 13th International Conference on Web Engineering (ICWE 2013)
 - 10th International Conference on Mobile Web Information Systems (MobiWIS 2013)
- **Steering Committee member** of the
 - International Conference on Web Engineering (ICWE)
- **Editorial board member** of the
 - International Journal of Web Engineering and Technology (IJWET)
- **Track PC Chair** of the tracks
 - "Emerging areas of BPM" of BPM 2015
 - "Mobile commerce and business services" of MobiWIS 2011
 - "Service-Oriented E-Commerce and Business Processes" of EC-Web 2010
- **Workshop Chair** of the international conferences on
 - Web Engineering (ICWE 2015, ICWE 2010)
 - Business Process Management (BPM 2011)
- **Panel Chair** of the international conference on
 - Service Oriented Computing (ICSOC 2015)
- **Organizer** of the international workshop series
 - Rapid Mashup Challenge 2015
 - International Workshop on Lightweight Integration on the Web, ComposableWeb - 2012, 2011, 2010, 2009
 - International Workshop on Business Intelligence and the WEB, BEWEB - 2012, 2011, 2010
 - International Workshop on Adaptation and Evolution in Web Systems Engineering, AEWSE - 2008, 2007, 2006
- **Reviewer/evaluator for the research funding bodies**
 - Natural Sciences and Engineering Research Council of Canada (NSERC)
 - National Centre of Science and Technology Evaluation, Republic of Kazakhstan
 - Agence nationale de la recherche (ANR), France
 - Provincia Autonoma di Bolzano, Italy
 - Regione Lombardia, Italy
- **Reviewer for the international journals**
 - Transactions on Internet Technology, ACM
 - Transactions on Information Systems, ACM
 - Transactions on the Web, ACM
 - Transactions on Software Engineering, IEEE

- Transactions on Knowledge and Data Engineering, IEEE
- Transactions on Services Computing, IEEE
- Computer, IEEE
- Internet Computing, IEEE
- Software, IEEE
- IT Professional, IEEE
- Intelligent Systems, IEEE
- World Wide Web Journal, Springer
- Service Oriented Computing and Applications, Springer
- Distributed and Parallel Databases, Springer
- Computing, Springer
- Data Semantics, Springer
- Information Systems Frontiers, Springer
- Information Systems, Elsevier
- Decision Support Systems, Elsevier
- Data & Knowledge Engineering, Elsevier
- Applied Computing and Informatics, Elsevier
- Journal of Visual Languages and Computing, Elsevier
- Journal of Logic and Algebraic Programming, Elsevier
- Systems and Software, Elsevier
- Journal of Biomedical Informatics, Elsevier
- Computer Standards and Interfaces, Elsevier
- Computers in Industry, Elsevier
- Software: Practice and Experience, Wiley
- Journal of Software: Evolution and Process, Wiley
- Semantic Web journal, IOS Press
- Journal of Web Engineering, Rinton Press
- The Computer Journal, Oxford University Press
- International Journal of Web Services Research, IGI Group Publishing
- International Journal of Semantic Web and Information Systems, IGI Group Publishing
- International Journal of Cooperative Information Systems, World Scientific Publishing
- International Journal of Business Process Integration and Management, Inder Science Publishers
- **PC member of the international conferences on**
 - Business Process Management, BPM - 2016 (Senior PC Member), 2015 (Senior PC Member), 2014
 - Service Oriented Computing, ICSOC - 2015, 2014, 2013, 2012, 2011, 2010
 - Web Services, ICWS - 2015, 2014 (Diligent PC Member appreciation), 2013, 2012, 2011, 2010, 2009, 2008
 - Web Engineering, ICWE - 2015, 2014, 2012, 2011, 2010
 - Social Computing and Networking, SocialCom - 2015, 2014
 - Model and Data Engineering, MEDI - 2015, 2014, 2013, 2012
 - IEEE International EDOC Conference, EDOC - 2015, 2014, 2013
 - Service-Oriented Computing and Applications, SOCA - 2015, 2014, 2013, 2012, 2011
 - World Wide Web, WWW - 2014 Posters, 2013, 2013 Posters, 2012, 2010
 - Symposium on Web Services, WSS - 2014
 - e-Business Engineering, ICEBE - 2014
 - Software Reuse, ICSR - 2016, 2015
 - Electronic Commerce and Web Technologies, EC-Web - 2014, 2013, 2012, 2011
 - Model-Driven Engineering and Software Development, MODELSWARD - 2015, 2014, 2013
 - European Semantic Web Conference, ESWC - 2014
 - Mobile Web Information Systems, MobiWIS - 2014
 - Australasian Web Conference, AWC - 2014
 - Extending Database Technology - Demo track, EDBT - 2013
 - Social Computing and Applications, SCA - 2013, 2012, 2011
 - Web Information Systems and Technologies, WEBIST - 2013, 2013, 2012
 - Cloud Computing and Services Science, CLOSER - 2013, 2012
 - Chilean Computer Science Society, SCCC - 2012

