

University Academic Curriculum Vitae

Personal information Name: Romain Robbes
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Education since leaving school

- 2000: DEUG d'Informatique (Eq. Bachelor 2, Université de Caen, France)
- 2001: License d'Informatique (Eq. Bachelor 3, Université de Caen, France)
- 2003: Diplôme d'Études Approfondies (Eq. Master 2, Université de Caen, France)
- 2008: Ph.D in Informatics, titled "Of Change and Software" (Università della Svizzera Italiana, Switzerland); advised by Prof. Michele Lanza.

Present appointment

- Received the Italian national qualification as Full Professor in Computer Science (07/08/2018)
- Associate Professor, Free University of Bozen-Bolzano.
- Start of appointment: April 2017
- Responsibilities: Research in the field of Software Engineering; Teaching of undergrad and postgrad courses; Advising of thesis students; Administrative duties at the University; Writing and evaluating grant proposals and research articles.

Professional experience

Chronological list of all previous employments (each with job title, starting and finishing dates, level, employer, responsibilities)

Nov. 2015 – Apr. 2017: **Associate Professor**, University of Chile, Chile.

Responsibilities: research, teaching, advising of students, administrative duties, writing and evaluation of grants and articles.

2010 – Nov. 2015: **Assistant Professor**, University of Chile, Chile.

Responsibilities: research, teaching, advising of students, administrative duties, writing and evaluation of grants and articles.

Sep. – Dec. 2014: **Visiting Research Scholar**, University of Hamburg, Germany.

Responsibilities: research in collaboration with Prof. Walid Maalej.

2009: **Post-doc**, University of Lugano, Switzerland.

Responsibilities: research in the group led by Prof. Michele Lanza; teaching of classes at the university; co-advising students with Prof. Lanza.

2004 – 2008: **Research Assistant**, University of Lugano, Switzerland.

Responsibilities: research in the context of the Ph.D in the group led by Prof. Lanza.; teaching assistant for classes.

Jul. – Aug. 2004: **Research Assistant**, University of Bern, Switzerland.

Responsibilities: research in the group led by Prof. Oscar Nierstrasz

2003: **Research Assistant**, École des Mines de Douai, France.

Responsibilities: research in the group led by Prof. Noury Bouraqadi

2002 – 2003: **Teaching Assistant**, University of Caen, France.

Responsibilities: teaching assistant for classes

Experience in academic teaching

I have been teaching lectures since 2009. Before that, I have acted as an assistant since 2003.

- 2017-2019: "Mobile Systems Engineering" and "Software Maintenance and Evolution" at the Free University of Bozen-Bolzano (5th year courses).
- 2011-2016: "Ingeniería de Software I", at the University of Chile. Under-graduate Software Engineering course (4th year). Class given twice a year. Student evaluations in the appendix.
- 2013-2015: "Temas Avanzados en Ingeniería de Software", at the University of Chile. Continuous formation course for industry, covering software maintenance activities. Student evaluations in the appendix.
- 2011-2013: "Introducción a la Computación", at the University of Chile. Undergraduate course on the fundamentals of programming (1st year). Student evaluations in the appendix.
- 2011, 2012, 2015: "Seminario de Minería de Repositorios de Software (MSR)", at the University of Chile. Postgraduate seminar on Mining Software Repositories. Student evaluations in the appendix.
- 2013: "Investigación Empírica en Ingeniería de Software", at the University of Chile. Postgraduate seminar on Empirical Software Engineering. Student evaluations in the appendix.
- I have additional teaching experience at the University of Lugano as an Instructor for the "Software Atelier I" course, and as a Teaching Assistant for the "Software Architecture" course (2008) and the "Programming Fundamentals" course (2004-2007).
- I also was a Teaching Assistant for a "Programming Fundamentals" course at the University of Caen (2003).

Postgraduate supervision (Ph.D level)

- I advised or co-advised 5 Ph.D. students:
 - ▶ Oscar Callaú (2010–2015) "Empirically-Driven Design and Implementation of Gradualtalk"
 - ▶ Juraj Kubelka (2013–2018) "Artifact-Driven Communication to Improve Program Comprehension"
 - ▶ Pablo Estefó (2014–2019) "Modularity, Developer Roles and Communication Mechanisms in the Robot Operating System"
 - ▶ Guillermo de la Torre (2015-2019, "Language-aware Source Code Change Detection")
 - ▶ Anjan Karmakar (2018-2022, Topic to be determined)

Postgraduate supervision (Master level)

- I also advise or co-advise Master Students:
 - ▶ Gabriel Correa (2015, "A tool to detect important API directives")
 - ▶ Luis Carlos Cruz (ITAM, 2016, "Analysis of Developer Work Patterns from Interaction Data")
 - ▶ Srishti Gaihre (2018, "Recommending Good Method Names")
 - ▶ Hlib Babii (2018-2019, "Log Statement Recommendation")

Other academic responsibilities

- Co-chair of ACM SIGSOFT “Paper and Review Quality” initiative (2019)
- Member of the faculty’s contract teacher selection committee (2018-Present)
- Member of the faculty’s Ph.D. student selection committee (2018-present)
- Previous committees in my former institution (2010-2017)

