

Fabio Palomba, Ph.D.

Curriculum Vitae – 17th July 2023

1 PERSONAL INFORMATION

Name: Fabio Palomba

Date of Birth: 3rd August, 1989

Place of Birth: Naples, Italy

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84081 Baronissi (SA), Italy

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2 JOB POSITIONS

2019 - ASSISTANT PROFESSOR

current *Department of Computer Science - University of Salerno, Italy*

2018 - SENIOR RESEARCH ASSOCIATE

2019 *Zurich Empirical Software Engineering Team - University of Zurich, Switzerland*

2017 POST-DOC RESEARCHER

Delft University of Technology (The Netherlands) and Eindhoven University of Technology (The Netherlands)

3 QUALIFICATIONS/LICENCES

2020 ITALIAN SCIENTIFIC QUALIFICATION AS FULL PROFESSOR.

Sector 01/B1 – Informatica.

Evaluation available at: <https://asn18.cineca.it/pubblico/miur/esito-abilitato/01%252FB1/1/4>.

2019 ITALIAN SCIENTIFIC QUALIFICATION AS FULL PROFESSOR.

Sector 09/H1 – Sistemi di Elaborazione delle Informazioni

Evaluation available at: <https://asn18.cineca.it/pubblico/miur/esito-abilitato/09%252FH1/1/3>.

2019 ITALIAN SCIENTIFIC QUALIFICATION AS ASSOCIATE PROFESSOR.

Sector 01/B1 – Informatica.

Evaluation available at: <https://asn18.cineca.it/pubblico/miur/esito/01%252FB1/2/1>.

2019 ITALIAN SCIENTIFIC QUALIFICATION AS ASSOCIATE PROFESSOR.

Sector 09/H1 – Sistemi di Elaborazione delle Informazioni

Evaluation available at: <https://asn18.cineca.it/pubblico/miur/esito/09%252FH1/2/1>.

2014 LICENCE OF COMPUTER ENGINEER

University of Molise, Italy

4 EDUCATION

- 2017** **DEGREE OF EUROPEAN DOCTOR OF PHILOSOPHY (Ph.D.) IN MANAGEMENT & INFORMATION TECHNOLOGY**
University of Salerno, Italy
Funded by University of Salerno and University of Molise.
Advisor: Prof. Andrea De Lucia
- 2013** **MASTER'S DEGREE (M.Sc.) IN COMPUTER SCIENCE**
University of Salerno, Italy
110/110 magna cum laude and special commendation by the commission
Advisor: Prof. Andrea De Lucia
- 2011** **BACHELOR'S DEGREE (B.Sc.) IN COMPUTER SCIENCE**
University of Molise, Italy
110/110 cum laude
Advisor: Prof. Rocco Oliveto

5 RESEARCH

5.1 SUMMARY OF THE MAIN RESEARCH TOPICS AND ACHIEVEMENTS

My research activity is around Software Engineering and, in particular, is mainly focused (but not limited) to the following topics:

- Bad Code Smell Detection and Management;
- Test Code Quality;
- Bug Prediction;
- Mobile Software Engineering;
- Social Aspects in Software Engineering;
- Traceability Management;
- Mining Software Repositories;
- Empirical Software Engineering.

In these research topics I have published around 150 papers in international journals and conferences indexed in DBLP, SCOPUS (number of citations = 4,291; h-index = 40), and Google Scholar (number of citations = 6,898; h-index = 48). My overall m-index (that is, the h-index normalized by the number of years of activity) is 4.13 and 5 considering SCOPUS and Google Scholar, respectively. I have been the recipient of **two ACM/SIGSOFT Distinguished Paper Awards, two IEEE/TCSE Distinguished Paper Award, one Best Paper Award Honorable Mention, multiple Best Paper Awards, and one bronze medal at the ACM/SIGSOFT Student Research Competition**. Furthermore, **my PhD Thesis has been the recipient of the 2017 IEEE Computer Society Best Thesis Award**. In addition, I have been the recipient of **13 Outstanding/Distinguished Reviewer Awards** for my review activities.

In the following, I describe the research topics of interest with reference to the published or submitted results.

Bad Code Smell Detection and Management: Bad code smells have been defined by Martin Fowler as symptoms of poor design and implementation choices. Bad smells are usually introduced in software systems because developers poorly conceived the design of a code component. Complex Class, *i.e.*, a class that contain complex methods and it is very large in terms of LOC; or God Class, *i.e.*, a class that does too much/knows too much about other classes, are only some examples of a plethora of bad smells identified in well-known catalogues. Recent empirical studies showed that code smells hinder comprehensibility, and possibly increase change- and fault- proneness. For these reasons, the main research topics in this area are the definition of new approaches able to (i) detect bad code smells in the source code [C2, C5, C11, C19, J1]; (ii) study the reason behind their introduction and removal [C4, J4, J8]; (iv) study the impact of code smells on non functional attributes of source code [C3, C20, J7, J10, J11], and (v) recommend their removal via appropriate refactoring operations [C1, C6, C21, J2].

Test Code Quality: Test cases form the first line of defense against the introduction of software faults. As such, with the help of testing framework like, for instance, Junit developers create test methods and run these periodically on their code. To support the testing activities, the research community mainly focused on the definition of techniques and tools for (i) the automatic generation of test cases, or (ii) the improvement of the effectiveness of test classes with respect to code coverage. In this context, a little knowledge on the impact and the usefulness of code quality is available. The main research topic in this area relates to the definition of quality-aware methodologies for the automatic generation of test cases [C12] and the investigation of the impact of test smells, i.e., symptoms of the presence of bad design choices in test code, on the effectiveness [C23] and the maintainability of test cases [C10, C14].

Bug Prediction: Allocating resources for the testing and the verification of all the parts of a large software system is a cost-prohibitive task. To alleviate this issue, prediction models able to identify portions of source code more prone to contain bugs have been the object of several studies. The main research topic is the definition of accurate prediction models that, on the one hand use a suitable set of predictors able to characterize the bug-proneness of code components [C8, C13, C25, J5], and on the other hand is able to use appropriate machine learning techniques to distinguish those components affected by bug [J6].

Mobile Software Engineering: According to recent statistics, over two billion users rely on smartphones and tablets to perform their daily activities. Not only do users play games or send messages, they use mobile apps for every type of need, including social and emergency connectivity. Mobile software engineering is the field responsible for the definition of techniques able to improve the life of both mobile developers and end users. The main research topic includes the application of mining software repositories techniques in the context of user reviews, with the goal of extracting actionable knowledge to incorporate in novel techniques and tools helping developers in performing their activities [C9, C16, C28, C29, J9].

Social Aspects in Software Engineering: The success of software engineering projects is in large part dependent on social and organizational aspects of the development community. Indeed, as envisioned by the National Knowledge and Innovation Agenda ICT 2016 – 2019 in the Netherlands, *“software and system complexity is not solely of technological nature but also defined by people and processes”*. In the context, the role played by social aspects in software engineering has been mainly investigated in terms of socio-technical congruence, i.e., the coordination between social relationships and technical aspects of the source code. However, a few knowledge on the impact of social debt, i.e., sub-optimal characteristics or patterns across the organizational structure around a software system that may lead to additional unforeseen project costs, is available [Grant-1]. Key research topics in this area regard the understanding of the interplay between social and technical debt [C27], as well as the definition of techniques and tools able to make developers and project managers aware of the presence of social debt in the community [J13].

Traceability Management: Traceability has been defined as “the ability to describe and follow the life of an artifact, in both a forwards and backwards direction”. Thus, traceability links help software engineers to understand the relationships and dependencies among various software artifacts (requirements, code, tests, models, etc.) developed during the software lifecycle. The two main research topics related to the traceability management are event-based systems for traceability management and information retrieval based methods and tools supporting the software engineer in the traceability link recovery [C9, C16, C29, J9].