- Advanced Service Computing, ServiceComputation - 2012, 2011, 2010
- Current Trends in Theory and Practice of Computer Science, SOFSEM - 2012
- Internet Applications and Research, IAR - 2012, 2011
- Multimedia and Ubiquitous Engineering, MUE - 2012, 2011
- Data Engineering, ICDE Industrial Track - 2010
- Advanced Information Networking and Applications, AINA - 2009
- Network-Based Information Systems, NBIS - 2009
- and co-located events like ICSOC 2011 Demos and PhD Symposium, ICWE 2010 Demo & Poster Track, WWW 2008 Poster Track, ICSOC 2008 PhD Symposium, ICWE 2008 Poster Track
- **PC member of the international workshops on**
 - Resource Management in Service-Oriented Computing, RMSOC - 2015, 2014
 - Engineering Service-Oriented Applications, WESOA - 2015, 2014, 2013, 2012, 2011, 2010, 2009
 - Knowledge Discovery on the Web, KDWeb - 2015
 - Adaptive Services for the Future Internet, WAS4FI - 2015, 2014, 2013, 2012, 2011
 - Process Engineering, IWPE - 2015
 - Crowdsourcing and Service Management, CrowdServ - 2014
 - Process-Aware Systems, PAS - 2015, 2014
 - Artificial Intelligence meets Business Processes and Services, AIBPS - 2014
 - Semantic Search over the Web, SSW - 2014, 2013
 - Crowdsourced Web Engineering, CroWE - 2014, 2012
 - Cloud and Service Engineering, CSE - 2014, 2013
 - Semantic Web Information Management, SWIM - 2014, 2013, 2012, 2011, 2010, 2009
 - Applications and Services on Cloud, ASOC - 2013, 2012
 - Knowledge-intensive Business Processes, KiBP - 2013, 2012
 - Lightweight Integration on the Web, ComposableWeb - 2013
 - Quality in Web Engineering, QWE - 2013, 2012, 2011, 2010
 - Adaptive Services for the Future Internet, WAS4FI - 2013, 2012, 2011
 - Services and Applications over Linked APIs and Data, SALAD - 2013
 - European BPM Workshop, EBPM - 2013
 - Behavior and Social Informatics, BSI - 2013
 - Web Intelligence, WEBI - 2013
 - Capability based Engineering (of Service and Process aware Systems), WCE - 2012
 - Very Large Data Search: Searching and Integrating New Web Data Sources, VLDS - 2012, 2011
 - Web APIs and Services Mashups, Mashups - 2012, 2011, 2010, 2009
 - the Web and Requirements Engineering, WeRE - 2012, 2011, 2010
 - Linked APIs for the Semantic Web, LAPIS - 2012
 - Model-Based Interactive Ubiquitous Systems, MODIQUITOUS - 2012, 2011
 - User-Focused Service Engineering, Consumption and Aggregation, USECA - 2011
 - Web Services and Formal Methods, WS-FM - 2011
 - Requirements Engineering for Social Computing, RESC - 2011
 - Search, Exploration and Navigation of Web Data Sources, ExploreWeb - 2011
 - End User Development for Services - Methodologies, Tools, and Evaluations, EUD4Services - 2011
 - User Profile Data on the Social Semantic Web, UWeb - 2011
 - Semantic based Opportunistic Data Management, SODM - 2011
 - Future Trends of Model-Driven Development, FTMD - 2011, 2010
 - European Young Researchers Workshop on Service-Oriented Computing, YR-SOC - 2010
 - Linking of User Profiles and Applications in the Social Semantic Web, LUPAS - 2010
 - Mashups, Enterprise Mashups and Lightweight Composition on the Web, MEM - 2010, 2009
 - Technologies and Systems for Information Management, TASIM - 2010
 - User Data Interoperability in the Social Web, UDISW - 2010
 - Web Usability and Accessibility, IWWUA - 2009, 2008
 - Exploiting Structured Information on the Web, ESIW - 2009
 - Business Intelligence, BusIn - 2009
 - Multi-channel Adaptive Context-sensitive Systems, MAC - 2006
- **Tutorial Chair** of the
 - International Conference on Business Process Management (BPM 2012)