Organization of international conferences and events

- **General Chair** for the 12th Seminar on Advanced Techniques and Tools for Software Evolution (**SATToSE 2019**)
- **Artefact co-chair** for the 34th IEEE International Conference on Software Maintenance and Evolution (**ICSME 2018**)
- **Workshop co-chair** for the 39th ACM/IEEE International Conference on Software Engineering (**ICSE 2017**). ICSE is the top conference of the field, attracting between 20 and 30 workshops each year; hence the workshop co-chair is one of the most important roles in organizing the conference.
- **Program co-chair** for the 13th ACM/IEEE International Conference on Mining Software Repositories (**MSR 2016**)
- **Organising co-chair** for the ACM SIGSOFT ICSE 2017 Ph.D. and Young Researchers Warmup Symposium at JCC 2015
- **Tutorials co-chair** for the 6th ACM SIGPLAN conference on Systems, Programming, Languages and Applications: Software for Humanity (**SPLASH 2015**)
- **Program co-chair** for the 12th ACM/IEEE International Working Conference on Mining Software Repositories (**MSR 2015**)
- **ACM Student Research Competition co-chair** for the 36th ACM/IEEE International Conference on Software Engineering (**ICSE 2014**)
- **ERA Track co-chair** for the 22nd IEEE International Conference on Program Comprehension (**ICPC 2014**)
- **Program co-chair** for the 20th IEEE Working Conference on Reverse Engineering (**WCRE 2013**)
- **ERA Track co-chair** for the 31st IEEE International Conference on Software Maintenance (**ICSM 2013**)
- **Program co-chair** for the 13th International Workshop on Principles of Software Evolution (**IWPSE 2013**)
- **Publicity chair** for the 19th IEEE Working Conference on Reverse Engineering (**WCRE 2012**)
- **Publicity co-chair** for the 29th IEEE International Conference on Software Maintenance (**ICSM 2011**)
- **Program co-chair** for the 12th International Workshop on Principles of Software Evolution and the 7th Annual ERCIM Workshop on Software Evolution (**IWPSE/EVOL 2011**)
- **Organising co-chair** for the 2nd Summer School on Programming Languages (**PL 2009**)
- **Poster track chair** for the 17th IEEE International Conference on Program Comprehension (**ICPC 2009**)
- **Program co-chair** for the 5ème MAnifestations des JEunes Chercheurs en Sciences et Technologies de l'Information et de la Communication (**MAJECSTIC 2007**)

Steering Committee Memberships

- MSR: The International Conference on Mining Software Repositories, 2014 — 2019
- IWPSE: The International Workshop on the Principles of Software Evolution, 2010 — 2015
- MajecSTIC: MAnifestations des JEunes Chercheurs en Sciences et Technologies de l'Information et de la Communication, 2008 — 2010

Editorial board memberships

- Empirical Software Engineering Journal (Indexed by ISI, edited by Springer)
- Journal of Systems and Software (Indexed by ISI, edited by Elsevier)
- Guest editor for three special issue of the Empirical Software Engineering Journal (WCRE 2013, MSR 2015, MSR 2016)

**Program Committee
Memberships for
International
Conferences
(2013-2019)**

- 42nd ACM/IEEE International Conference on Software Engineering (**ICSE 2020, Posters track**)
- 13th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (**ESEM 2019**)
- 27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (**ESEC/ FSE 2019**)
- 41st ACM/IEEE International Conference on Software Engineering (**ICSE 2018, NIER track**)
- 33rd IEEE/ACM International Conference on Automated Software Engineering (**ASE 2018**)
- 40th ACM/IEEE International Conference on Software Engineering (**ICSE 2018, Workshops track**)
- 15th ACM/IEEE Working Conference on Mining Software Repositories (**MSR 2018**)
- 25th IEEE International Conference on Software Analysis, Evolution, and Reengineering (**SANER 2018**)
- 6th IEEE Working Conference on Software Visualization (**VISSOFT 2018**)
- 2017 ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (**OOPSLA 2017**)
- 39th ACM/IEEE International Conference on Software Engineering (**ICSE 2017**). **Outstanding Reviewer Award.**
- 14th ACM/IEEE Working Conference on Mining Software Repositories (**MSR 2017**)
- 32nd IEEE International Conference on Software Maintenance and Evolution (**ICSME 2016**)
- 23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering (**SANER 2016**)
- 24th ACM SIGSOFT International Symposium on the Foundations of Software Engineering (**FSE 2016, Visions and Reflections**)
- 38th ACM/IEEE International Conference on Software Engineering (**ICSE 2016, Software Engineering in Practice**)
- 31st IEEE International Conference on Software Maintenance and Evolution (**ICSME 2015**)
- 37th ACM/IEEE International Conference on Software Engineering (**ICSE 2015**)
- 15th IEEE International Working Conference on Source Code Analysis and Manipulation (**SCAM 2015**)
- 22nd ACM SIGSOFT International Symposium on the Foundations of Software Engineering (**FSE 2014, ACM Student Research Competition**)
- 36th ACM/IEEE International Conference on Software Engineering (**ICSE 2014, Posters track**)
- 28th European Conference on Object-Oriented Programming (**ECOOP 2014, External Review Committee**)
- 10th ACM/IEEE Working Conference on Mining Software Repositories (**MSR 2014**)
- 22nd IEEE European Conference on Software Maintenance and Reengineering and 21st IEEE Working Conference on Reverse Engineering (**CSMR-WCRE 2014**)
- 22nd IEEE International Conference on Program Comprehension (**ICPC 2014**)
- 35th ACM/IEEE International Conference on Software Engineering (**ICSE 2013, Software Engineering in Practice**)
- 35th ACM/IEEE International Conference on Software Engineering (**ICSE 2013, ACM Student Research Competition**)
- 35th ACM/IEEE International Conference on Software Engineering (**ICSE 2013, Student Contest on Software Engineering**)
- 9th ACM/IEEE Working Conference on Mining Software Repositories (**MSR 2013**)
- 21st IEEE International Conference on Program Comprehension (**ICPC 2013**)
- 21st IEEE European Conference on Software Maintenance and Reengineering (**CSMR 2013**)