Mining Software Repositories: Software repositories such as source control systems, archived communications between project personnel, and defect tracking systems are used to help in managing the progress of software projects. Software practitioners and researchers recognize the benefits of mining this information to support the maintenance and the evolution of software systems by improving software design/reuse and empirically validating novel ideas and techniques. Research is now proceeding to uncover the ways in which mining these repositories can help to understand software development and software evolution [C2, C4, C5, C10, C11, C13, C14, C17, C20, C21, C22, J1-J14], to support predictions about software development [J5, J6, J10, J10], and to exploit this knowledge in planning future development [C9, C16, J7].

Empirical Software Engineering: Empirical software engineering is a sub-domain of software engineering focusing on experiments on software systems (software products, processes, and resources). It is interested in devising experiments on software [J1], in collecting data from these experiments [J3], and in devising laws and theories from this data [C4, C14, J4]. Proponents of experimental software engineering advocate that the nature of software is such that we can advance the knowledge on software through experiments only. The scientific method suggests a cycle of observations, laws, and theories to advance science. Empirical software engineering applies this method to software.

5.2 PH.D. STUDENTS ADVISING/CO-ADVISING

I have/had the honour to advise or co-advise the following Ph.D. students and researchers*:

2022-current	ALEXANDRA SHEYKINA <i>Research Assistant at the University of Salerno, working on topics connected to the engineering of security of machine learning-enabled software systems. Co-advisor: Prof. Andrea De Lucia.</i>
2022-current	GILBERTO RECUPITO <i>Ph.D. Student at the University of Salerno, working on topics connected to the analysis, detection, and refactoring of artificial intelligence debt in machine learning-enabled software systems.</i>
2022-current	VINCENZO DE MARTINO <i>Ph.D. Student at the University of Salerno, working on topics connected to the analysis and optimization of non-functional requirements in machine learning-enabled software systems.</i>
2022-current	DARIO DI DARIO <i>Ph.D. Student at the University of Salerno, working on topics connected to the engineering of virtual reality and metaverse environments for educational purposes. Co-advisor: Prof. Carmine Gravino.</i>
2022-current	CARMINE FERRARA <i>Research Assistant at the University of Salerno, working on topics connected to the engineering of fairness properties in machine learning-enabled software systems. Co-advisor: Prof. Andrea De Lucia.</i>
2021-current	STEFANO LAMBIASE <i>Ph.D. Student at the University of Salerno, working on topics connected to the analysis of software ecosystems, with a particular focus on socio-technical concerns. Co-advisor: Prof. Filomena Ferrucci.</i>
2021-current	GIULIA SELLITTO <i>Ph.D. Student at the University of Salerno, working on topics connected to the use of meta-heuristics for the identification of software vulnerabilities. Co-advisor: Prof. Filomena Ferrucci.</i>
2021-current	VALERIA PONTILLO <i>Ph.D. Student at the University of Salerno, working on topics connected to test code quality, with a particular focus on the use of artificial intelligence for the identification of flaky tests. Co-advisor: Prof. Filomena Ferrucci.</i>
2021-current	GIAMMARIA GIORDANO <i>Ph.D. Student at the University of Salerno, working on topics connected to the identification of privacy concerns in software projects using artificial intelligence techniques. Co-advisor: Prof. Filomena Ferrucci.</i>
2020-current	EMANUELE IANNONE <i>Ph.D. Student at the University of Salerno, working on topics connected to the analysis and automated detection/refactoring of software vulnerabilities.</i>
2020-current	MANUEL DE STEFANO <i>Ph.D. Student at the University of Salerno, working on topics connected to the code smell detection and refactoring. Co-advisor: Prof. Andrea De Lucia</i>
2019-2022	LARISSA BRAZ <i>Ph.D. Student at the University of Zurich, working on topics connected to the software testing and vulnerabilities - hired under the Ambizione project of which I am scientific coordinator. Co-advisor: Prof. Alberto Bacchelli.</i>
2019-2021	FABIANO PECORELLI <i>Ph.D. Student at the University of Salerno, working on topics connected to software testing and code smell detection. Co-advisor: Prof. Andrea De Lucia.</i>

* The list only contains the Ph.D. students that I have officially (co-)advised.

2018 – **GIOVANNI GRANO**
2020 *Ph.D. Student at the University of Zurich, working on topics connected to software testing. I had the role of mentor in the context of the Giovanni's Ph.D. The official advisor was Prof. Harald C. Gall.*

6 TEACHING

6.1 LECTURER

2022 - **EMPIRICAL RESEARCH METHODS**
current *Lecturer at the Ph.D. Degree of Computer Science at the University of Salerno.*

2021 - **SOFTWARE ENGINEERING FOR ARTIFICIAL INTELLIGENCE**
current *Lecturer at the Master's Degree of Computer Science at the University of Salerno.*

2021 - **SOFTWARE ENGINEERING**
current *Co-lecturer at the Bachelor's Degree of Computer Science at the University of Salerno.*

2020 – **PH.D. 101: A SEMINAR CYCLE**
current *Lecturer at the Ph.D. Degree of Computer Science at the University of Salerno.*

2020 – **FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE**
current *Lecturer at the Bachelor's Degree of Computer Science at the University of Salerno.*

2018 - **SOFTWARE DEPENDABILITY**
2022 *Lecturer at the Master's Degree of Computer Science at the University of Salerno.*

2018 - **SOFTWARE TESTING**
2019 *Co-Lecturer at the Bachelor's and Master's Degrees (joint course) of Computer Science at the University of Zurich.*

2018 - **ADVANCED SOFTWARE ENGINEERING**
2019 *Lecturer at the Bachelor's Degree of Computer Science at the University of Zurich.*

2017 - **SOFTWARE ENGINEERING METHODS**
2018 *Co-Lecturer at the Bachelor's Degree of Computer Science at the Delft University of Technology.*

6.2 TEACHING ASSISTANCE

2016 **PROGRAMMING LANGUAGES**
Teaching Assistant in the course of Prof. Maurizio Tucci at the Bachelor Degree of Computer Science at the University of Salerno

2016 **PROGRAMMING LANGUAGES II**
Teaching Assistant in the course of Prof. Carmine Gravino at the Bachelor Degree of Computer Science at the University of Salerno

2016 **SOFTWARE ENGINEERING II: MAINTENANCE, EVOLUTION, AND SOFTWARE PROJECT MANAGEMENT**
Teaching Assistant and Students' Projects Evaluator in the course of Prof. Andrea De Lucia at the Master Degree of Computer Science at the University of Salerno

2016 **SOFTWARE ENGINEERING I**
Teaching Assistant and Students' Projects Evaluator in the course of Prof. Andrea De Lucia at the Bachelor Degree of Computer Science at the University of Salerno

- 2015 SOFTWARE ENGINEERING II: MAINTENANCE AND TESTING**
Teaching Assistant and Students' Projects Evaluator in the course of Prof. Andrea De Lucia at the Master Degree of Computer Science at the University of Salerno
- 2015 SOFTWARE ENGINEERING I**
Teaching Assistant and Students' Projects Evaluator in the course of Prof. Andrea De Lucia at the Bachelor Degree of Computer Science at the University of Salerno
- 2014 IT PROJECT AND SERVICE MANAGEMENT**
Teaching Assistant and Students' Projects Evaluator in the course of Prof. Andrea De Lucia at the Master Degree of Management and Information Technology at the University of Salerno
- 2014 DECISION SUPPORT SYSTEMS**
Teaching Assistant and Students' Projects Evaluator in the course of Prof. Andrea De Lucia at the Master Degree of Business Economy at the University of Salerno.

