# DAVIDE FUCCI

**Citizenship**

Italian

**Research Interests**

Empirical software engineering, Agile software development and testing, affective computing and psycho-physiology for 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 Conformace 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*                                        *9/2019–*
***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 (Silicon Valley 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.
Developerd in-house DHW solution using C# and .NET technologies.

**Teaching Experience**

**Instructor**                                 *Fall semester 2019–2020*
Global Software Development                     *Blekinge Institute of Technology*

**Instructor**                                 *Spring semester 2017–2018*
Empirical Software Engineering                  *University of Hamburg*

**Instructor**                                 *Spring semester 2017–2018*
Software Patterns                               *University of Hamburg*

**Instructor, Creator**                        *Fall 2016*
Advanced Topics in Software Testing             *University of Bari*

**Instructor**                                 *Spring semester 2014–2016*
Software Quality and Testing                    *University of Oulu*

**Co-Instructor, Co-Creator**                  *Spring 2013*
Software Quality and Testing                    *University of Oulu*

**Instructor**                                 *Fall semester 2013–2015*
Global and Distribuited Software Engineering    *University of Oulu*

**Supervisor**                                 *Fall semester 2013–2015*
Project II                                      *University of Oulu*

## Publications
### *Journals*

§7. **Davide Fucci**, Giusppe 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. **<u>Davide Fucci</u>** 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*

§20. **<u>Davide Fucci</u>** Daniela Girardi, Nicole Novielli 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, **<u>Davide Fucci</u>**, 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 **<u>Davide Fucci</u>**. 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. **<u>Davide Fucci</u>**, 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. **<u>Davide Fucci</u>**, 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. **<u>Davide Fucci</u>**, 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, **<u>Davide Fucci</u>**, 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. **<u>Davide Fucci</u>**, 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 Proceeedings, 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 Evaluationand 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 Riekki. 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

**Publications**
*Workshops*

§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

**External 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. Working Conf. on RE: Foundation for Software Quality* (**REFSQ**)      *2020*
*Intl. Symposium on Empirical Software Engineering and Measurement* (**ESEM**) *2015–2020*
*Intl. Conference 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**)
*Requirements Engineering Journal* (**REEN**)
*Empirical Software Engineering Journal* (**EMSE**)
*Information and Software Technology Journal* (**IST**)
*Journal of Software and Systems* (**JSS**)
*PeerJ Computer Science* (**PeerJCS**)
*IEEE Software Magazine* (**IEEESW**)

<span style="color:red">Diversity & Outreach</span>

**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

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| **Honors** | 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* |

**Selected Talks**

**TDD: Carefully Read the Information Leaflet Before Using** *July 2014*
*Bari Startup Hub*

**What do We Know About TDD and Agile Testing?** *November 2016*
*University of Bari*

**Supervised students**

**Alireza Mollaalizadehbahnemiri** *10/2017–02/2018*
*Knowledge Extraction from API Reference Documentation Using Deep Learning*
M.Sc. thesis, *University of Hamburg*

**Alexander Oeser** *8/2017–1/2018*
*Finding, Understanding, and Enriching Developers Screencast on YouTube*
M.Sc. thesis, *University of Hamburg*

**Teemu Moisainen** *10/2016–4/2017*
*A DataViz tool for Test-Driven Development*
M.Sc. thesis, *University of Oulu*

**References**

**Markku Oivo**, Full Professor
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**Natalia Juristo**, Full Professor
*Universidad Politecnica de Madrid*
☎ +34 91 336 6922
✉ natalia@fi.upm.es

**Burak Turhan**, Associate Professor
*Monash University*
☎ +61 3 9905 6986
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**Walid Maalej**, Full Professor
*University of Hamburg*
☎ +49 040 428 832073
✉ maalej@informatik.uni-hamburg.de

Last updated: July 6, 2020