**Program Committee
Memberships for
International
Conferences
(2008-2012)**

- 28th IEEE International Conference on Software Maintenance (**ICSM 2012**)
- 28th IEEE International Conference on Software Maintenance (**ICSM 2012, Industry track**)
- 34th ACM/IEEE International Conference on Software Engineering (**ICSE 2012, Tool Demos**)
- 34th ACM/IEEE International Conference on Software Engineering (**ICSE 2012, Posters**)
- 8th ACM/IEEE Working Conference on Mining Software Repositories (**MSR 2012**)
- 19th IEEE Working Conference on Reverse Engineering (**WCRE 2012**)
- 20th IEEE International Conference on Program Comprehension (**ICPC 2012**)
- 20th IEEE European Conference on Software Maintenance and Reengineering (**CSMR 2012**)
- 12th IEEE International Working Conference on Source Code Analysis and Manipulation (**SCAM 2012, Tool Demos**)
- 27th IEEE International Conference on Software Maintenance (**ICSM 2011, Early Research Achievements**)
- 27th IEEE International Conference on Software Maintenance (**ICSM 2011, Tool Demos**)
- 13th European Software Engineering Conference and 19th ACM SIGSOFT International Symposium on the Foundations of Software Engineering (**ESEC/FSE 2011, Tool Demos**)
- 7th ACM/IEEE Working Conference on Mining Software Repositories (**MSR 2011**)
- 18th IEEE Working Conference on Reverse Engineering (**WCRE 2011**)
- 18th IEEE Working Conference on Reverse Engineering (**WCRE 2011, Tool Demos**)
- 19th IEEE European Conference on Software Maintenance and Reengineering (**CSMR 2011**)
- 30th International Conference of the Chilean Computer Science Society (**SCCC 2011**)
- 18th ACM SIGSOFT International Symposium on the Foundations of Software Engineering (**FSE 2010, Tool Demos**)
- 22nd European Conference on Object-Oriented Programming (**ECOOP 2008, Doctoral Symposium**)
- 25th IEEE/ACM International Conference on Automated Software Engineering (**ASE 2010, Tool Demos**)
- 26th IEEE International Conference on Software Maintenance (**ICSM 2010, Early Research Achievements**)
- 26th IEEE International Conference on Software Maintenance (**ICSM 2010, Tool Demos**)
- 18th IEEE International Conference on Program Comprehension (**ICPC 2010, Tool Demos**)
- 29th International Conference of the Chilean Computer Science Society (**SCCC 2010**)
- 17th IEEE International Conference on Program Comprehension (**ICPC 2009, Tool Demos**)
- 23rd IEEE/ACM International Conference on Automated Software Engineering (**ASE 2008, Tool Demos**)
- 15th IEEE Working Conference on Reverse Engineering (**WCRE 2008, Tool Demos**)

**Referee for
International
Journals**

- Frequent reviewer for IEEE Transactions on Software Engineering (**TSE**)
- Frequent reviewer and member of the Review Board for Empirical Software Engineering (**EMSE**)
- IEEE Software
- IEEE Transactions on Reliability (**TSR**)
- ACM Computing Surveys (**CSUR**)
- Journal of Automated Software Engineering (**J.ASE**)
- Science of Computer Programming (**SCP**)
- Information and Software Technology (**IST**)
- Journal of Systems and Software (**JSS**)
- Journal of Software: Evolution and Process (**JSEP**)

Research and scholarships

In my career I have cultivated several research interests, which mostly fall under the umbrella of empirical software engineering and software developer productivity. These include:

- Recommender systems for software developers
- Empirical studies of software developer's behavior
- Empirical studies of programming language feature usage, and their impact on developer productivity
- Empirical studies of the usage of APIs by developers and its evolution over time
- Software engineering for robotics
- Large-scale and fine-grained Mining Software Repositories to support empirical studies such as the above
- Studies of software engineering practices in small software companies, and their needs for software analytics

Significant achievements in research and scholarship

- My Ph.D thesis ("Of Change and Software"), in which I explore the usefulness of representing change as first class citizens, was a major influence on the Ph.D theses of Peter Ebraert, Lile Hattori, Stas Negara, Quinten Soetens, Takayuki Omori, and Martin Dias. My Ph.D. thesis was also a finalist of the GI-Dissertationspreis (a competition of Ph.D.s awarded in Germany, Austria, and Switzerland) in 2010.
- As part of this thesis, my ASE 2008 paper was selected as one of 3 papers for the special issue of the conference. ASE is a top SE conference, which had 280 submissions and a 12% acceptance rate for full papers that year, placing my paper in the top 1% of submitted papers to ASE 2008.
- My MSR 2010 paper was the top-cited paper in the period 2010-2015 according to google scholar. It's EMSE extension is the most cited paper of the last 5 years (<http://goo.gl/v1fZAg>)
- Papers I co-authored received two best paper awards (WCRE 2009, MSR 2011). In addition, several of my papers were best paper award candidates and were invited to special issues as a consequence. Other indicators of the quality of my works are the number of publications in top-tier conferences (15) and top-tier journals (11)
- I was nominated by my department to the Microsoft Faculty Fellows in 2012, and was a finalist for that award.

Research grants and contracts

- Projects where I am a Principal Investigator or Project Director only.
- 1 Proposal under submission (INTERREG)
- 2015-2018. **Project title:** Challenges in mining developer interaction data in the small and in the large. **Role:** Principal Researcher. **Funding Source:** FONDECYT REGULAR, **Grant number:** 1151195. **Grant Amount:** 88,362,000 CLP (130,048 US\$ as of June 2016).
- 2013-2015. **Project title:** Studies and support of work fragmentation for software developers in small and medium size companies. **Role:** Director (project in collaboration with Prof. Victor Gonzalez, ITAM, México), **Funding Source:** LACCIR, **Grant number:** RFP1212LAC004. **Grant Amount:** 100,000 US\$.
- Sept.–Dec. 2014. **Project title:** Sessionization and contextualization of software developer interaction data. **Role:** Principal Researcher. **Funding Source:** DAAD, Programa de Intercambio Bilateral de Científicos **Grant Amount:** 6,750 EUR.
- 2012-2014. **Project title:** Micromégas: Filling the gaps in Mining Software Repositories with developer and ecosystem-level mining. **Role:** Principal Researcher. **Funding Source:** FONDECYT INICIACION, **Grant number:** 11110463. **Grant Amount:** 51.246.000 CLP (75,422 US\$ as of June 2016).
- 2011. **Project title:** Building and mining a repository of developer interactions for Visual Studio. **Role:** Principal Researcher. **Funding Source:** Microsoft Research Software Engineering Innovation Foundation (SEIF) Awards **Grant Amount:** 25,000 US\$ (11% acceptance).