6.3 THESES ADVISING/CO-ADVISING

- 2023** I am currently the advisor of, or I advised, around 50 Bachelor's and Master's students on themes connected to software engineering, maintenance, and evolution, artificial intelligence, and empirical software engineering. The complete list will be available upon request.
- 2022** I advised around 100 Bachelor's and Master's students on themes connected to software engineering, maintenance, and evolution, artificial intelligence, and empirical software engineering. The complete list is available upon request.
- 2021** In 2021, I had the pleasure to advise 14 Bachelor's and Master's students: Ivan Carmine Adamo, Angelo Afeltra, Cristian Barletta, Roberto Esposito, Simone Farina, Emanuele Fittipaldi, Emanuele Iaccarino, Vincenzo Emanuele Martone, Nicola Pagliara, Paolo Petta, Raimondo Rapacciuolo, Antonio Russo, Amine Mohamed Sarraj, Hermann Senatore.
- 2020 CATCH ME IF YOU CAN: TOWARD AUTOMATIC EXPLOIT OF KNOWN VULNERABILITIES**
Student: Emanuele Iannone.
Master Thesis – University of Salerno, Italy.
- 2020 UNDERSTANDING ARCHITECTURAL SMELLS: A NOVEL TOOL AND A FAMILY OF EMPIRICAL STUDIES**
Student: Manuel De Stefano. Advisor: Prof. Andrea De Lucia.
Master Thesis – University of Salerno, Italy.
- 2019 CLASSIFYING SOURCE CODE QUALITY IMPROVEMENT OPPORTUNITIES IN CONTINUOUS INTEGRATION**
Student: Jonas Klass. Advisor: Prof. Alberto Bacchelli.
Master Thesis – University of Zurich, Switzerland.
- 2019 LAMBDIFIED JAVA APIs: THE DEVELOPER'S PERSPECTIVE**
Student: Fernando Petrulio. Advisor: Prof. Alberto Bacchelli.
Master Thesis – Joint project between University of Zurich, Switzerland, and University of Salerno, Italy.
- 2019 THE SECRET LIFE OF SOFTWARE VULNERABILITIES: AN EMPIRICAL STUDY**
Student: Roberta Guadagni. Advisor: Prof. Alberto Bacchelli.
Master Thesis – Joint project between University of Zurich, Switzerland, and University of Salerno, Italy.
- 2019 ON THE EFFECTIVENESS OF MANUAL AND AUTOMATIC UNIT TEST GENERATION: TEN YEARS LATER**
Student: Domenico Serra.
Master Thesis – Joint project between University of Zurich, Switzerland, and University of Salerno, Italy.

- 2018** **CLASSIFYING THE ROOT CAUSE OF FLAKY TESTS**
Student: Moritz Eck. Advisor: Prof. Alberto Bacchelli
Master Thesis – University of Zurich, Switzerland
- 2017** **DETECTING CODE SMELLS IN MOBILE APPLICATIONS**
Students: Dustin Lim. Advisor: Prof. Andy Zaidman
Master Thesis – Delft University of Technology, The Netherlands
- 2017** **A FRAMEWORK FOR THE UI TESTING OF ANDROID AND IOS APPLICATIONS**
Students: René Vennik and Wim de With.
Bachelor End Project – Delft University of Technology, The Netherlands
- 2016** **A LARGE SCALE EMPIRICAL STUDY ON THE PERFORMANCES OF WITHIN- AND CROSS-PROJECT BUG PREDICTION MODELS**
Student: Salvatore Geremia. Advisor: Prof. Andrea De Lucia
Master Thesis – University of Salerno, Italy
- 2016** **A TOOL FOR MINING PERFORMANCE INDICATORS OF JAVA APPLICATIONS**
Student: Elisa D'Eugenio. Advisor: Prof. Andrea De Lucia
Master Thesis – University of Salerno, Italy
- 2016** **DESIGN AND IMPLEMENTATION OF A TOOL FOR EXPERIMENTING CROSS-PROJECT BUG PREDICTION MODELS**
Student: Pasquale Martiniello. Advisor: Prof. Andrea De Lucia
Bachelor Thesis – University of Salerno, Italy
- 2016** **USING RANKING ALGORITHMS IN MINING USER REVIEWS: CHALLENGES AND OPPORTUNITIES**
Student: Michele Lotierzo. Advisor: Prof. Andrea De Lucia
Bachelor Thesis – University of Salerno, Italy
- 2016** **DESIGN AND IMPLEMENTATION OF A TOOL FOR DETECTING TEXTUAL CODE SMELLS IN SOURCE CODE**
Student: Elena Sollai. Advisor: Prof. Andrea De Lucia
Bachelor Thesis – University of Salerno, Italy
- 2016** **DESIGN AND IMPLEMENTATION OF A TOOL FOR RUNNING BUG PREDICTION EXPERIMENTATIONS**
Student: Fabiano Pecorelli. Advisor: Prof. Andrea De Lucia
Bachelor Thesis – University of Salerno, Italy
- 2015** **MINING ENERGETIC CODE SMELLS IN ANDROID APPS**
Student: Antonio Prota. Advisor: Prof. Andrea De Lucia
Master Thesis – University of Salerno, Italy
- 2015** **REFACTORING OF CODE SMELLS: AN EMPIRICAL STUDY**
Student: Fabio Soggia. Advisor: Prof. Andrea De Lucia
Master Thesis – University of Salerno, Italy
- 2015** **AN ECLIPSE PLUG-IN FOR SUPPORTING CODE SMELL IDENTIFICATION VIA HISTORICAL INFORMATION: THE HIST PROJECT**
Student: Alessandro Longo. Advisor: Prof. Andrea De Lucia
Bachelor Thesis – University of Salerno, Italy
- 2014** **ON THE ROLE OF DEVELOPERS' SCATTERING METRICS IN BUG PREDICTION**
Student: Dario Di Nucci. Advisor: Prof. Andrea De Lucia
Master Thesis – University of Salerno, Italy
- 2014** **DESIGN AND IMPLEMENTATION OF AN ECLIPSE PLUG-IN FOR EXTRACTING ISSUES FROM THE BUGZILLA REPOSITORY**
Student: Davide De Chiara. Advisor: Prof. Andrea De Lucia
Bachelor Thesis – University of Salerno, Italy
- 2014** **DESIGN AND IMPLEMENTATION OF AN ECLIPSE PLUG-IN FOR MINING GITHUB**

Student: Santolo Tubelli. Advisor: Prof. Andrea De Lucia
Bachelor Thesis – University of Salerno, Italy

2014 **DESIGN AND IMPLEMENTATION OF AN ECLIPSE PLUG-IN FOR EXTRACTING QUALITY METRICS FROM SOURCE CODE**
Student: Gianmarco Del Pozzo. Advisor: Prof. Andrea De Lucia
Bachelor Thesis – University of Salerno, Italy

7 PROFESSIONAL ACTIVITIES

7.1 STEERING COMMITTEE MEMBERSHIPS

2021-current **ICPC – THE INTERNATIONAL CONFERENCE ON PROGRAM COMPREHENSION**
Steering Committee Member – Elected in 2021.

2020-current **MALTESQUE – THE INTERNATIONAL WORKSHOP ON MACHINE LEARNING TECHNIQUES FOR SOFTWARE QUALITY EVALUATION**
Steering Committee Member – Elected in 2020.

7.2 ORGANIZATION COMMITTEE PARTICIPATION (SELECTED)

2024 **PROGRAM CO-CHAIR**
31st IEEE International Conference on Software Analysis, Engineering, and Reengineering (SANER 2024), Rovaniemi, Finland.

2023 **ASSOCIATE CHAIR**
26th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2023), Minneapolis, USA.

2023 **PROGRAM COMMITTEE MEMBER**
The Genetic and Evolutionary Computation Conference (GECCO), Lisbon, Portugal.

