

ADDRESS AND CONTACTS

Software Engineering Research Lab
 Department of Software Engineering
 Blekinge Institute of Technology
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 Karlskrona, 37141
 Sweden

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DAVIDE FUCCI

Citizenship

Italian

Research
Interests

Software quality and testing, Requirements Engineering, application of Affective Computing to Software and Requirements Engineering. I have a strong interest in methodological aspects and empirical approaches, as well as open science.

Education

University of Oulu, Oulu, Finland 2013–2016

Ph.D. in Software Engineering *with honors*, May 2016

Advisors: Prof. Burak Turhan & Prof. Markku Oivo

Thesis title: *The Role of Process Conformance and Developers' Skills in the Context of Test-driven Development.*

University of Oulu, Oulu, Finland 2010–2012

Master degree in Computer Science *grade 4/5, September 2012*

University of Bari, Bari, Italy 2009–2010

Master degree in Computer Science

University of Bari, Bari, Italy 2004–2008

Bachelor degree in Computer Science *grade 96/100, December 2008*

Employment

Software Engineering Research Lab, Karlskrona, Sweden 10/2021–
Senior Lecturer (Tenured)

Software Engineering Research Lab, Karlskrona, Sweden 9/2019–9/2021
Assistant Professor (Tenure Track)

HITeC e.V. & University of Hamburg, Hamburg, Germany 2/2017–12/2019
Post-doctoral Researcher

University of Oulu, Oulu, Finland 6/2016–12/2016
Post-doctoral Researcher

Carnegie Mellon University (SV campus), Mountain View, CA, USA 01/2015–07/2015

Visiting Researcher

PaneMerkille Ay, Oulu, Finland

07/2012–12/2014

Founder & CTO

Founded a startup as a spin-off of university project.

Developed front-end and back-end using Javascript technologies.

Advanced Computer Systems, Trani, Italy

5/2007–08/2009

Software developer

Developed test infrastructure for legacy code.

Developed in-house DHW solution using C# and .NET technologies.