Awards

- 2017: Outstanding Reviewer Award, ICSE 2017
- 2012: Finalist, Microsoft Research Faculty Fellows.
- 2011: Best paper award, MSR 2011
- 2011: Microsoft Software Engineering Innovation Award (25,000 USD, 10% acceptance)
- 2010: Finalist, GI-Dissertationspreis (for my doctoral dissertation)
- 2009: Best paper award, WCRE 2009

See also the "Further data" section for my presentations as invited speaker and participations to invitation-only seminars.

Publications

An overview of my publications is available on google scholar:

<https://scholar.google.fr/citations?user=OXkWqAoAAAAJ&hl=en>

According to Google Scholar, I have 3280+ citations (500 in 2018), and an h-index of 29. I have authored 22 ISI-indexed journal papers, 15 papers at top conferences, among others (~100 in total). A list of publications by categories follow.

Publications – Proceedings

- Miryung Kim, Romain Robbes, Christian Bird: Proceedings of the 13th International Conference on Mining Software Repositories, MSR 2016, May 14-16, 2016, Austin, Texas. IEEE 2016, ISBN 978-1-4503-4186-8.
- Massimiliano Di Penta, Martin Pinzger, Romain Robbes: Proceedings of the 12th International Working Conference on Mining Software Repositories, MSR 2015, May 16-17, 2015, Florence, Italy. IEEE 2015, ISBN 978-0-7695-5594-2
- Romain Robbes, Gregorio Robles: Proceedings of the 13th International Workshop on Principles of Software Evolution, IWPSE 2013, August 19-20, 2013, Saint Petersburg, Russia. ACM 2013, ISBN 978-1-4503-2311-6
- Ralf Lämmel, Rocco Oliveto, Romain Robbes: Proceedings of the 20th Working Conference on Reverse Engineering, WCRE 2013, Koblenz, Germany, October 14-17, 2013. IEEE Computer Society 2013, ISBN 978-1-4799-2931-3
- Anthony Cleve, Romain Robbes: Proceedings of the 12th International Workshop on Principles of Software Evolution and the 7th annual ERCIM Workshop on Software Evolution, EVOL/IWPSE 2011, Szeged, Hungary, September 5-6, 2011. ACM 2011, ISBN 978-1-4503-0848-9

Publications – Book Chapters

- Romain Robbes: Software Analytics for Small Software Companies: More Questions than Answers. In Perspectives on Data Science for Software Engineering, Morgan Kaufman 2016 (in print)
- Walid Maalej, Thomas Fritz, Romain Robbes: Collecting and Processing Interaction Data for Recommendation Systems. In Recommendation Systems in Software Engineering, Springer 2014: 173-197

**Publications –
ISI Journal Articles**

Including 5-year impact factor, and highlighting publications in the first and second quartiles of the Software Engineering category of journals according to Thomson-Reuters.

1. Anand Sawant, Romain Robbes, Alberto Bacchelli. To react, or not to react: Patterns of reaction to API deprecation. *Empirical Software Engineering*. in press, 2019 (Q1)
2. Pablo Estefo, Jocelyn Simmonds, Romain Robbes, Johan Fabry. The Robot Operating System: Package reuse and community dynamics. *Journal of Systems and Software* 151: 226-242 (Q1)
3. Anand Sawant, Romain Robbes, Alberto Bacchelli. On the reaction to deprecation of clients of 4 + 1 popular Java APIs and the JDK. *Empirical Software Engineering* 23(4): 2158-2197, 2018. (Q1)
4. Gleison Brito, André Hora, Marco Tulio Valente, Romain Robbes. On the use of replacement messages in API deprecation: An empirical study. *Journal of Systems and Software* 137:306-321,2018 (Q1)
5. *André Hora, Romain Robbes, Marco Tulio Valente, Nicolas Anquetil, Anne Etien, Stéphane Ducasse.* How Do Developers React to API Evolution? A Large-Scale Empirical Study. *Software Quality Journal* 26(1): 161-191, 2018 (5-Y IF: 2.132, Q2)
6. *Quinten D. Soetens, Romain Robbes, Serge Demeyer.* Changes as First-Class Citizens: A Research Perspective on Modern Software Tooling. *ACM Computing Surveys* 50(2):18, 2017 (5-Y IF: 8.961, Q1)
7. *Walid Maalej, Mathias Ellmann, Romain Robbes.* Using Contexts Similarity to Predict Relationships Between Tasks. *Journal of Systems and Software* 128: 267-284, 2017 (5-Y IF: 2.619, Q1)
8. *Luis C.Cruz, Heider Sanchez, Víctor M. Gonzalez, Romain Robbes.* Work Fragmentation in Developer Interaction Data. *Journal of Software: Evolution and Process* 29(3): 1-24, 2017 (5Y-IF:1.316)
9. *Sergio Ochoa, Romain Robbes, Maira Marques, Luis Silvestre, Alcides Quispe:* What Makes Chilean Niche Software Companies Different: Business Knowledge and Reputation. *IEEE Software* 34(3): 96-103, 2017 (5Y-IF: 1.408, Q2)
10. *Romain Robbes, David Röthlisberger, Éric Tanter:* Object-Oriented Software Extensions in Practice. *Empirical Software Engineering* 20(3): 745-782, 2015 (5Y-IF: 3.759, Q1)
11. *Oscar Callaú, Romain Robbes, Éric Tanter, David Röthlisberger, Alexandre Bergel:* On the use of type predicates in object-oriented software: the case of Smalltalk. *ACM SIGPLAN Notices* 50(10):135-146, 2015 (DLS 2014, 5Y-IF: 0.621)
12. *Stefan Hanenberg, Sebastian Kleinschmager, Romain Robbes, Éric Tanter, Andreas Stefik:* An empirical study on the impact of static typing on software maintainability. *Empirical Software Engineering* 19(5): 1335-1382, 2014 (5Y-IF: 3.759, Q1)
13. *Johan Fabry, Romain Robbes, Marcus Denker:* DIE: A Domain Specific Aspect Language for IDE Events. *J. UCS* 20(2): 135-168, 2014 (5Y-IF: 0.533)
14. *Oscar Callaú, Romain Robbes, Éric Tanter, David Röthlisberger:* How (and why) developers use the dynamic features of programming languages: the case of smalltalk. *Empirical Software Engineering* 18(6): 1156-1194, 2013 (5Y-IF: 3.759, Q1)