- **Demo Chair** of the
 - International Conference on Business Process Management (BPM 2015)
 - International Conference on Service Oriented Computing (ICSOC 2010)
 - International Conference on Web Intelligence and Intelligent Agent Technologies (WI-IAT 2011)
- **PhD Symposium Chair** of the
 - International Joint Conference on Service Oriented Computing (ICSOC 2009)
- **Poster Chair** of the
 - International Conference on Web Engineering (ICWE 2009)
- **Publicity Chair** of the
 - International Conference on Service Oriented Computing (ICSOC 2012, ICSOC 2008)

Keynotes and panels

- **Keynote speaker** at the 4th International Symposium on Web Services (WSS 2014)
- **Panelist** at ICSOC 2014: "Collective Adaptive Systems: Challenges and Opportunities for Cloud and Services Computing"
- **Keynote speaker** at the ICWE 2011 PhD Symposium
- **Keynote speaker** at the CAISE 2010 Doctoral Consortium
- **Keynote speaker** at the First International Workshop on Future Trends of Model-Driven Development (FTMDD 2009): "Context-aware applications for the Web: from models for programmers to models for end users"
- **Panelist** at WISE 2008: "Engineering Issues for the Web 2.0"

Tutorials, guest lectures, talks

- **Invited talk** at NICTA, Sydney, Australia: "Recommendation and Weaving of Reusable Mashup Model Patterns for Assisted Development", August 2015
- **Guest professor** of the Master/PhD course "Mashups: Concepts, Models and Architectures" in PUC-RS, Brazil, April 2015.
- **Tutorial speaker** at the 14th International Conference on Web Engineering (ICWE 2014): "Mashups: A Journey from Concepts and Models to the Quality of Applications", July 2014
- **Guest lecture** in the context of the Software Engineering Workshop course (undergraduate) at UNSW, Sydney, Australia
- **Invited talk** at UNSW, Sydney, Australia: "Toward UI-Oriented Computing ", September 2013
- **Invited talk** at The University of Adelaide, Australia: "UI-Oriented Computing ", September 2013
- **Invited speaker** at the European BPM Round Table: "Eventifier: Extracting Process Execution Logs from Operational Databases," November 2012, Eindhoven, Netherlands
- **Invited speaker** at the Social BPM Summer School, July 17-20, 2012, Como, Italy
- **Invited talk** at HP Labs, Palo Alto, California: "From Scripting Mashups to Supporting Domain Expert Programming - Universal Integration on the Web", October 2009
- **Tutorial speaker** at the 25th International Conference on Data Engineering (ICDE 2009): "Mashups, SaaS, and Cloud Computing: Evolutions and Revolutions in the Integration Landscape", April 2009
- **Invited talk:** "Web Mashups: the Web as Integration Platform for End Users", University of Innsbruck, Austria, January 17, 2009
- **Invited talk:** "Modelling Context and Adaptation in WebML", ETH Zurich, Switzerland, May 15, 2008
- **Guest lecture:** Master course on Web engineering held together with Irene Garrigos, University of Alicante, Spain, January 16-18, 2008
- **Invited talk:** "Toward the User-Driven Development of Web Applications" in the context of the Symposium on Innovative Software Technology, University of Tartu, Estonia, December 12, 2007
- **Invited talk:** "Modelling Context and Adaptation in WebML", ETH Zurich, Switzerland, in the context of the Web Engineering course by Moira Norrie, May 31, 2007

Awards/prizes

- **Price of 10k euros of research funding** by the University Trento as recognition for reaching the final round of the ERC 2012 Starting Grant selections