Teaching Experience

Course responsible

Quality Assurance of Security Aware Applications

Spring semester 2021–2022

Blekinge Institute of Technology

Course responsible

Software Testing

Spring semester 2020–2021/2022

Blekinge Institute of Technology

Course responsible

Global Software Development

Fall semester 2020–2021/2022

Blekinge Institute of Technology

Instructor

Global Software Development

Fall semester 2019–2020

Blekinge Institute of Technology

Instructor

Empirical Software Engineering

Spring semester 2017–2019

University of Hamburg

Instructor

Software Patterns

Spring semester 2017–2019

University of Hamburg

Instructor, Creator

Integration and Testing of Software Systems

Fall 2016

University of Bari

Instructor

Software Quality and Testing

Spring semester 2014–2016

University of Oulu

Co-Instructor, Co-Creator

Software Quality and Testing

Spring 2013

University of Oulu

Instructor

Global and Distributed Software Engineering

Fall semester 2013–2015

University of Oulu

Supervisor

Project II

Fall semester 2013–2015

University of Oulu

Publications Journals

- §15. **Davide Fucci**, Emil Alégroth, and Thomas Axelsson. When traceability goes awry: An industrial experience report. *Journal of Systems and Software*, 192:111389, 2022
- §14. Maria Teresa Baldassarre, Danilo Caivano, **Davide Fucci**, Simone Romano, and Giuseppe Scanniello. Affective reactions and test-driven development: Results from three experiments and a survey. *Journal of Systems and Software*, 185:111154, 2022
- §13. Lloyd Montgomery, **Davide Fucci**, Abir Bouraffa, Lisa Scholz, and Walid Maalej. Empirical research on requirements quality: a systematic mapping study. *Requirements Engineering*, pages 1–27, 2022
- §12. Fabian Fagerholm, Michael Felderer, **Davide Fucci**, Michael Unterkalmsteiner, Bogdan Marculescu, Markus Martini, Lars Göran Wallgren Tengberg, Robert Feldt, Bettina Lehtelä, Balázs Nagyvárad, and Jehan Khattak. Cognition in software engineering: A taxonomy and survey of a half-century of research. *ACM Comput. Surv.*, dec 2021
- §11. Simone Romano, **Davide Fucci**, Giuseppe Scanniello, Maria Teresa Baldassarre, Burak Turhan, and Natalia Juristo. On researcher bias in software engineering experiments. *Journal of Systems and Software*, 182:111068, 2021
- §10. Adrian Santos, Sira Vegas, Oscar Dieste, Fernando Uyaguari, Ayşe Tosun, **Davide Fucci**, Burak Turhan, Giuseppe Scanniello, Simone Romano, Itir Karac, et al. A family of experiments on test-driven development. *Empirical Software Engineering*, 26(3):1–53, 2021
- §9. Maria Teresa Baldassarre, Danilo Caivano, **Davide Fucci**, Natalia Juristo, Simone Romano, Giuseppe Scanniello, and Burak Turhan. Studying test-driven development and its retainment over a six-month time span. *Journal of Systems and Software*, 176:110937, 2021
- §8. **Davide Fucci** and Ehsan Zabardast. Towards group development stages in software engineering courses projectwork. *Journal of Teaching and Learning in Higher Education at Malmö University*, 1(2), 2020
- §7. **Davide Fucci**, Giuseppe Scanniello, Simone Romano, and Natalia Juristo. Need for Sleep: the Impact of a Night of Sleep Deprivation on Novice Developers' Performance. *IEEE Transactions on Software Engineering*, 2018
- §6. Ayse Tosun, Oscar Dieste, **Davide Fucci**, Sira Vegas, Burak Turhan, Hakan Erdogmus, Adrian Santos, Markku Oivo, Kimmo Toro, Janne Järvinen, and Natalia Juristo. An Industry Experiment on the Effects of Test-driven Development on External Quality and Productivity. *Empirical Software Engineering*, 22(6):2763–2805, 2017
- §5. Oscar Dieste, Alejandrina M. Aranda, Fernando Uyaguari, Burak Turhan, Ayse Tosun, **Davide Fucci**, Markku Oivo, and Natalia Juristo. Empirical Evaluation of the Effects of Experience on Code Quality and Programmer Productivity: An Exploratory Study. *Empirical Software Engineering*, 22(5):2457–2542, 2017

- §4. Simone Romano, Davide Fucci, Giuseppe Scanniello, Burak Turhan, and Natalia Juristo. Findings From a Multi-method Study on Test-driven Development. *Information & Software Technology*, 89:64–77, 2017
- §3. Davide Fucci, Hakan Erdogmus, Burak Turhan, Markku Oivo, and Natalia Juristo. A Dissection of the Test-Driven Development Process: Does It Really Matter to Test-First or to Test-Last? *IEEE Trans. Software Eng.*, 43(7):597–614, 2017
- §2. Davide Fucci, Burak Turhan, Natalia Juristo Juzgado, Oscar Dieste, Ayse Tosun Misirli, and Markku Oivo. Towards an Operationalization of Test-driven Development Skills: An Industrial Empirical Study. *Information & Software Technology*, 68:82–97, 2015
- §1. Davide Fucci and Burak Turhan. On the Role of Tests in Test-driven Development: A Differentiated and Partial Replication. *Empirical Software Engineering*, 19(2):277–302, 2014