**Publications –
ISI Journal Articles
(Continued)**

15. *Romain Robbes*, René Vidal, María Cecilia Bastarrica: Are Software Analytics Efforts Worthwhile for Small Companies? The Case of Amisoft. *IEEE Software* 30(5): 46-53, 2013 (5Y-IF: 1.408, Q2)
16. *Clemens Mayer*, Stefan Hanenberg, Romain Robbes, Éric Tanter, Andreas Stefik: An Empirical Study of the Influence of Static Type Systems on the Usability of Undocumented Software. *ACM SIGPLAN Notices* 47(10): 683-702, 2012 (OOPSLA 2012, 5Y-IF: 0.621)
17. *Alexandre Bergel*, Felipe Bañados, Romain Robbes, David Röthlisberger: Spy: A flexible code profiling framework. *Computer Languages, Systems & Structures* 38(1): 16-28 (2012, 5Y-IF: 0.438)
18. *Lile Hattori*, Michele Lanza, Romain Robbes: Refining code ownership with synchronous changes. *Empirical Software Engineering* 17(4-5): 467-499, 2012 (5Y-IF: 3.759, Q1)
19. *Marco D'Ambros*, Michele Lanza, Romain Robbes: Evaluating defect prediction approaches: a benchmark and an extensive comparison. *Empirical Software Engineering* 17(4-5): 531-577, 2012 (5Y-IF: 2.610, Q1)
20. *Alexandre Bergel*, Felipe Bañados, Romain Robbes, Walter Binder: Execution profiling blueprints. *Softw., Pract. Exper.* 42(9): 1165-1192, 2012 (5Y-IF: 0.888)
21. *Romain Robbes*, Michele Lanza: Improving code completion with program history. *Autom. Softw. Eng.* 17(2): 181-212, 2010 (5Y-IF: 1.429, Q2)
22. *Mircea Lungu*, Michele Lanza, Tudor Gîrba, Romain Robbes: The Small Project Observatory: Visualizing software ecosystems. *Sci. Comput. Program.* 75(4): 264-275, 2010 (5Y-IF: 0.810)

**Publications –
Other Journal
Articles**

1. Marco D'Ambros, Michele Lanza, Mircea Lungu, Romain Robbes: On porting software visualization tools to the web. *STTT* 13(2): 181-200, 2011
2. Romain Robbes, Michele Lanza: A Change-based Approach to Software Evolution. *Electr. Notes Theor. Comput. Sci.* 166: 93-109. 2007

**Publications –
Top-Tier Conferences**

Full papers in conferences classified as A or A* by the CORE association (<http://www.core.edu.au/index.php/conference-rankings>).

1. Juraj Kubelka, Romain Robbes, Alexandre Bergel: The road to live programming: insights from the practice. ICSE 2018: 1090-1101 (CORE A*, acceptance rate: 20%)
2. Andre Hora, Danilo Silva, Marco Tulio Valente, Romain Robbes. Assessing the threat of untracked changes in software evolution. ICSE 2018: 1102-1113 (CORE A*, acceptance rate: 20%)
3. Guillermo de la Torre, Romain Robbes, Alexandre Bergel: Imprecisions diagnostic in source code deltas. MSR 2018: 492-502 (CORE A, acceptance rate: 33%)
4. *Anand Sawant*, Romain Robbes, Alberto Bacchelli: On the reaction to deprecation of 25,357 clients of 4+1 popular Java APIs. ICSME 2016: 400-410 (CORE A, acceptance rate: 29%)
5. *André Hora*, Marco Tulio Valente, Romain Robbes, Nicolas Anquetil: When Should Internal Interfaces be Promoted to Public? SIGSOFT FSE 2016: 278-289 (CORE A*, acceptance rate: 27%)
6. *André Hora*, Romain Robbes, Nicolas Anquetil, Anne Etien, Stéphane Ducasse, Marco Túlio Valente: How Do Developers React to API Evolution? The Pharo Ecosystem Case. ICSME 2015: 251-260 (CORE A, acceptance rate: 22%)
7. *Meiyappan Nagappan*, *Romain Robbes*, Yasutaka Kamei, Éric Tanter, Shane McIntosh, Audris Mockus, Ahmed Hassan: An Empirical Study of goto in C Code from GitHub Repositories. ESEC/SIGSOFT FSE 2015: 404-414 (CORE A*, acceptance rate: 25%)
8. *María Cecilia Bastarrica*, Gerardo Matturro, Romain Robbes, Luis Silvestre, René Vidal: How does Quality of Formalized Software Processes Affect Adoption? CAiSE 2014: 226-240 (CORE A, acceptance rate: 18%)
9. *Stefan Endrikat*, Stefan Hanenberg, Romain Robbes, Andreas Stefik: How do API documentation and static typing affect API usability? ICSE 2014: 632-642 (CORE A*, acceptance rate: 20%)
10. *Romain Robbes*, David Röthlisberger, Éric Tanter: Extensions during Software Evolution: Do Objects Meet Their Promise? ECOOP 2012: 28-52 (CORE A, acceptance rate: 21%)
11. *Clemens Mayer*, Stefan Hanenberg, Romain Robbes, Éric Tanter, Andreas Stefik: An empirical study of the influence of static type systems on the usability of undocumented software. OOPSLA 2012: 683-702 (CORE A*, acceptance rate: 25%)
12. *Romain Robbes*, Mircea Lungu, David Röthlisberger: How do developers react to API deprecation?: the case of a smalltalk ecosystem. SIGSOFT FSE 2012: Article 56 (11 pages, CORE A*, acceptance rate: 17%)
13. *Richard Wettel*, Michele Lanza, Romain Robbes: Software systems as cities: a controlled experiment. ICSE 2011: 551-560 (CORE A*, acceptance rate: 14%)
14. *Alberto Bacchelli*, Michele Lanza, Romain Robbes: Linking e-mails and source code artifacts. ICSE (1) 2010: 375-384 (CORE A*, acceptance rate: 13%)
15. *Romain Robbes*, Michele Lanza: How Program History Can Improve Code Completion. ASE 2008: 317-326 (CORE A, acceptance rate: 12%, invited for special issue)