2023 **PROGRAM COMMITTEE MEMBER**
ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), Singapore.

2023 **PROGRAM COMMITTEE MEMBER**
45th International Conference on Software Engineering (ICSE), Melbourne, Australia.

2022 **PROGRAM CO-CHAIR**
1st International Workshop on Software Quality Assurance for Artificial Intelligence (SQ4AI 2021), Honolulu, Hawaii, USA

2022 **NEW IDEAS AND EMERGING RESULTS (NIER) TRACK CO-CHAIR**
37th International Conference on Automated Software Engineering (ASE 2022), Ann Arbor, Michigan, USA

2022 **NEW IDEAS AND EMERGING RESULTS (NIER) TRACK CO-CHAIR**
9th International Conference on Mobile Software Engineering and Systems (MobileSoft 2022), Pittsburgh, Pennsylvania, USA

2022 **NEW IDEAS AND EMERGING RESULTS (NIER) TRACK CO-CHAIR**
22nd International Conference on Source Code Analysis and Manipulation (SCAM 2022), Limassol, Cyprus

2022 **FOSS AWARD CO-CHAIR**
17th International Conference on Mining Software Repositories (MSR 2022), Pittsburgh, Pennsylvania, USA

2022	INDUSTRIAL TRACK CO-CHAIR <i>29th International Conference on Software Analysis, Evolution, and Reengineering (SANER 2022), Honolulu, Hawaii, USA</i>
2021	PROGRAM CO-CHAIR <i>29th International Conference on Program Comprehension (ICPC 2021), Madrid, Spain</i>
2021	SPECIAL ISSUE CHAIR <i>17th International Conference on Open-Source Systems (OSS 2021), Lahti, Finland</i>
2021	ASSOCIATE CHAIR <i>24th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2021), Virtual</i>
2021	PROGRAM COMMITTEE MEMBER <i>36th International Conference on Automated Software Engineering (ASE 2021), Melbourne, Australia</i>
2021	PROGRAM COMMITTEE MEMBER <i>28th International Conference on Software Analysis, Evolution, and Reengineering (SANER 2021), Virtual</i>
2020	PROGRAM COMMITTEE MEMBER <i>27th International Conference on Software Analysis, Evolution, and Reengineering (SANER 2020), London, Canada</i>
2020	PROGRAM COMMITTEE MEMBER <i>36th International Conference on Software Maintenance and Evolution (ICSME 2020), Adelaide, Australia</i>
2020	PROGRAM COMMITTEE MEMBER <i>35th International Conference on Automated Software Engineering (ASE 2020), Melbourne, Australia</i>
2020	PROGRAM COMMITTEE MEMBER <i>16th International Conference on Mining Software Repositories (MSR 2020), Seoul, South Korea</i>
2020	PROGRAM COMMITTEE MEMBER <i>28th International Conference on Program Comprehension (ICPC 2020), Seoul, South Korea</i>
2019	CO-ORGANIZER <i>3rd International Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTeSQuE 2019), Tallinn, Estonia</i>
2019	PROGRAM COMMITTEE MEMBER <i>35th International Conference on Software Maintenance and Evolution (ICSME 2019), Cleveland, USA</i>
2019	PROGRAM COMMITTEE MEMBER <i>27th International Conference on Program Comprehension (ICPC 2019), Montreal, Canada</i>
2019	PROGRAM COMMITTEE MEMBER <i>15th International Conference on Mining Software Repositories (MSR 2019), Montreal, Canada</i>
2019	PROGRAM COMMITTEE MEMBER <i>6th International Conference on Mobile Software Engineering and Systems (MobileSoft 2019), Montreal, Canada</i>
2019	PROGRAM COMMITTEE MEMBER <i>26th International Conference on Software Analysis, Evolution, and Reengineering (SANER 2019), Hangzhou, China</i>
2018	PROGRAM CO-CHAIR <i>2nd Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTeSQuE 2018), Campobasso, Italy</i>

2018	PROGRAM COMMITTEE MEMBER <i>26th International Conference on Program Comprehension (ICPC 2018), Gothenburg, Sweden</i>
2018	PROGRAM COMMITTEE MEMBER <i>15th International Conference on Mining Software Repositories (MSR 2018), Gothenburg, Sweden</i>
2018	PROGRAM COMMITTEE MEMBER <i>25th International Conference on Software Analysis, Evolution, and Reengineering (SANER 2018), Campobasso, Italy</i>
2018	PUBLICITY CO-CHAIR <i>25th International Conference on Software Analysis, Evolution, and Reengineering (SANER 2018), Campobasso, Italy</i>
2017	PROGRAM COMMITTEE MEMBER <i>33rd International Conference on Software Maintenance and Evolution (ICSME 2017), Shanghai, China</i>
2017	PROGRAM COMMITTEE MEMBER <i>1st International Workshop on Technical Debt Analytics (TDA 2016), Hamilton, New Zealand</i>
2017	PROGRAM COMMITTEE MEMBER <i>25st International Conference on Program Comprehension (ICPC 2016), Buenos Aires, Argentina</i>
2017	PROGRAM COMMITTEE MEMBER <i>12nd International Conference on Software Engineering and Advances (ICSEA 2017), Vienna, Austria</i>
2016	PROGRAM COMMITTEE MEMBER <i>1st International Workshop on Machine Learning Techniques in Software Quality Evaluation, Wroclaw, Polish</i>
2016	SCIENTIFIC SECRETARIAT <i>12nd International Summer School on Software Engineering (ISSSE), University of Salerno</i>
2016	STUDENT VOLUNTEER <i>38th International Conference on Software Engineering (ICSE 2016), Austin, USA</i>
2015	PROGRAM COMMITTEE MEMBER <i>11st International Conference on Software Engineering and Advances (ICSEA 2016), Rome, Italy</i>
2015	PROGRAM COMMITTEE MEMBER <i>13th Working Conference on Mining Software Repositories – Mining Challenge Track (MSR 2016), Austin, Texas</i>
2015	PROGRAM COMMITTEE MEMBER <i>10th International Conference on Software Engineering and Advances (ICSEA 2015), Barcelona, Spain</i>
2014	WEB CHAIR <i>23rd International Conference on Program Comprehension (ICPC 2015), Florence, Italy</i>
2014	STUDENT VOLUNTEER <i>37th International Conference on Software Engineering (ICSE 2015), Florence, Italy</i>
2014	SCIENTIFIC SECRETARIAT <i>11th International Summer School on Software Engineering (ISSSE), University of Salerno</i>

