

Professori non affiliati a istituti

Rapporto annuale 2024/2025

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1. Progetti finanziati 2024/2025

1.1. In corso

- Gruppo Binder
 - TraceBench: Framework to Synthesize Micro-benchmarks from API Calls on Stateful Objects (Hasler Foundation)
- Gruppo Pezzè
 - A-Test Autonomic Software Testing
- Gruppo Wolf
 - The Informatics of Heat, Time, and Causality

1.2. Conclusi

- Gruppo Binder
 - Benchmark Evolution Analysis

2. Pubblicazioni 2024/2025

Gruppo Binder

Articoli pubblicati in riviste scientifiche

- Daniele Bonetta, Junior Löff, Matteo Basso, Walter Binder. HeapBuffers: Why Not Just Using a Binary Serialization Format for Your Managed Memory? Proceedings of the ACM on Programming Languages, Volume 9, Issue OOPSLA2, Article no. 397, pp. 3483-3507, 2025.
- Matteo Basso, Aleksandar Prokopec, Andrea Rosà, Walter Binder. Heap-Snapshot Matching and Ordering using CAHPs: A Context-Augmented Heap-Path Representation for Exact and Partial Path Matching using Prefix Trees. Proceedings of the ACM on Programming Languages, Volume 9, Issue OOPSLA2, Article no. 325, pp. 1484-1511, 2025.

Atti di conferenza

- Matteo Basso, Aleksandar Prokopec, Andrea Rosà, Walter Binder. Improving Native-Image Startup Performance. 2025 IEEE/ACM International Symposium on Code Generation and Optimization (CGO 2025), ACM Press, ISBN 979-8-4007-1275-3, pp. 689-703, 2025.
- Junior Löff, Renato B. Hoffmann, Arthur S. Bianchessi, Leonardo Mallmann, Dalvan Griebler, Walter Binder. NPB-PSTL: C++ STL Algorithms with Parallel Execution Policies in NAS Parallel Benchmarks. 33rd Euromicro International Conference on Parallel, Distributed, and Network-Based Processing (PDP 2025), IEEE Computer Society, ISBN 979-8-3315-2493-7, pp. 162-169, 2025.
- Junior Löff, Dalvan Griebler, Luiz Gustavo Fernandes, Walter Binder. MPR: An MPI Framework for Distributed Self-adaptive Stream Processing. 30th International European Conference on Parallel and Distributed Computing (EuroPar 2024), Lecture Notes in Computer Science (LNCS), Volume 14803, pp. 400-414, 2024.

- Junior Löff, Filippo Schiavio, Andrea Rosà, Matteo Basso, Walter Binder. Vectorized Intrinsic Can Be Replaced with Pure Java Code without Impairing Steady-State Performance. 15th ACM/SPEC International Conference on Performance Engineering (ICPE 2024), ACM Press, ISBN 979-8-4007-0444-4, pp. 14-24, 2024.

Gruppo Pezzè

Articoli pubblicati in riviste scientifiche

- Mauro Pezzè, Silvia Abrahão, Birgit Penzenstadler, Denys Poshyvanyk, Abhik Roychoudhury, Tao Yue: A 2030 Roadmap for Software Engineering. ACM TOSEM Transactions on Software Engineering and Methodology 34(5): 118:1-118:55 (2025)
- Iftekhar Ahmed, Aldeida Aleti, Haipeng Cai, Alexander Chatzigeorgiou, Pinjia He, Xing Hu, Mauro Pezzè, Denys Poshyvanyk, Xin Xia: Artificial Intelligence for Software Engineering: The Journey So Far and the Road Ahead. ACM TOSEM Transactions on Software Engineering and Methodology 34(5): 119:1-119:27 (2025)
- Silvia Abrahão, John C. Grundy, Mauro Pezzè, Margaret-Anne D. Storey, Damian A. Tamburri: Software Engineering by and for Humans in an AI Era. ACM TOSEM Transactions on Software Engineering and Methodology 34(5): 129:1-129:46 (2025)
- Farideh Khalili, Leonardo Mariani, Ali Mohebbi, Mauro Pezzè, Valerio Terragni: Semantic matching in GUI test reuse. Empirical Software Engineering 29(3): 70 (2024)
- Daniel Russo, Sebastian Balthes, Niels van Berkel, Paris Avgeriou, Fabio Calefato, Beatriz Cabrero-Daniel, Gemma Catolino, Jürgen Cito, Neil A. Ernst, Thomas Fritz, Hideaki Hata, Reid Holmes, Maliheh Izadi, Foutse Khomh, Mikkel Baun Kjærgaard, Grischka Liebel, Alberto Lluch-Lafuente, Stefano Lambiase, Walid Maalej, Gail C. Murphy, Nils Brede Moe, Gabrielle O'Brien, Elda Paja, Mauro Pezzè, John Stouby Persson, Rafael Prikladnicki, Paul Ralph, Martin P. Robillard, Thiago Rocha Silva, Klaas-Jan Stol, Margaret-Anne D. Storey, Viktoria Stray, Paolo Tell, Christoph Treude, Bogdan Vasilescu: Generative AI in Software Engineering Must Be Human-Centered: The Copenhagen Manifesto. Journal of Systems and Software 216: 112115 (2024)
- Mauro Pezzè, Matteo Ciniselli, Luca Di Grazia, Niccolò Puccinelli, Ketai Qiu: The Trailer of the ACM 2030 Roadmap for Software Engineering. ACM SIGSOFT Software Engineering Notes 49(4): 31-40 (2024)
- Mauro Pezzè: Editorial: Toward the Future with Eight Issues Per Year. ACM TOSEM Transactions on Software Engineering and Methodology 33(1): 1e:1-1e:2 (2024)
- Mauro Pezzè: Editorial: ICSE and the Incredible Contradictions of Software Engineering. ACM TOSEM Transactions on Software Engineering and Methodology 33(4): 83:1-83:2 (2024)
- Mauro Pezzè: Editorial: The End of the Journey. ACM TOSEM Transactions on Software Engineering and Methodology 33(8): 222:1-222:3 (2024)