Publications – Competitive Conferences

Full papers in specialist conferences with an acceptance rate usually between 25 and 35%.

1. Juraj Kubelka, Romain Robbes, Alexandre Bergel. Live Programming and Software Evolution Questions during a Programming Change Task. ICPC 2019 (in press)
2. *Roberto Minelli*, Andrea Mocchi, Romain Robbes and Michele Lanza: Taming the IDE with Fine-grained Interaction Data. ICPC 2016: 1-10.
3. *Gleison Brito*, Andre Hora, Marco Tulio Valente, Romain Robbes: Do Developers Deprecate APIs with Replacement Messages? A Large-scale Analysis on Java Systems. SANER 2016: 360-369
4. *Nevena Milojkovic*, Andrea Caracciolo, Mircea Lungu, Oscar Nierstrasz, Romain Robbes, David Röthlisberger: Polymorphism in the Spotlight: Studying its Prevalence in Java and Smalltalk. ICPC 2015: 186-195
5. *Heider Sanchez*, *Romain Robbes*, Victor M. Gonzalez: An empirical study of work fragmentation in software evolution tasks. SANER 2015: 251-260 (invited for special issue)
6. *Oscar Callaú*, *Romain Robbes*, Éric Tanter, David Röthlisberger, Alexandre Bergel: On the use of type predicates in object-oriented software: the case of smalltalk. DLS 2014: 135-146
7. *Pujan Petersen*, Stefan Hanenberg, Romain Robbes: An empirical comparison of static and dynamic type systems on API usage in the presence of an IDE: Java vs. groovy with eclipse. ICPC 2014: 212-222
8. *Sebastian Kleinschmager*, Stefan Hanenberg, Romain Robbes, Éric Tanter, Andreas Stefik: Do static type systems improve the maintainability of software systems? An empirical study. ICPC 2012: 153-162 (invited for special issue)
9. *Oscar Callaú*, *Romain Robbes*, Éric Tanter, David Röthlisberger: How developers use the dynamic features of programming languages: the case of smalltalk. MSR 2011: 23-32 (Best paper award, invited for special issue)
10. *Fernando Olivero*, Michele Lanza, Marco D'Ambros, Romain Robbes: Enabling program comprehension through a visual object-focused development environment. VL/HCC 2011: 127-134
11. *Marco D'Ambros*, Michele Lanza, Romain Robbes: An extensive comparison of bug prediction approaches. MSR 2010: 31-41 (invited for special issue)
12. *Romain Robbes*, Damien Pollet, Michele Lanza: Replaying IDE interactions to evaluate and improve change prediction approaches. MSR 2010: 161-170
13. *Romain Brixtel*, Mathieu Fontaine, Boris Lesner, Cyril Bazin, Romain Robbes: Language- Independent Clone Detection Applied to Plagiarism Detection. SCAM 2010: 77-86
14. *Alexandre Bergel*, Romain Robbes, Walter Binder: Visualizing Dynamic Metrics with Profiling Blueprints. TOOLS (48) 2010: 291-309
15. *Marco D'Ambros*, Michele Lanza, Romain Robbes: On the Relationship Between Change Coupling and Software Defects. WCRE 2009: 135-144
16. *Alberto Bacchelli*, Marco D'Ambros, Michele Lanza, Romain Robbes: Benchmarking Lightweight Techniques to Link E-Mails and Source Code. WCRE 2009: 205-214 (Best paper award)
17. *Marco D'Ambros*, Michele Lanza, Mircea Lungu, Romain Robbes: Promises and perils of porting software visualization tools to the web. WSE 2009: 109-118 (invited for special issue)
18. *Romain Robbes*, Michele Lanza: Example-Based Program Transformation. MoDELS 2008: 174-188 (acceptance rate: 21%)
19. *Romain Robbes*, Michele Lanza, Mircea Lungu: An Approach to Software Evolution Based on Semantic Change. FASE 2007: 27-41 (acceptance rate: 21%)
20. *Romain Robbes*, Michele Lanza: Characterizing and Understanding Development Sessions. ICPC 2007: 155-166