7.3 JOURNAL SERVICES

2022 - current	ASSOCIATE EDITOR – ELSEVIER’S INFORMATION AND SOFTWARE TECHNOLOGY (IST)
2022	GUEST EDITOR – ELSEVIER’S JOURNAL OF SYSTEMS AND SOFTWARE (JSS) Special Issue on “Software Evolution, Engineering, and Reengineering in Practice”
2021 - current	ASSOCIATE EDITOR – SPRINGER’S JOURNAL OF EMPIRICAL SOFTWARE ENGINEERING (EMSE)
2021	GUEST EDITOR – SPRINGER’S JOURNAL OF EMPIRICAL SOFTWARE ENGINEERING (EMSE) Special Issue on “Program Comprehension”
2021 - current	ASSOCIATE EDITOR – E-INFORMATICA SOFTWARE ENGINEERING JOURNAL (E-INFORMATICA)
2020 - current	REVIEW BOARD MEMBER – IEEE TRANSACTIONS ON SOFTWARE ENGINEERING (TSE)
2020 - current	ASSOCIATE EDITOR – ELSEVIER’S JOURNAL OF SYSTEMS AND SOFTWARE (JSS)
2019 - current	EDITORIAL ASSISTANT – ELSEVIER’S SCIENCE OF COMPUTER PROGRAMMING (SCICO)
2019 - 2022	SOCIAL MEDIA DIRECTOR – ACM TRANSACTIONS ON SOFTWARE ENGINEERING AND METHODOLOGY (TOSEM)
2019 - 2020	EDITORIAL BOARD MEMBER – ELSEVIER’S JOURNAL OF SYSTEMS AND SOFTWARE (JSS)
2019	GUEST EDITOR – ELSEVIER’S JOURNAL OF SYSTEMS AND SOFTWARE (JSS) Special Issue on “Machine Learning Techniques for Software Quality Evaluation”
2018	GUEST EDITOR – SPRINGER’S JOURNAL OF EMPIRICAL SOFTWARE ENGINEERING (EMSE) Special Issue on “Mobile Software Engineering”
2018	GUEST EDITOR – WILEY’S JOURNAL OF SOFTWARE MAINTENANCE AND EVOLUTION (JSEP) Special Issue on “Machine Learning Techniques for Software Quality Evaluation”
2017 - current	REVIEW BOARD MEMBER – SPRINGER’S JOURNAL OF EMPIRICAL SOFTWARE ENGINEERING (EMSE)
2016 - current	REFeree ACTIVITIES <i>Referee for:</i> <ul style="list-style-type: none">• TSE: IEEE Transactions on Software Engineering;• TOSEM: ACM Transactions on Software Engineering and Methodology;• TR: IEEE Transactions on Software Reliability;• EMSE: Springer’s Empirical Software Engineering;• IST: Elsevier’s Information and Software Technology;• JSS: Elsevier’s Journal of Systems and Software;• JSME: Wiley’s Journal of Software Maintenance and Evolution: Research and Practice;• SCICO: Elsevier’s Science of Computer Programming Journal.

7.4 INVITED SPEAKER

- 2022** F. Palomba.
Mining Software Repositories for Vulnerability Prediction: Challenges, Lessons Learned, and Recommendations
International Summer School on Security Testing and Verification, Leuven, Belgium September 22nd.
- 2022** F. Palomba.
Technical Debt: The Road Ahead
Polish Conference on Software Engineering, September 15th.
- 2020** F. Palomba.
Artificial Intelligence, This Unknown.
Virtual Annual Conference on Geospatial Big Data, December 21th.
- 2020** F. Palomba.
Mutation Testing Meets Software Analytics: A Hands-On Tutorial.
15th International Conference on Mining Software Repositories (MSR 2020) – Education Track, June 30th.
- 2019** F. Palomba.
Test Code Quality: A New Dimension of Test Code Effectiveness.
10th International Workshop on Empirical Software Engineering in Practice (IWESEP), Tokyo University of Technology, December 13th.
- 2019** F. Palomba.
Software Design 101: Improving the Design of Existing Code, Tests, and Communities.
14th International Summer School on Software Engineering, University of Salerno, June 17th.
- 2019** F. Palomba.
Software Design 101: Improving the Design of Existing Code, Tests, and Communities.
2nd International Summer School on Software Engineering, Tampere University of Technology, June 6th.
- 2018** F. Palomba.
Managing Source Code Quality in Mobile Applications.
4th International Summer School on Software Engineering, Free-University of Bolzano, July 10th.
- 2018** F. Palomba.
Exploiting Machine Learning Techniques for the Automatic Identification of Code Smells
1st International Summer School on Machine Learning, Eindhoven University of Technology, July 20th
- 2018** F. Palomba.
Machine Learning for Mobile Applications.
IFI Summer School on Machine Learning, University of Zurich, June 28th.
- 2017** F. Palomba.
Does Refactoring of Test Smells Induce Fixing Flaky Tests?
CREST Open Workshop organized by the University College of London, November 27th.
- 2017** F. Palomba.
Not Only Maintainability: Revisiting Test Smells as a Measure of Test Code Effectiveness.
IPA Fall Days on System and Software Analysis organized by the CWI institute, Nunspeet (The Netherlands), November 8th
- 2016** F. Palomba.
Mining Version Histories for Detecting Code Smells.
CREST Open Workshop organized by the University College of London, November 29th.
- 2015** F. Palomba.
Using Alternative Sources of Information for Smell Detection.

Delft University of Technology, October 23rd.

- 2014** F. Palomba
Software Metrics and Antipatterns: Challenges and Solution
University of Molise, November, 12nd.

7.5 GUEST LECTURER

- 2020** F. Palomba.
On Code and Test Smells
Software Modeling and Analysis Course at the University of Bern, November 4th
- 2017** F. Palomba.
Code Smells: Relevance of the Problem and Novel Detection Techniques
Software Maintenance and Evolution Course at the University of Zurich, December 8th
- 2017** F. Palomba.
Mining User Reviews to Support the Evolution of Mobile Applications.
Green Lab at the University of Amsterdam, October 19th
- 2017** F. Palomba.
Mining User Reviews to Support the Evolution of Mobile Applications.
Mining Software Repositories Course at the Delft University of Technology, September 26th
- 2016** F. Palomba.
The Back-end Side of Compilers.
Software Engineering Course at the University of Salerno, June 4th
- 2016** F. Palomba.
Bug Prediction: An Overview.
Software Engineering Course at the University of Salerno, May 27th
- 2016** F. Palomba.
Code Smell Detection and Refactoring Automation.
Software Engineering Course at the University of Salerno, May 19th

7.6 HIRING COMMITTEES

- 2019** **HIRING COMMITTEE MEMBER OF AN ASSISTANT PROFESSOR ON BIG DATA SCIENCE**
Designed member of the hiring committee for a position of Assistant Professor at the University of Zurich. In this committee, I was designed as the delegate of the Senior Research Associates.
- 2019** **HIRING COMMITTEE MEMBER OF AN ASSOCIATE PROFESSOR ON ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**
Designed member of the hiring committee for a position of Assistant Professor at the University of Zurich. In this committee, I was designed as the delegate of the Senior Research Associates.

7.7 RESEARCH GRANT COMMITTEES

- 2023** **REVIEWER FOR THE SWISS SPECIAL CALL JAPAN PROGRAM**
Reviewer of research proposals submitted for collaborative research proposals between Japan and Switzerland.
- 2023** **REVIEWER FOR THE DUTCH RESEARCH COUNCIL (NWO) GRANTS PROGRAM**
Expert Reviewer of research proposals submitted for funding request to the Dutch Research Council.

- 2022 MEMBER OF THE SWISS NATIONAL SCIENCE FOUNDATION (SNSF) GRANTS PROGRAM**
Member of the selection committee of research proposals submitted to the Mathematical, Physical, and Engineering Sciences Division of the SNSF Grants Program, which aimed at promoting Swiss researchers.
- 2022 MEMBER OF THE NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL OF CANADA (NSERC) DISCOVERY GRANTS PROGRAM**
Member of the selection committee of research proposals submitted to the Engineering Section of the NSERC Discovery Grants Program, which aimed at promoting the research of young researchers.
- 2021 MEMBER OF THE RESEARCH GRANT COMMITTEE OF THE FREE UNIVERSITY OF BOZEN-BOLZANO**
Member of the selection committee of research proposals submitted to the Internal Research Grant Program, which aimed at promoting interdisciplinary research of researchers at the Free University of Bozen-Bolzano.
- 2021 MEMBER OF THE NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL OF CANADA (NSERC) DISCOVERY GRANTS PROGRAM**
Member of the selection committee of research proposals submitted to the Engineering Section of the NSERC Discovery Grants Program, which aimed at promoting the research of young researchers.
- 2019 MEMBER OF THE ACADEMY OF FINLAND RESEARCH PROGRAM ON “PROGRAMMABLE WORLD AND ADVANCED SOFTWARE TECHNIQUES”**
Member of the selection committee of research proposals submitted to the “Programmable World and Advanced Software Technologies” research program, which aimed at promoting new research directions of senior researchers located in Finland or that were planning to move to Finland.
- 2019 MEMBER OF THE CROATIAN SCIENCE FOUNDATION RESEARCH PROGRAM ON “BUSINESS SOFTWARE PROJECTS: CRITICAL FACTORS, MODELLING, AND PERSPECTIVES”**
Member of the selection committee of research proposals submitted to the “Business Software Projects: Critical Factors, Modelling, and Perspectives” research program, which aimed at promoting new research directions of both young and senior researchers located in Croatia.