Publications Conferences

- §27. Valentina Lenarduzzi, Oscar Dieste, Davide Fucci, and Sira Vegas. Towards a methodology for participant selection in software engineering experiments: A vision of the future. In *Proceedings of the 15th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM)*, pages 1–6, 2021
- §26. Oleksandr Kosenkov, Michael Unterkalmsteiner, Daniel Mendez, and Davide Fucci. Vision for an artefact-based approach to regulatory requirements engineering. In *Proceedings of the 15th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM)*, pages 1–6, 2021
- §25. Simone Romano, Giuseppe Scanniello, Maria Teresa Baldassarre, Davide Fucci, and Danilo Caivano. Results from a replicated experiment on the affective reactions of novice developers when applying test-driven development. In *International Conference on Agile Software Development*, pages 223–239. Springer, 2020
- §24. Mohammad Ghafari, Timm Gross, Davide Fucci, and Michael Felderer. Why research on test-driven development is inconclusive? In *2020 ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, ESEM*. IEEE, 2020
- §23. Daniela Girardi, Alessio Ferrari, Nicole Novielli, Paola Spoletini, Davide Fucci, and Thaïde Huichapa. The way it makes you feel: Predicting users’ engagement during interviews with biofeedback and supervised learning. In *2020 IEEE 28th International Requirements Engineering Conference (RE)*, pages 32–43, 2020
- §22. Simone Romano, Davide Fucci, Giuseppe Scanniello, Maria Teresa Baldassarre, Burak Turhan, and Natalia Juristo. Researcher bias in software engineering experiments: a qualitative investigation. In *Euromicro Conference on Software Engineering and Advanced Applications SEAA*. LNCS, 2020
- §21. Jannik Fischbach, Henning Femmer, Daniel Mendéz-Fernández, Davide Fucci, and Andreas Vogelsang. What makes agile test artifacts useful? an activity-based quality model from a practitioners’ perspective. In *2020 ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, ESEM*. IEEE, 2020

- §20. Daniela Girardi, Nicole Novielli, **Davide Fucci**, and Filippo Lanubile. Recognizing developers' emotions while programming. In *Proceedings of the IEEE/ACM International Conference on Software Engineering, ICSE 2020, Seoul, South Korea, May 24-31., 2020*
- §19. Simone Romano, **Davide Fucci**, Maria Teresa Baldassarre, Danilo Caivano, and Giuseppe Scanniello. An empirical assessment on affective reactions of novice developers when applying test-driven development. In *Product-Focused Software Process Improvement - 20th International Conference, PROFES 2019, Barcelona, Spain, November 27-29, 2019, Proceedings*, volume 11915 of *Lecture Notes in Computer Science*, pages 3–19. Springer, 2019
- §18. Valentina Lenarduzzi and **Davide Fucci**. Towards a holistic definition of requirements debt. In *2019 ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, ESEM 2019, Porto de Galinhas, Recife, Brazil, September 19-20, 2019*, pages 1–5. IEEE, 2019
- §17. **Davide Fucci**, Alireza Mollaalizadehbahnemiri, and Walid Maalej. On using machine learning to identify knowledge in API reference documentation. In *Proceedings of the ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering, ESEC/SIGSOFT FSE 2019, Tallinn, Estonia, August 26-30, 2019.*, pages 109–119, 2019
- §16. **Davide Fucci**, Daniela Girardi, Nicole Novielli, Luigi Quaranta, and Filippo Lanubile. A replication study on code comprehension and expertise using lightweight biometric sensors. In *Proceedings of the 27th International Conference on Program Comprehension, ICPC 2019, Montreal, QC, Canada, May 25-31, 2019*, pages 311–322, 2019
- §15. **Davide Fucci**, Cristina Palomares, Dolors Costal, Xavier Franch, Mikko Raatikainen, Martin Stettinger, Zijad Kurtanovic, Tero Kojo, Lars Koenig, Andreas Falkner, Gottfried Schenner, Fabrizio Brasca, Tomi Mannisto, Alexander Felfernig, and Walid Maalej. Needs and Challenges for a Platform to Support Large-scale Requirements Engineering. In *Proceedings of the 12th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, ESEM 2018, Oulu, Finland, October 12-13, 2018*
- §14. Simone Romano, Giuseppe Scanniello, **Davide Fucci**, Natalia Juristo, and Burak Turhan. The Effect of Noise on Software Engineers' Performance. In *Proceedings of the 12th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, ESEM 2018, Oulu, Finland, October 12-13, 2018*, 2018
- §13. **Davide Fucci**, Simone Romano, Maria Teresa Baldassarre, Danilo Caivano, Giuseppe Scanniello, Burak Turhan, and Natalia Juristo. A Longitudinal Cohort Study on the Retainment of Test-Driven Development. In *Proceedings of the 12th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, ESEM 2018, Oulu, Finland October 12-13, 2018*, 2018
- §12. Christoph Stanik, Lloyd Montgomery, Daniel Martens, **Davide Fucci**, and Walid Maalej. A Simple NLP-based Approach to Support Onboarding and Retention in Open-Source Communities. In *Proceedings of the 34th ACM/IEEE International*