**Publications –
Other Conferences
(including short
papers at competitive
conferences)**

1. Romain Robbes, Mircea Lungu, Andrea Janes. API Fluency. **ICSE NIER 2019**, in press.
2. Romain Robbes, Andrea Janes. Leveraging Small Software Engineering Data Sets with Pre-trained Neural Networks. **ICSE NIER 2019**, in press.
3. Jhonny Cerezo, Juraj Kubelka, Romain Robbes, Alexandre Bergel. Building an Expert Recommender Chatbot. BotSE 2019, in press
4. Ismael Figueroa, Romain Robbes: Is Functional Programming Better for Modularity? PLATEAU 2015: 49-52.
5. Pablo Estefo, Romain Robbes, Johan Fabry: Code duplication in ROS launchfiles. SCCC 2015: 1-6.
6. Juraj Kubelka, Alexandre Bergel, Andrei Chis, Tudor Girba, Stefan Reichhart, Romain Robbes and Aliaksei Syrel: On Understanding How Developers Use the Spotter Search Tool. VISSOFT 2015: 145-149
7. Víctor Gonzalez, Romain Robbes, Gabriela Góngora, Salvador Medina: Measuring Concentration while Programming with Low-Cost BCI Devices: Differences between Debugging and Creativity Tasks. HCI International: 605-615
8. Juraj Kubelka, Alexandre Bergel, Romain Robbes: Pitekün: An Experimental Visual Tool to Assist Code Navigation and Code Understanding. SCCC 2014 (in print)
9. Juraj Kubelka, Alexandre Bergel, Romain Robbes: Asking and Answering Questions during a Programming Change Task in Pharo Language. PLATEAU 2014: 1-11
10. Romain Robbes, David Röthlisberger: Using developer interaction data to compare expertise metrics. MSR 2013: 297-300
11. Niko Schwarz, Mircea Lungu, Romain Robbes: On how often code is cloned across repositories. **ICSE NIER 2012**: 1289-1292 (acceptance rate: 17%)
12. Fernando Olivero, Michele Lanza, Marco D'Ambros, Romain Robbes: Tracking human- centric controlled experiments with biscuit. PLATEAU 2012: 1-6
13. Romain Robbes, Mircea Lungu: A study of ripple effects in software ecosystems. **ICSE NIER 2011**: 904-907 (acceptance rate: 21%)
14. Mircea Lungu, Romain Robbes, Michele Lanza: Recovering inter-project dependencies in software ecosystems. **ASE 2010**: 309-312
15. Marco D'Ambros, Michele Lanza, Romain Robbes: Commit 2.0. Web2SE 2010: 14-19
16. Alcides Quispe, Maira Marques, Luis Silvestre, Sergio F. Ochoa, Romain Robbes: Requirements Engineering Practices in Very Small Software Enterprises: A Diagnostic Study. SCCC 2010: 81-87
17. Romain Robbes: On the evaluation of recommender systems with recorded interactions. SUITE 2009: 45-48
18. David Röthlisberger, Oscar Nierstrasz, Stéphane Ducasse, Damien Pollet, Romain Robbes: Supporting task-oriented navigation in IDEs with configurable HeatMaps. ICPC 2009: 253-257
19. Michele Lanza, Amy L. Murphy, Romain Robbes, Mircea Lungu, Paolo Bonzini: A teamwork-based approach to programming fundamentals with scheme, smalltalk & java. **ICSE SEET 2008**: 787-790
20. Romain Robbes, Michele Lanza: SpyWare: a change-aware development toolset. **ICSE Formal Tool Demonstrations 2008**: 847-850
21. Romain Robbes, Damien Pollet, Michele Lanza: Logical Coupling Based on Fine-Grained Change Information. WCRE 2008: 42-46
22. Romain Robbes: Mining a Change-Based Software Repository. MSR 2007: Article 15 (8 pages)

Other Publications

1. Marco D'Ambros, Romain Robbes: Effective mining of software repositories. ICSM 2011: 598
2. Fernando Olivero, Michele Lanza, Marco D'Ambros, Romain Robbes: Gaucho: Programming == Modeling. ECOOP Tool Demonstrations 2001.
3. Alexandre Bergel, Felipe Bañados, Romain Robbes, David Röthlisberger: Spy: A flexible and Agile Code Profiling Framework. IWST 2010: 21-28
4. Fernando Olivero, Michele Lanza, Romain Robbes: Lumiere : An Infrastructure for Producing 3D Applications in Smalltalk. Famoosr 2009: 8-11
5. Fernando Olivero, Michele Lanza, Romain Robbes: Lumiere : A Novel Framework for Rendering 3D Graphics in Smalltalk. IWST 2009: 20-28
6. Romain Robbes, Michele Lanza: The "Extract Refactoring" Refactoring. WRT 2007: 28-29
7. Romain Robbes: Modelling Change-based Software Evolution. ECOOP DS 2007.
8. Romain Robbes, Michele Lanza: Change-Based Software Evolution. EVOL 2006: 159-164

Further data

Participation in invitation-only seminars, including those as as invited speaker or invited keynote speaker

- 2017: Invited to Dagstuhl Seminar 17102 on "Rethinking Productivity in Software Engineering" in Dagstuhl, Germany.
- 2016: Invited Keynote Speaker, SATToSE 2016 (Seminar Series on Advanced Techniques and Tools for SOftware Evolution) in Bergen, Norway.
- 2014: Invited Speaker, Mining Software Repositories Asia summit 2014 in Tokyo, Japan.
- 2014: Invited to Dagstuhl Seminar 14261 on ""Software Development Analytics" in Dagstuhl, Germany.
- 2014: Invited to the Microsoft Research Latin America Faculty Summit in Viña del Mar, Chile.
- 2013: Invited Speaker, "Lo Mejor de Lo Nuestro" track at SCCC 2013, in Temuco, Chile
- 2013: Invited to Monte Verità seminar on "Augmenting Software Developer Support to Improve Productivity" in Ascona, Switzerland
- 2012: Invited Speaker at the Mining Software Repositories Vision 2020 Seminar in Kingston, Ontario, Canada.
- 2012: Invited to the Microsoft Research Faculty Summit in Redmond, Washington, USA.
- 2010: Invited Speaker, "Lo Mejor de Lo Nuestro" track at SCCC 2010 in Antofagasta, Chile

Statement of interest Candidates should outline reflexively their expected contribution to the advertised position at the FUB and to the university overall. This statement should highlight relevant elements of the candidate's CV that underline the particular suitability of the applicant.