7.8 PH.D. COMMITTEE JURIES

- 2023 MEMBER OF THE PH.D. COMMITTEE OF THE PH.D. IN “INFORMATION AND COMMUNICATION TECHNOLOGY” (UNIVERSITY OF L’AQUILA, ITALY)**
External Ph.D. Committee Member of the Ph.D. defenses of Dr. Roberta Capuano, Dr. Gianluca Filippone, and Dr. Claudio Di Sipio. Date: July 26th, 2023.
- 2023 MEMBER OF THE PH.D. COMMITTEE OF THE PH.D. IN “TECHNOLOGIES FOR COMPUTER ENGINEERING” (UNIVERSITY OF SANNIO, ITALY)**
External Ph.D. Committee Member of the Ph.D. defenses of Dr. Anna Vacca and Dr. Martina Iammarino. Date: February 1st, 2023.
- 2022 INVITED HONORARY MEMBER OF THE PH.D. COMMITTEE OF DR. MOHAMED SOFIEN BOUTAIB (UNIVERSITY OF TUNIS, TUNISIA)**
Honorary member of the dissertation thesis developed by Dr. Mohamed Sofien Boutaib, entitled: *“Search-Based Code Smell Detection in Imbalanced and Uncertain Environments”*. Date: January 12nd, 2022.
- 2021 MEMBER OF THE ADVISORY COMMITTEE OF DR. SARA FILIPA COUTO FERNANDES (UNIVERSITY OF PORTO, PORTUGAL)**
External assessor and Ph.D. advisory committee member of the dissertation thesis developed by Dr. Sara Filipa Couto Fernandes, entitled: *“A Live Environment for Continuous Software Inspection and Refactoring”*. Date: June 23rd, 2021.
- 2020 MEMBER OF THE PH.D. JURY OF DR. JONAS DE BLESER (VRJIE UNIVERSITEIT BRUSSEL, BELGIUM)**
External assessor and Ph.D. committee member of the dissertation thesis developed by Dr. Jonas De Bleser, entitled: *“An Automated Delta-Debugging Approach to Resilience Testing of Actor Systems through Fault Injection”*. Date: October 2nd, 2020.

8 CONFERENCES AND SCHOOLS PARTICIPATIONS

8.1 CONFERENCES

- 2022** **48TH EUROMICRO CONFERENCE SERIES ON SOFTWARE ENGINEERING AND ADVANCED APPLICATIONS (SEAA 2022)**
Gran Canaria, Spain
- 2021** **36TH IEEE INTERNATIONAL CONFERENCE ON SOFTWARE MAINTENANCE AND EVOLUTION (ICSME 2021)**
Virtual
- 2021** **43RD IEEE INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING (ICSE 2021)**
Virtual
- 2020** **35TH IEEE INTERNATIONAL CONFERENCE ON SOFTWARE MAINTENANCE AND EVOLUTION (ICSME 2020)**
Virtual
- 2020** **42ND IEEE INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING (ICSE 2020)**
Virtual
- 2019** **41ST IEEE INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING (ICSE 2019)**
Montreal, Canada
- 2018** **34TH IEEE INTERNATIONAL CONFERENCE ON SOFTWARE MAINTENANCE AND EVOLUTION (ICSME 2018)**
Madrid, Spain
Presentation of [C36].
- 2018** **40TH IEEE INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING (ICSE 2018)**
Gothenburg, Sweden
Presentation of [J7], [J8].
- 2018** **25TH IEEE INTERNATIONAL CONFERENCE ON SOFTWARE ANALYSIS, EVOLUTION, AND REENGINEERING (SANER 2018)**
Campobasso, Italy
- 2017** **33RD IEEE INTERNATIONAL CONFERENCE ON SOFTWARE MAINTENANCE AND EVOLUTION (ICSME 2017)**
Shanghai, China
Presentation of [C23].
- 2017** **39TH IEEE/ACM INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING (ICSE 2017)**
Buenos Aires, Argentina
Presentation of [C16], [C18].
- 2017** **25TH IEEE INTERNATIONAL CONFERENCE ON PROGRAM COMPREHENSION (ICPC 2017)**
Buenos Aires, Argentina
Presentation of [C21], [C22].
- 2016** **49TH CREST OPEN WORKSHOP (COW) ON SOFTWARE ARCHITECTURE AND TECHNICAL DEBT**
London, United Kingdom
Presentation of [J1].
- 2016** **32ND IEEE INTERNATIONAL CONFERENCE ON SOFTWARE MAINTENANCE AND EVOLUTION (ICSME 2016)**
Raleigh, USA
Presentation of [C13], [C15].
- 2016** **38TH IEEE/ACM INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING (ICSE 2016)**
Austin, USA
Presentation of [C9], [C10].

- 2015** **1ST INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (ISSSE)**
Free University of Bozen-Bolzano, Bolzano, Italy
Presentation of [C1].
- 2015** **37TH IEEE/ACM INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING (ICSE 2015)**
Florence, Italy
Presentation of [C4], [C5] and [C6].
- 2014** **30TH IEEE INTERNATIONAL CONFERENCE ON SOFTWARE MAINTENANCE AND EVOLUTION (ICSME 2014)**
Victoria, British Columbia, Canada
Presentation of [C3].
- 2014** **11TH INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (ISSSE)**
University of Salerno, Fisciano, Italy
Scientific Secretarial of the School
- 2013** **28TH IEEE/ACM INTERNATIONAL CONFERENCE ON AUTOMATED SOFTWARE ENGINEERING (ASE 2013)**
Palo Alto, USA
Presentation of [C2].

9 RESEARCH INTERNSHIPS

- 2021** **VISITING PROFESSOR AT THE JHERONIMUS ACADEMY OF DATA SCIENCE, S’HERTOGENBOSCH, THE NETHERLAND**
6 Months as Visitor Professor at the Jheronimus Academy of Data & Engineering (JADE) Lab. The research conducted in this time period resulted in the definition of novel methods and techniques for the application of machine learning and natural language processing to various software engineering domains, like code quality of infrastructure code as well as the analysis of functional and non-functional requirements of mobile applications.
- 2016** **VISITING PHD STUDENT AT THE DELFT UNIVERSITY OF TECHNOLOGY, DELFT, THE NETHERLAND**
3 Months as Visitor Student. The research conducted in this time period resulted in the definition of TACO, a code smell detection approach exploiting textual-based information, and its empirical evaluation [C11, J8].

10 AWARDS AND RECOGNITION

- 2023** **IEEE COMPUTER SOCIETY TECHNICAL COUNCIL ON SOFTWARE ENGINEERING RISING STAR AWARD**
Motivation: *“In recognition of his research on code refactoring and code smells. The use of alternative sources of information, such as historical and textual information, besides the structural information previously used in the literature, has led to significant research advancements in the area”*. <https://tc.computer.org/tcse/awards/>.
- 2022** **BEST PAPER AWARD FOR [C70]**
48th Euromicro Conference Series on Software Engineering and Advanced Applications (SEAA), Gran Canaria, Spain.
- 2022** **IEEE/TCSE DISTINGUISHED PAPER AWARD FOR [C64]**
29th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER), Honolulu, Hawaii, USA.
- 2021** **DISTINGUISHED PROGRAM COMMITTEE MEMBER AWARD**
36th IEEE/ACM International Conference on Automated Software Engineering (ASE).
- 2021** **DISTINGUISHED REVIEWER AWARD**
21st IEEE International Conference on Source Code Analysis and Manipulation (SCAM).