Atti di conferenza

- Davide Molinelli, Alberto Martin-Lopez, Elliott Zackrone, Beyza Eken, Michael D. Ernst, Mauro Pezzè: Tratto: A Neuro-Symbolic Approach to Deriving Axiomatic Test Oracles. Proc. ACM International Symposium on Software Testing and Analysis (ISSTA): 1887-1909 (2025)
- Davide Molinelli, Luca Di Grazia, Alberto Martin-Lopez, Michael D. Ernst, Mauro Pezzè: Do LLMs Generate Useful Test Oracles? An Empirical Study with an Unbiased Dataset. ASE Automated Software Engineering 2025: 278-290
- Bianca Trinkenreich, Fabio Calefato, Geir Hanssen, Kelly Blincoe, Marcos Kalinowski, Mauro Pezzè, Paolo Tell, Margaret-Anne D. Storey:

Get on the Train or be Left on the Station: Using LLMs for Software Engineering Research. SIGSOFT FSE Foundations of Software Engineering Companion 2025: 1503-1507

- Giovanni Denaro, Noura El Moussa, Rahim Heydarov, Francesco Lomio, Mauro Pezzè, Ketai Qiu: Predicting Failures of Autoscaling Distributed Applications. Proc. ACM Foundations of Software Engineering (FSE): 1960-1981 (2024)

Gruppo Wolf

Articolo pubblicato in rivista scientifica

- Veronika Baumann, Ämin Baumeler, Eleftherios-Ermis Tselentis: No quantum advantage for violating fixed-order inequalities?, New Journal of Physics 27, 104507, 2025.
- Ämin Baumeler, Stefan Wolf: Flow of dynamical causal structures with an application to correlations, Physical Review Research 7, 033278, 2025.
- Ämin Baumeler, Borivoje Dakić, Flavio Del Santo: The axiom of choice and the no-signalling principle, Proceedings of the Royal Society A 481, 2025.
- Eleftherios-Ermis Tselentis, Ämin Baumeler: Möbius games and other Bell tests for relativity, Physical Review A 111, 052211, 2025.
- Charles Alexandre Bédard, Sophie Berthelette, Xavier Coiteux-Roy, Stefan Wolf : Temperature as Joules per Bit, American Journal of Physics 93, 390-395, 2025.
- Lorenzo Laneve, Stefan Wolf: On multivariate polynomials achievable with quantum signal processing, Quantum 9, 1641, 2025.
- Sophie Berthelette, Gilles Brassard, Xavier Coiteux-Roy: On computable numbers, with an application to the Druckproblem, Theoretical Computer Science, 1002, 114573, 2024.

Atti di conferenza

- Alberto Montina, Stefan Wolf: Violation of Leggett-Garg Inequalities Implies Information Erasure, Proceedings of IEEE International Symposium on Information Theory (ISIT), 2024.

3. Presentazioni a conferenze

Gruppo Binder

- Matteo Basso. Improving Native-Image Startup Performance. 2025 IEEE/ACM International Symposium on Code Generation and Optimization (CGO 2025), Las Vegas, USA, 2025.
- Junior Löff. NPB-PSTL: C++ STL Algorithms with Parallel Execution Policies in NAS Parallel Benchmarks. 33rd Euromicro International Conference on Parallel, Distributed, and Network-Based Processing (PDP 2025), Torino, Italia 2025.