*Conference on Software Maintenance and Evolution, ICSME 2018, Madrid, Spain
September 26-28, 2018, 2018*

- §11. Oscar Dieste, Alejandrina Aranda, Fernando Uyaguari, Burak Turhan, Ayse Tosun, **Davide Fucci**, Markku Oivo, and Natalia Juristo. Empirical Evaluation of the Effects of Experience on Code Quality and Programmer Productivity: An Exploratory Study. In *Proceedings of the 2018 International Conference on Software and System Process, ICSSP 2018, Gothenburg, Sweden, May 26-27, 2018*, pages 111–112, 2018
- §10. Cristina Palomares, Xavier Franch, and **Davide Fucci**. Personal Recommendations in Requirements Engineering: The OpenReq Approach. In *Requirements Engineering: Foundation for Software Quality - 24th International Working Conference, REFSQ 2018, Utrecht, The Netherlands, March 19-22, 2018, Proceedings*, pages 297–304, 2018
- §9. Simone Romano, Giuseppe Scanniello, **Davide Fucci**, Natalia Juristo, and Burak Turhan. The Effect of Noise on Requirements Comprehension. In *Proceedings of the 40th International Conference on Software Engineering: Companion Proceedings, ICSE 2018, Gothenburg, Sweden, May 27 - June 03, 2018*, pages 308–309, 2018
- §8. **Davide Fucci**, Giuseppe Scanniello, Simone Romano, Martin Shepperd, Boyce Sigweni, Fernando Uyaguari, Burak Turhan, Natalia Juristo, and Markku Oivo. An External Replication on the Effects of Test-driven Development Using a Multi-site Blind Analysis Approach. In *Proceedings of the 10th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, ESEM 2016, Ciudad Real, Spain, September 8-9, 2016*, pages 3:1–3:10, 2016
- §7. Giuseppe Scanniello, Simone Romano, **Davide Fucci**, Burak Turhan, and Natalia Juristo. Students' and Professionals' Perceptions of Test-driven Development: A Focus group Study. In *Proceedings of the 31st Annual ACM Symposium on Applied Computing, Pisa, Italy, April 4-8, 2016*, pages 1422–1427, 2016
- §6. **Davide Fucci**, Burak Turhan, and Markku Oivo. On the Effects of Programming and Testing Skills on External Quality and Productivity in a Test-driven Development Context. In *Proceedings of the 19th International Conference on Evaluation and Assessment in Software Engineering, EASE 2015, Nanjing, China, April 27-29, 2015*, pages 25:1–25:6, 2015
- §5. **Davide Fucci**, Burak Turhan, and Markku Oivo. Conformance Factor in Test-driven Development: Initial Results From an Enhanced Replication. In *18th International Conference on Evaluation and Assessment in Software Engineering, EASE '14, London, England, United Kingdom, May 13-14, 2014*, pages 22:1–22:4, 2014
- §4. **Davide Fucci**, Burak Turhan, and Markku Oivo. Impact of Process Conformance on the Effects of Test-driven Development. In *2014 ACM-IEEE International Symposium on Empirical Software Engineering and Measurement, ESEM '14, Torino, Italy, September 18-19, 2014*, pages 10:1–10:10, 2014
- §3. **Davide Fucci**. Understanding the Dynamics of Test-driven Development. In *36th International Conference on Software Engineering, ICSE '14, Companion Proceedings, Hyderabad, India, May 31 - June 07, 2014*, pages 690–693, 2014