- 2020** **OUTSTANDING REVIEWER AWARD**
Elsevier's Information and Software Technology Journal (IST).
- 2020** **OUTSTANDING REVIEWER AWARD**
e-Informatica Software Engineering Journal (EISEJ).
- 2020** **OUTSTANDING REVIEWER AWARD**
Elsevier's Journal of Systems and Software (JSS).
- 2019** **DISTINGUISHED REVIEWER AWARD**
27th IEEE/ACM International Conference on Program Comprehension (ICPC).
- 2019** **OUTSTANDING REVIEWER AWARD**
Elsevier's Journal of Systems and Software (JSS).
- 2018** **BEST PAPER HONOURABLE MENTION FOR [C40]**
21th ACM International Conference on Computer Supported Cooperative Work (CSCW), New York, USA.
- 2018** **DISTINGUISHED REVIEWER AWARD**
Springer's Journal of Empirical Software Engineering (EMSE).
- 2018** **OUTSTANDING REVIEWER AWARD**
Elsevier's Journal of Systems and Software (JSS).
- 2018** **OUTSTANDING REVIEWER AWARD**
Elsevier's Information and Software Technology Journal (IST).
- 2018** **BEST TOOL DEMO AWARD FOR [C29]**
33rd IEEE International Conference on Software Maintenance and Evolution (ICSME), Shanghai, China.
- 2017** **IEEE COMPUTER SOCIETY BEST PHD THESIS AWARD – ITALY SECTION CHAPTER**
For my PhD Thesis named: "Code Smells: Relevance of the Problem and Novel Detection Techniques".
<https://site.ieee.org/italy-cs/ieee-computer-society-italy-section-chapter-2017-phd-thesis-award/>
- 2017** **DISTINGUISHED REVIEWER AWARD**
Springer's Journal of Empirical Software Engineering (EMSE).
- 2017** **IEEE/TCSE DISTINGUISHED PAPER AWARD FOR [C23]**
33rd IEEE International Conference on Software Maintenance and Evolution (ICSME), Shanghai, China.
- 2016** **OUTSTANDING REVIEWER AWARD**
Elsevier's Information and Software Technology Journal (IST).
- 2015** **ACM/SIGSOFT DISTINGUISHED PAPER AWARD FOR [C4]**
37th ACM/IEEE International Conference of Software Engineering (ICSE), Firenze, Italy.
- 2015** **BRONZE MEDAL AT THE STUDENT RESEARCH COMPETITION FOR [C5]**
37th ACM/IEEE International Conference of Software Engineering (ICSE), Firenze, Italy.
- 2013** **ACM/SIGSOFT DISTINGUISHED PAPER AWARD FOR [C2]**
28th ACM/IEEE International Conference on Automated Software Engineering (ASE), Palo Alto, USA.

11 GRANTS

- 2023 PRIN (PROGETTO DI RILEVANTE INTERESSE NAZIONALE) PROJECT— AMOUNT: 249.609 EUR**
The grant has the awarded by the Ministry of University (MUR) and represents one of the most prestigious research grants for researchers in Italy. The project aims at devising novel methods and techniques for the quality and evolution of Artificial Intelligence-based software systems. The role played in this project is the one of *Local Scientific Coordinator* of the research unit of the University of Salerno.
- 2019 SNSF AMBIZIONE— AMOUNT: 894.430 CHF**
The grant has the awarded by the Swiss National Science Foundation and represents one of the most prestigious individual research grants for young researchers in Europe. The project aims at devising novel instruments and techniques to improve automatic software testing.
- 2019 HASLER RESEARCH GRANT — AMOUNT: 50.000 CHF**
The grant has the main goal to study the feasibility of new test code quality metrics based on a combination of factors deemed important by developers.
- 2018 FORSCHUNGSCREDIT POSTDOC GRANT — AMOUNT: 60.000 CHF**
The grant has the main goal to study how test code quality can be exploited to improve test code effectiveness, with the aim of producing novel techniques and tools to help developers in designing effective test cases.
- 2017 4TU.NIRICT.2017 — AMOUNT: 70.000 €**
The grant has the main goal to reinforce the collaboration among the four technical Universities in Netherlands. The proposal is related to the relationship between social and technical aspects of source code, and mainly concerned with the understanding of the impact of social debt on the introduction of code smells and fault.

12 LIST OF PAPERS

12.1 INTERNATIONAL JOURNALS

- [J56] M. Zakeri-Nasrabadi, S. Parsa, E. Esmaili, **F. Palomba**.
A Systematic Literature Review on Code Smells Datasets and Validation Mechanisms.
ACM Computing Surveys (CSUR), to appear, 2023.
- [J55] F. Amato, M. Cicalese, L. Contrasto, G. Cubiciotti, G. D’Ambola, A. La Marca, G. Pagano, F. Tomeo, G. Robertazzi, G. Vassallo, G. Acampora, G. Catolino, G. Giordano, S. Lambiase, V. Pontillo, G. Sellitto, F. Ferrucci, **F. Palomba**.
QuantuMoonLight: A Low-Code Platform To Experiment With Quantum Machine Learning.
Elsevier’s SoftwareX, to appear, 2023.
- [J54] X. Li, S. Moreschini, Z. Zhang, **F. Palomba**, D. Taibi.
The Anatomy of a Vulnerability Database: A Systematic Mapping Study.
Elsevier’s Journal of Systems and Software (JSS), Vol. 201, 111679, 2023.
- [J53] E. Iannone, Z. Codabux, V. Lenarduzzi, A. De Lucia, **F. Palomba**.
Rubbing Salt in the Wound? A Large-Scale Investigation Into the Effects of Refactoring on Security.
Springer’s Journal of Empirical Software Engineering (EMSE), in press, 2023.
- [J52] S. Dalla Palma, C. van Asseldonk, G. Catolino, D. Di Nucci, **F. Palomba**, D. Tamburri.
Through the looking-glass: An Empirical Study on Blob Infrastructure Blueprints in TOSCA.
Wiley’s Journal Software Evolution and Process (JSEP), in press, 2022.
- [J51] V. Lenarduzzi, F. Pecorelli, N. Saarimaki, S. Lujan, **F. Palomba**.
A Critical Comparison on Six Static Analysis Tools: Detection, Agreement, and Precision.

Elsevier's Journal of Systems and Software (JSS), Vol. 128, 111575, 2022.