- **Best Paper Nominee** of BPM 2010 for the paper "From People to Services to UI: Distributed Orchestration of User Interfaces"
- **Best Demonstration** award of ICWE 2007 for the demo "Mixup: a Development and Runtime Environment for Integration at the Presentation Layer"
- **Highly Commended Paper** award of ICWE 2005 for the paper "An Approach to User-Behavior-Aware Web Applications"

Teaching

Most of my teaching activities were conducted while working at the Politecnico di Milano. After moving to University of Trento, teaching was unfortunately incompatible with my contract as post-doc researcher, reason for which in this period teaching was limited to guest lectures only:

- 2013-2014: **Guest lecturer** in the class *Introduction to Service Design and Engineering* by prof. Maurizio Marchese, University of Trento: "RESTful Web Services"
- September 2013: **Guest lecturer** in the *Software Engineering Workshop* by prof. Boualem Benatallah, UNSW, Sydney, Australia: "Modeling Application Behavior: On the Use of Business Process Diagrams"
- May 2008, April 2009, March 2010, May 2011: **Guest lecturer** in the course on *Business Process Management* by prof. Fabio Casati, University of Trento, Italy: "Web Mashups"
- January 2008: **Guest lecturer** in the course on *Web Engineering* by prof. Irene Garrigós, University of Alicante, Spain: "Model-Driven Design of Context-Aware and Adaptive Web Applications"
- 2007-2008: **Teaching assistant** of the class *Workgroup and Workflow Management Systems* by prof. Giuseppe Pozzi, Politecnico di Milano, Como
- May 2007: **Guest lecturer** in the *Web Engineering* course by Moira Norrie, ETH Zurich, Switzerland: "Modeling Context and Adaptation in WebML"
- 2006-2007: **Teaching assistant** of the class *Workgroup and Workflow Management Systems* by prof. Giuseppe Pozzi, Politecnico di Milano, Como
- 2006-2007: **Teaching assistant** of the class *Sistemi Informativi* (Information Systems) by Dr. Enrico Mussi, Politecnico di Milano, Piacenza
- 2006-2007: **Teaching assistant** of the class *Laboratorio di analisi dei processi e delle informazioni aziendali* (Corporate Processes and Data Analysis Lab) by prof. Roberto Forcella, Politecnico di Milano
- 2005-2006: **Teaching assistant** of the class *Workgroup and Workflow Management Systems* by prof. Giuseppe Pozzi, Politecnico di Milano, Como
- 2004-2005: **Teaching assistant** of the class *Sistemi Informativi* (Information Systems) by Dr. Danilo Ardagna, Politecnico di Milano, Piacenza
- 2004-2005: **Teaching assistant** of the class *Sistemi di Workgroup e di Workflow* (Workgroup and Workflow Management Systems) by prof. Giuseppe Pozzi, Politecnico di Milano, Como

Ph.D. thesis co-supervision

While at University of Trento, I supervised closely the Ph.D. works of the following former Ph.D. students, together with prof. Fabio Casati and prof. Maurizio Marchese:

- **Stefano Tranquillini**. Models and Systems for Managing Sensor and Crowd-Oriented Processes. Ph.D. dissertation, Department of Information Engineering and Computer Science, University of Trento, 2014.
- **Stefano Soi**. Domain Specific Mashup Platforms as a Service. Ph.D. dissertation, Department of Information Engineering and Computer Science, University of Trento, 2013.
- **Carlos Rodriguez**. Exploiting Business Process Knowledge for Process Improvement. Ph.D. dissertation, Department of Information Engineering and Computer Science, University of Trento, 2013.
- **Soudip Roy Chowdhury**. Assisted Reuse of Pattern-Based Composition Knowledge for Mashup Development. Ph.D. dissertation, Department of Information Engineering and Computer Science, University of Trento, 2013.
- **Muhammad Imran**. An Effective End-User Development Approach Through Domain-Specific Mashups for Research Impact Evaluation. Ph.D. dissertation, Department of Information Engineering and Computer Science, University of Trento, 2013.

- **Patrícia Souza Silveira.** ActiveLifestyle: A Platform to Monitor and Motivate Physical Training Plan Compliance in Elderly People. Ph.D. dissertation, Department of Information Engineering and Computer Science, University of Trento, 2013.