Were I to join the faculty at the FUB, I believe I would be able to make meaningful contributions in all the areas an academic is expected to, namely research, teaching, attracting funding, and academic service.

In my research, I have been very active in various areas in the Software Engineering and Programming Languages fields, making a variety of high-quality contributions to the field. These contributions led me to be internationally visible in my areas of specialisation (Empirical Software Engineering, Software Evolution, Mining Software Repositories), as well as in the field overall. This is demonstrated by my service to the community in terms of conference organisation and editorial work. Thus, I look forward to continue on this path and complement the existing and growing Software Engineering research group at FUB.

I value collaboration very highly. In my actual position at the University of Chile, I have collaborated with 5 of the 6 professors in the Software Engineering and Programming Languages areas (Éric Tanter, Alexandre Bergel, Cecilia Bastarrica, Sergio Ochoa, and Johan Fabry). It is my hope that I will be able to do so with the existing tenured faculty and the researchers at the FUB. For instance, I see avenues of possible collaboration with Profs. Russo, Pahl, and Ricci. During my visit in July, I also had very promising discussions with some of the researchers at the FUB, namely Drs. Janes and Taibi.

I also have invested significant effort in cultivating a network of collaborators outside of the University. This is despite the fact that Chile is a very isolated country with a very small research community. In contrast, Italy is a country with a very large and active community in Software Engineering. Thus being selected for the position at the FUB would enable me to collaborate much more easily with the Italian (and European) research community.

As part of my collaborations, I have contributed to studies of the Chilean software industry. The Chilean software industry shares some similarities with the software industry in South Tyrol: in both cases, the companies are small, and do not have the resources to perform research in-house, which opens great opportunities for collaboration with them. As such, I would be extremely interested in learning about and study the concrete issues that companies in South Tyrol are facing. My work performing empirical studies of various types gives me the background needed for this, as I have experience conducting focus groups, interviews, observation studies, controlled experiments, and analyses of development artefacts such as source code and issue tracking repositories. I would naturally first focus on problems related to software maintenance and evolution, as these are closest to my current areas of expertise, but I am open to adapt myself to the problems that companies face. I have demonstrated flexibility in my career, such as in our studies of programming language usage, and our ongoing work on software engineering for robotics.

In my teaching style, I strive to include more “hands-on” experiences and to give as much personal feedback as possible; this strategy has maximal benefits in contexts where the class sizes are relatively small, such as at the FUB, as this allows to follow individual students much more easily.

I have extensive experience teaching classes at the University of Chile (and earlier) as my record shows. I am of course willing and able to teach a variety of courses in the general areas of Software Engineering and Programming (introductory courses or more advanced ones), as well as specialty courses in research areas such as Software Evolution, Mining Software Repositories, or Empirical Software Engineering.

In addition, my record shows that I am dedicated to critically analyse existing curricula and contribute extensions if need be, as I demonstrated leading an effort in revising the curriculum of the first-year course at the University of Chile, in adding new postgraduate courses, and in adding topics of Software Maintenance and Evolution in the Software Engineering course at the same University. The latter in particular is important since Software Maintenance and Evolution skills are critical nowadays in the industry. I am open to doing this at the FUB, should the need arise.

My funding record shows that I have been able to successfully insert myself in the Chilean research funding structure: I have been granted two FONDECYT projects—both projects having the maximum duration allowed—, resulting in continuous funding from 2012 to 2018. FONDECYT projects are the main projects supporting investigators in Chile.

Of note, I had to transition from a primarily conference-first publication strategy to one involving journal publications more heavily in order to be successful in attracting funding in Chile. This transition was not easy at first, but its success is the reason why I was continuously funded from 2012 on. As a consequence, my actual focus on both journal and conference publications makes my profile well suited to the way researchers are evaluated in Italy.

I also was able to attract international funding (MICROSOFT SEIF, LACCIR, DAAD); and I also had additional roles as a collaborator in FONDEF and FONDECYT postdoc projects. If hired at the FUB, I plan to pursue a similar strategy, starting with regional and university-level funding, and then applying to inter-regional and european projects, as well as to the European Research Council.

Finally, I take it as my duty to contribute to academic service at the university level and will be happy to do so, as I have been doing at the University of Chile, for instance by investing in necessary changes to the curriculum (as mentioned above), or as I am doing now as part of the postgraduate committee by my participation in the re-accreditation effort of the Computer Science Department’s doctorate programme.

To conclude, I believe my achievements highlight more than anything my flexibility to new situations, from my willingness to collaborate outside of my comfort zone, to the changes I made to my publication strategy, up to my willingness to learn and teach in Spanish. With this in mind I believe I will be able to adapt to the necessities of the FUB.

**Language
competence**

Written and spoken competence in all languages according to CERF levels, Common European Reference Framework; append certificates wherever available

French: native speaker

English: fluent (C2, daily usage since 2004)

Spanish: fluent (C1/C2, daily usage since 2010)

Italian: medium (A2; daily usage from 2004 to 2009, then B2/C1)

German: basic (A1; studied at school for 5 years, then B1/B2)

These are self-evaluations of my proficiency; I will certainly pass certifications if and when needed. I hope that practice would make me recover my former level in Italian and German relatively quickly.

Date: 03 October 2019

Romain Robbes