- [J50] V. Pontillo, **F. Palomba**, F. Ferrucci.
Static Test Flakiness Prediction: How Far Can We Go?
Springer's Journal of Empirical Software Engineering (EMSE), in press, 2022.
- [J49] G. Giordano, **F. Palomba**, F. Ferrucci.
On the Use of Artificial Intelligence to Deal with Privacy in IoT Systems: A Systematic Literature Review.
Elsevier's Journal of Systems and Software (JSS), to appear.
- [J48] N. Borovits, I. Kumara, D. Di Nucci, P. Krishnan, S. Dalla Palma, **F. Palomba**, D. Tamburri, W.J. van den Heuvel.
FindICI: Using Machine Learning to Detect Linguistic Inconsistencies between Code and Natural Language Descriptions in Infrastructure-as-Code.
Springer's Journal of Empirical Software Engineering (EMSE), in press, 2022.
- [J47] M. Di Gregorio, D. Di Nucci, **F. Palomba**, G. Vitiello.
The Making of Accessible Android Applications: An Empirical Study on the State of the Practice.
Springer's Journal of Empirical Software Engineering (EMSE), in press, 2022.
- [J46] A. Andreou, G. Cascavilla, G. Catolino, **F. Palomba**, D. Tamburri, W.J. van Den Heuvel.
Unsupervised Labor Intelligence Systems: A Detection Approach and Its Evaluation
Springer's Communications in Computer and Information Science (CCIS), to appear.
- [J45] M. De Stefano, F. Pecorelli, D. Di Nucci, **F. Palomba**, A. De Lucia.
Software Engineering for Quantum Programming: How Far Are We?
Elsevier's Journal of Systems and Software (JSS), Vol. 190, pp. 111326, 2022.
- [J44] S. Boutaib, M. Elarbi, S. Bechikh, **F. Palomba**, L. Ben Said.
Handling Uncertainty in SBSE: A Possibilistic Evolutionary Approach for Code Smells Detection
Springer's Journal of Empirical Software Engineering (EMSE), in press, 2022.
- [J43] F. Lomio, E. Iannone, A. De Lucia, **F. Palomba**, V. Lenarduzzi.
Just-in-Time Software Vulnerability Prediction: Are We There Yet?
Elsevier's Journal of Systems and Software (JSS), Vol. 188, pp. 111283, 2022.
- [J42] F. Pecorelli, S. Lujan, V. Lenarduzzi, **F. Palomba**, A. De Lucia.
On the Adequacy of Static Analysis Warnings with respect to Code Smell Prediction.
Springer's Journal of Empirical Software Engineering (EMSE), in press, 2022.
- [J41] E. Iannone, R. Guadagni, F. Ferrucci, A. De Lucia, **F. Palomba**.
The Secret Life of Software Vulnerabilities: A Large-Scale Empirical Study.
IEEE Transactions on Software Engineering (TSE), in press, 2022.
- [J40] D. Tamburri, **F. Palomba**.
Evolving Software Forges: An Experience Report from Apache Allura.
Wiley's Journal Software Evolution and Process (JSEP), in press, 2021.
- [J39] F. Pecorelli, G. Catolino, F. Ferrucci, A. De Lucia, **F. Palomba**.
Software Testing and Android Applications: A Large-Scale Empirical Study.
Springer's Journal of Empirical Software Engineering (EMSE), in press, 2021.
- [J38] I. Saidani, A. Ouni, M. Mkaouer, **F. Palomba**.
On the Impact of Continuous Integration on Refactoring Practice: An Exploratory Study on TravisTorrent.
Elsevier's Information and Software Technology (IST), in press, 2021.
- [J37] I. Kumara, M. Garriga, A. Romeu, D. Di Nucci, **F. Palomba**, D. Tamburri, W. J. van den Heuvel.
The Do's and Don'ts of Infrastructure Code: A Systematic Grey Literature Review.

Elsevier's Information and Software Technology (IST), in press, 2021.

- [J36] F. Dalla Palma, D. Di Nucci, **F. Palomba**, D. Tamburri.
Within-Project Defect Prediction of Infrastructure-as-Code using Product and Process Metrics.
IEEE Transactions on Software Engineering (TSE), in press, 2021.
- [J35] F. Pecorelli, **F. Palomba**, A. De Lucia.
The Relation of Test-Related Factors to Software Quality: A Case Study on Apache Systems.
Springer's Journal of Empirical Software Engineering (EMSE), Vol. 26, Issue 18, pp. 1-42, 2021.
- [J34] D. A. Tamburri, **F. Palomba**, R. Kazman.
Success and Failure in Software Engineering: A Followup Systematic Literature Review.
IEEE Transactions on Engineering Management (TEM), Vol. 68, N. 2, pp. 599-611, 2021.
- [J33] G. Grano, **F. Palomba**, H. Gall.
Lightweight Assessment of Test Case Effectiveness using Source Code Quality Indicators.
IEEE Transactions on Software Engineering (TSE), in press, 2021.
- [J32] D. A. Tamburri, **F. Palomba**, R. Kazman.
Exploring Community Smells in Open-Source: An Automated Approach.
IEEE Transactions on Software Engineering (TSE), Vol. 47, N. 3, pp. 630-652, 2021.
- [J31] **F. Palomba**, D. A. Tamburri, A. Serebrenik, A. Zaidman, R. Oliveto, F. Arcelli Fontana.
Beyond Technical Aspects: How Do Community Smells Influence the Maintainability of Code Smells?
IEEE Transactions on Software Engineering (TSE), Vol. 47, N. 1, pp. 108-129, 2021.
- [J30] **F. Palomba**, D. Tamburri.
Predicting the Emergence of Community Smells using Socio-Technical Metrics: A Machine Learning Approach.
Elsevier's Journal of Systems and Software (JSS), Vol. 171, pp. 110847, 2020.
- [J29] S. Boutaib, S. Bechikha, **F. Palomba**, M. Elarbia, L.B. Saida.
Code Smell Detection and Identification in Imbalanced Environments.
Elsevier's Expert Systems with Applications (ESWA), Vol. 166, pp. 114076, 2020.
- [J28] S. Dalla Palma, D. Di Nucci, **F. Palomba**, D. Tamburri.
Towards a Catalogue of Software Quality Metrics for Infrastructure Code.
Elsevier's Journal of Systems and Software (JSS), Vol. 170, pp. 110726, 2020.
- [J27] D. Tamburri, K. Blincoe, **F. Palomba**, R. Kazman.
"The Canary in the Coal Mine...": A Cautionary Tale from the Decline of SourceForge.
Wiley's Software Practice and Experience (SPE), Vol. 50, Issue 10, pp. 1930-1951, 2020.
- [J26] L. Pascarella, **F. Palomba**, A. Bacchelli.
On the Performance of Method-Level Defect Prediction: A Negative Result.
Elsevier's Journal of Systems and Software (JSS), Vol. 161, pp. 110493, 2020.
- [J25] G. Catolino, **F. Palomba**, D. Tamburri, A. Serebrenik, F. Ferrucci.
Gender Diversity and Community Smells: Insights from the Trenches.
IEEE Software, Vol. 37, Issue 1, pp. 10-16, 2020.
- [J24] G. Grano, **F. Palomba**, D. Di Nucci, A. De Lucia, H. Gall.
Scented since the Beginning: On the Diffuseness of Test Smells in Automatically Generated Test Code.
Elsevier's Journal of Systems and Software (JSS), Vol. 156, pp. 312-327, 2019.
- [J23] C. Vassallo, S. Panichella, **F. Palomba**, S. Proksch, H. Gall, A. Zaidman.
How Developers Engage with Static Analysis Tools in Different Contexts.
Springer's Journal of Empirical Software Engineering (EMSE), Vol. 25, Issue 2, pp. 1419-1457, 2019.

- [J22] P. Salza, **F. Palomba**, D. Di Nucci, A. De Lucia, F. Ferrucci.
Third-Party Libraries in Mobile Apps: When, How, and Why Developers Update Them.
Springer's Journal of Empirical Software Engineering (EMSE), Vol. 25, Issue 3, pp. 2341-2377, 2019.
- [J21] C. Vassallo, G. Grano, **F. Palomba**, H. Gall, A. Bacchelli.
A Large-Scale Empirical Exploration on Refactoring Activities in Open Source Software Projects.
Elsevier's Science of Computer Programming (SCP), Vol. 180, pp. 1-15, 2019.
- [J20] G. Catolino, **F. Palomba**, F. Arcelli Fontana, A. Zaidman, A. De Lucia, F. Ferrucci.
Improving Change Prediction Models with Code Smell-Related Information.
Springer's Journal of Empirical Software Engineering (EMSE), Vol. 25, Issue 1, pp. 49-95, 2019.
- [J19] G. Catolino, **F. Palomba**, A. Zaidman, F. Ferrucci.
Not All Bugs are the Same: Understanding, Characterizing, and Classifying the Root Cause of Bugs.
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