- §2. Davide Fucci and Burak Turhan. A Replicated Experiment on the Effectiveness of Test-First Development. In *2013 ACM / IEEE International Symposium on Empirical Software Engineering and Measurement, Baltimore, Maryland, USA, October 10-11, 2013*, pages 103–112, 2013
- §1. Xiang Su, Davide Fucci, and Jukka Riekk. A Framework to Enable Two-Layer Inference for Ambient Intelligence. In *Ambient Intelligence and Future Trends - International Symposium on Ambient Intelligence (ISAmI 2010)*, Guimarães, Portugal, 16-18 June 2010, pages 29–36, 2010
- §6. Daniela Girardi, Filippo Lanubile, Nicole Novielli, and Davide Fucci. Sensing Developers Emotions: The Design of a Replicated Experiment. In *Proceedings of the 3rd International Workshop on Emotion Awareness in Software Engineering, SEmotion, ICSE 2018, Gothenburg, Sweden, June 2, 2018*, pages 51–54, 2018
- §5. Muesluem Atas, Thi Ngoc Trang Tran, Ralph Samer, Alexander Felfernig, Martin Stettinger, and Davide Fucci. Liquid democracy in group-based configuration. In *Proceedings of the 20th International CEUR Workshop on Configuration, ConfWS18, Graz, Austria. September 23, 2018*, pages 93–98, 2018
- §4. Yen Dieu Pham, Davide Fucci, and Walid Maalej. A First Implementation of a Design Thinking Workshop During a Mobile App Development Course Project. In *Proceedings of the 2nd International Workshop on Software Engineering Education for Millennials, SEEM@ICSE 2018, Gothenburg, Sweden, June 2, 2018*, pages 56–63, 2018
- §3. Davide Fucci, Christoph Stanik, Lloyd Montgomery, Zijad Kurtanovic, Timo Johann, and Walid Maalej. Research on NLP for RE at the university of hamburg: A report. In *Joint Proceedings of REFSQ-2018 Workshops, Doctoral Symposium, Live Studies Track, and Poster Track co-located with the 23rd International Conference on Requirements Engineering: Foundation for Software Quality (REFSQ 2018)*, Utrecht, The Netherlands, March 19, 2018., 2018
- §2. Mathias Ellmann, Alexander Oeser, Davide Fucci, and Walid Maalej. Find, Understand, and Extend Development Screencasts on YouTube. In *Proceedings of the 3rd ACM SIGSOFT International Workshop on Software Analytics, SWAN@ESEC/SIGSOFT FSE 2017, Paderborn, Germany, September 4, 2017*, pages 1–7, 2017
- §1. Damiano Torre, Giuseppe Procaccianti, Davide Fucci, Sonja Lutovac, and Giuseppe Scanniello. On the Presence of Green and Sustainable Software Engineering in Higher Education Curricula. In *1st IEEE/ACM International Workshop on Software Engineering Curricula for Millennials, SECM@ICSE 2017, Buenos Aires, Argentina, May 27, 2017*, pages 54–60, 2017

Publications Workshops

Service

Organizer:

5th Intl. Workshop on Emotion Awareness in Software Engineering (SEmotion) 2020
3rd Intl. Workshop on Natural Language Processing for Requirements Engineering

(NLP4RE) 2020
 2nd Intl. Workshop on Affective Computing for Requirements Engineering (AffectRE) 2019
 4th Intl. Workshop on Emotion Awareness in Software Engineering (SEmotion) 2019
 1st Intl. Workshop on Affective Computing for Requirements Engineering (AffectRE) 2018

Organizing Committee Member:

Intl. Conference on Software Engineering (ICSE) 2021
 Intl. Symposium on Empirical Software Engineering and Measurement (ESEM) 2018

Program Committee Member:

Intl. Conf. on Program Comprehension (ICPC) 2021, 2022
 Intl. Conf. on Human Aspects of Software Engineering (CHASE) 2021, 2022
 Intl. Conf. on Software Analysis, Evolution, and Re-engineering (SANER) 2020–2022
 Intl. Conf. on Requirements Engineering (RE) 2021–2022
 Intl. Working Conf. on RE: Foundation for Software Quality (REFSQ) 2020
 Intl. Symposium on Empirical Software Engineering and Measurement (ESEM) 2015–2021
 Intl. Conf. on Evaluation and Assessment in Software Engineering (EASE) 2018–2020
 Intl. Conference on Software and System Processes (ICSSP) 2016–2020
 Intl. Conf. on on Product-Focused Software Process Improvement (PROFES) 2018–2020
 Software Engineering and Advanced Applications (SEAA) 2018
 Intl. Conference on Extreme Programming (XP) 2014