Ph.D. candidates I am currently co-supervising:

- **Beatrice Valeri.** Mobile recommender systems for restaurant recommendations.
- **Pavel Kucherbaev.** Quality control in crowdsourcing systems.
- **Jorge Saldivar Galli.** Social network enabled, online idea management for civic participation.
- **Galena Kostoska.** Virtual, remote participation of older adults in museum visits.

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- [B11] A. Bouguettaya, Q. Z. Sheng and F. Daniel (Eds.). Advanced Web Services. Springer, 2014. ISBN 978-1-4614-7534-7.
- [B10] A. Bouguettaya, Q. Z. Sheng and F. Daniel (Eds.). Web Services Foundations. Springer, 2014. ISBN 978-1-4614-7517-0.
- [B9] F. Daniel, G. Papadopoulos, P. Thiran (Eds.). Mobile Web Information Systems. 10th International Conference, MobiWIS 2013, Paphos, Cyprus, August 26-29, 2013, Proceedings. Springer, August 2013. ISBN 978-3-642-40275-3.
- [B8] F. Daniel, J. Wang and B. Weber (Eds.). Business Process Management. 11th International Conference, BPM 2013, Beijing, China, August 26-30, 2013, Proceedings. Springer, August 2013. ISBN 978-3-642-40175-6.
- [B7] F. Daniel, P. Dolog and Q. Li (Eds.). Web Engineering. 13th International Conference, ICWE 2013, Aalborg, Denmark, July 8-12, 2013, Proceedings. Springer, June 2013. ISBN 978-3-642-39199-6.
- [B6] F. Daniel, K. Barkaoui and S. Dustdar (Eds.). Business Process Management Workshops - BPM 2011 International Workshops Clermont-Ferrand, France, August/September 2011, Revised Selected Papers. Springer, 2012. Part II, LNBIP 100, ISBN 978-3-642-28114-3.
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- [B4] M. E. Zorrilla, J.-N. Mazon, O. Ferrandez, I. Garrigos, F. Daniel and J. Trujillo (Eds.). Business Intelligence Applications and the Web: Models, Systems and Technologies. IGI Global, 2011. ISBN 9781613500385.
- [B3] F. Daniel and F. M. Facca (Eds.). Current Trends in Web Engineering - 10th International Conference on Web Engineering, ICWE 2010 Workshops. Springer, July 2010, Vienna, Austria. ISBN 978-3-642-16984-7.
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- [J36 - conditionally accepted] A. Lagares Lemos, F. Daniel and B. Benatallah. Web Service Composition: A Survey of Techniques and Tools. ACM Computing Surveys.

- [J35] P. Kucherbaev, F. Daniel, S. Tranquillini and M. Marchese. Crowdsourcing processes: a survey of approaches and opportunities. *IEEE Internet Computing*, 2015, in print.
- [J34] S. Tranquillini, F. Daniel, P. Kucherbaev and F. Casati. Modeling, Enacting and Integrating Custom Crowdsourcing Processes. *ACM Transactions on the Web* 9(2), Article 7, May 2015, 43 pages.
- [J33] C. Parra, P. Silveira, I. Khaghani Far, F. Daniel, E.D. De Bruin, L. Cernuzzi, V. D'Andrea, F. Casati. Information Technology for Active Ageing: A Review of Theory and Practice. *Foundations and Trends in Human-Computer Interaction* 7(4), 2013, Pages 251-444. DOI 10.1561/11000000053.
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- [C56] P. Kucherbaev, F. Daniel, S. Tranquillini and M. Marchese. ReLauncher: Crowdsourcing Micro-Tasks Runtime Controller. CSCW 2016. To appear.
- [C55] P. Kucherbaev, F. Daniel, S. Tranquillini and M. Marchese. Modeling and Exploration of Crowdsourcing Micro-Tasks Execution. HCOMP 2015. To appear.
- [C54] S. Tranquillini, F. Daniel, P. Kucherbaev and F. Casati. BPMN Task Instance Streaming for Efficient Micro-Task Crowdsourcing Processes. BPM 2015, Pages 333-349.
- [C53] F. Daniel. Live, Personal Data Integration through UI-Oriented Computing. ICWE 2015.
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- [C51] B. Valeri, F. Daniel, F. Casati. Better recommendations of social leisure activities through better understanding of people's choices and motivations. International Conference on Computational Social Science (IC2S2 2015).
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Trento, 4 September 2015

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