Gruppo Pezzè

- Davide Molinelli Tratto: A Neuro-Symbolic Approach to Deriving Axiomatic Test Oracles. ACM International Symposium on Software Testing and Analysis (ISSTA), giugno 2025, Trondheim, Norvegia

Gruppo Wolf

- “The Friends and Family of Oblivious Transfer”, Institut Henri Poincaré, giugno 2025.
- “From Bell to Boltzmann (via Coiteux-Roy)”, Stefan Wolf, Constructor Institute, Schaffhausen, dicembre 2024.
- “From Bell to Boltzmann (via Coiteux-Roy)”, Stefan Wolf, 100 Years of Bell’s Theorem, Universität Wien, settembre 2024.
- “On multivariate polynomials achievable with quantum signal processing”, QT4HEP25, Lorenzo Laneve, febbraio 2025.
- “Möbius etc.: Relativistic and Logical Bounds on Causality”, Ämin Beumeler, Constructor Institute of Technology, Schaffhausen, 13 novembre 2024.
- “Porting Quantum Research to Relativity - The Möbius Test”, Ämin Beumeler, Critical Natural Philosophy 3, Gandria, 7 febbraio 2025.
- Graphical Tests of Causality”, Ämin Beumeler, 2nd FoQaCiA Workshop, INL, Braga, Portogallo, 4 giugno 2025.

4. Collaborazioni principali

In corso

Gruppo Binder

- Prof. Daniele Bonetta, VU Amsterdam, The Netherlands
- Prof. Lubomír Bulej, Charles University, Czech Republic
- Dr. Aleksandar Prokopec, Oracle Labs, Switzerland
- Prof. Petr Tůma, Charles University, Czech Republic

Gruppo Pezzè

- Prof. Leonardo Mariani, Università degli stidi di Milano Bicocca, Italy
- Prof. Giovanni De naro, Università degli stidi di Milano Bicocca, Italy
- Prof. Michael Ernst, Washington University, Seattle, USA
- Prof, Abhik Roychoudhury, National University Singapore

- Prof. Margaret-Anne D. Storey, University of Victoria, Canada
- Prof. Mattia Fazzini, University of Minnesota, USA
- Prof. Daniel Russo, Aalborg University, Copenhagen, Denmark
- Dr. Alessandra Gorla, IMDEA, Madrid, Spain
- Dr. Alessio Gambi, AIT Austrian Institute of Technology, Vienna, Austria
- Dr. Paolo Arcaini, National Institute of Informatics, Tokyo, Japan

Gruppo Wolf

- Prof. Gilles Brassard, Université de Montréal
- Prof. Caslav Brukner, Universität Wien
- Prof. André Stefanov, Universität Bern

5. Eventi

Gruppo Pezzè

- 2030 Software Engineering 2025 Workshop co-located with FSE 2025, Trondheim, Norway. 26-27 giugno 2025 <https://conf.researchr.org/home/2030-se-2025>
- 2030 Software Engineering Workshop co-located with FSE 2024, Porto de Galinhas, Brazil. 15-16 luglio 2024 <https://conf.researchr.org/home/2030-se>

Gruppo Wolf

- Meeting of an Expert Commission on the topic of the E-ID, Gandria, luglio 2025.
<https://www.woz.ch/2534/elektronische-identitaet/eine-frage-des-vertrauens/!B0G2ZFBJ6S8C>
<https://cnp4.indyfac.ch/>
- Critical Natural Philosophy IV, Gandria and USI, gennaio 2025.
<https://cnp3.indyfac.ch/>

Appartenenze a comitati di programma di conferenze

Walter Binder

- Walter Binder member of the program committee: 31st International European Conference on Parallel and Distributed Computing (EuroPar 2025), Dresda, Germania, 2025.
- Walter Binder member of the program committee: 24th International Conference on Generative Programming: Concepts & Experiences (GPCE 2025), Bergen, Norvegia, 2025.
- Walter Binder member of the program committee: 26th ACM SIGPLAN/SIGBED International Conference on Languages, Compilers, and Tools for Embedded Systems (LCTES 2025), Seoul, Corea del Sud, 2025.
- Walter Binder member of the program committee: 39th IEEE International Parallel & Distributed Processing Symposium (IPDPS 2025), Milano, Italia, 2025.
- Walter Binder member of the program committee: 2025 International Conference on the Art, Science, and Engineering of Programming (<Programming> 2025), Praga, Repubblica Ceca, 2025.

- Walter Binder member of the program committee: 2024 ACM SIGPLAN Conference on Systems, Programming, Languages, and Applications: Software for Humanity (SPASH 2024), OOPSLA Track, Pasadena, USA, 2024.

Stefan Wolf

- Technical Program Committee of the International Symposium on Information Theory (ISIT) 2025.

6. Affiliazioni e riconoscimenti

Gruppo Binder

- Distinguished paper award at the 2025 ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA, 2025)

Gruppo Pezzè

- Mauro Pezzè Editor in Chief of IEE TSE Transactions on Software Engineering.
- Mauro Pezzè co-chair of the assessment and search (A&S) committee of the ACM publications board
- Mauro Pezzè member of the ACM publications board
- Mauro Pezzè ACM SIGSOFT Distinguished Service Award
- Ketai Qiu ACM Student Research Competition (SRC) at ESEC/FSE 2025