Reviewer:

IEEE Transactions on Software Engineering (TSE) since 2016
 IEEE Transactions on Software Engineering and Methodology (TOSEM) since 2021
 Empirical Software Engineering Journal (EMSE) since 2015
 Requirements Engineering Journal (REEN) since 2017
 Information and Software Technology Journal (IST) since 2016
 Journal of Software and Systems (JSS) since 2016
 Software Verification Testing and Reliability Journal (SVTR) since 2020
 Software Quality Journal (SQJ) since 2020
 PeerJ Computer Science (PeerJCS) since 2017
 IEEE Software Magazine (IEEE SW) since 2019

Ph.D. theses reviewer and committees

Maria Carulo “Mining GitHub to Study Developers-related Aspects”
 (University of Basilicata, Italy) 2021

Publicity:

Information and Software Technology Journal (IST) 2018–2021

**Diversity &
Outreach**

Pint of Science (City co-ordinator) 2018, 2019
 An international festival which brings scientific discussion to the local pubs

Rails Girls (Coach) 2014, 2016
Tutoring women in their first approach to software development

Awards

| | |
|--|------|
| Best Paper Award (Industry Track), ESEM2020 | 2020 |
| Best Paper Award, SEAA2020 | 2020 |
| Open Data Recognition Award, ESEM2018 | 2018 |
| Best Paper Award, ConfWS | 2018 |
| Best Paper Award, ESEM2016 | 2016 |
| Most Commended Paper Award, EASE2016 | 2016 |
| Nokia Foundation Award for Junior Researcher | 2014 |
| ISACA Finland Chapter | 2014 |

Invited Talks

| | |
|---|----------------|
| Sorry Rocky, but Ivan Drago Can Code Better Than You <i>SERT Virtual Conference</i> | September 2020 |
| Things I would have loved to know during my PhD <i>ISSRE'17, Toulouse (France)</i> | October 2017 |
| What do We Know About TDD and Agile Testing? <i>University of Bari</i> | November 2016 |
| TDD: Carefully Read the Information Leaflet Before Using <i>Bari Startup Hub</i> | July 2014 |

Supervised students

| | |
|--|-----------------|
| Nayla Nassir Acceptance Testing in Agile Software Development M.Sc. thesis, <i>Blekinge Institute of Technology</i> | 06/2020–01/2021 |
| Abhinav Ram Kola Customer communication challenges in Agile Requirements Engineering M.Sc. thesis, <i>Blekinge Institute of Technology</i> | 02/2020–09/2020 |
| Nynesh Reddy Gujjula Practices and Advantages of Submitting Images in OSS projects M.Sc. thesis, <i>Blekinge Institute of Technology</i> | 02/2020–09/2020 |
| Yujie Huang & Qianneng Wang Identification and Management of Requirements Debt M.Sc. thesis, <i>Blekinge Institute of Technology</i> | 02/2020–09/2020 |
| Alireza Mollaalizadehbahnemiri Knowledge Extraction from API Reference Documentation Using Deep Learning M.Sc. thesis, <i>University of Hamburg</i> | 10/2017–02/2018 |
| Alexander Oeser Finding, Understanding, and Enriching Developers Screencast on YouTube M.Sc. thesis, <i>University of Hamburg</i> | 8/2017–1/2018 |
| Teemu Moisainen A DataViz tool for Test-Driven Development M.Sc. thesis, <i>University of Oulu</i> | 10/2016–4/2017 |

References

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Universidad Politecnica de Madrid

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Filippo Lanubile, Full Professor

University of Bari

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Walid Maalej, Full Professor

University of Hamburg

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Last updated: July 7, 2022