Dr. Andrea Rosà

Curriculum Vitae

Contact Information

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	Università della Svizzera italiana (USI), CH-6962 Lugano-Viganello, Switzerland
Homepage	`https://rosa-andrea.github.io`
DBLP	`https://dblp.org/pers/hd/r/Ros=agrave=:Andrea`
Google Scholar	`https://scholar.google.com/citations?user=43pAkMkAAAAJ`
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Professional Experience

09.2023–current	**Senior Researcher and Lecturer**, *Università della Svizzera italiana (USI)*, Lugano, Switzerland.
09.2018–08.2023	**Postdoctoral Researcher and Lecturer**, *Università della Svizzera italiana (USI)*, Lugano, Switzerland.
10.2013–08.2018	**Research and Teaching Assistant**, *USI*, Lugano, Switzerland.

Education

04.2021	**Habilitation for Associate Professorship in Informatics (ASN)**, Italy.
10.2013–08.2018	**PhD**, *Informatics, USI*, Lugano, Switzerland. Doctoral dissertation: "Analysis and Optimization of Task Granularity on the Java Virtual Machine". Advisor: Prof. Walter Binder
09.2011–10.2013	**MSc**, *Computer Science Engineering, Politecnico di Milano*, Milan, Italy. Advisor: Prof. Giuseppe Serazzi
09.2008–09.2011	**BSc**, *Computer Science Engineering, Politecnico di Milano*, Milan, Italy. Advisor: Prof. Carlo Ghezzi

Research Interests and Experience

Dynamic Program Analysis	Bytecode instrumentation, Just-in-time (JIT) compiler intermediate-representation (IR) instrumentation, high-accuracy profiling, profilers for concurrent programming (task profiling, stream profiling, actor profiling), vertical profiling, operating system (OS) profiling, hardware-level profiling, runtime monitoring and verification.
Managed Languages and Runtime	Java Virtual Machine (JVM), JIT compilation, runtime variability, Java Vector API, Java Virtual Thread API, Java Reflection API, actor frameworks, fluid APIs.
Benchmarking	Benchmark synthesis and analysis.
Empirical studies	Large-scale studies in the wild, software-repository crawling and mining.
Big-Data Analytics	Apache Spark and Flink, machine learning and artificial intelligence techniques, query processing, simulation,dependability.

Publications

All listed papers and articles are peer-reviewed (original publications).

Articles in Journals and Newsletters

[J10] Eduardo Rosales, Matteo Basso, Andrea Rosà, Walter Binder. *Large-scale Characterization of Java Streams*. In **Software: Practice and Experience**, 53(9): 1763–1792, September 2023.

[J9] Matteo Basso, Aleksandar Prokopec, Andrea Rosà, Walter Binder. *Optimization-Aware Compiler-Level Event Profiling*. In **ACM Transactions on Programming Languages and Systems (TOPLAS)**, 45(2): 1–50, June 2023. Presented at the 2023 ACM SIGPLAN conference on Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH 2023).

[J8] Eduardo Rosales, Matteo Basso, Andrea Rosà, Walter Binder. *Profiling and Optimizing Java Streams*. In **The Art, Science, and Engineering of Programming, 7(3):1:39**, Mar. 2023. Artifact evaluated.

[J7] Andrea Rosà, Eduardo Rosales, Walter Binder. *Analysis and Optimization of Task Granularity on the Java Virtual Machine*. In **ACM Transactions on Programming Languages and Systems (TOPLAS) 41(3): 19:1-19:47**, July 2019.

[J6] Andrea Rosà, Walter Binder. *Optimizing Type-specific Instrumentation on the JVM with Reflective Supertype Information*. In **Journal of Visual Languages & Computing 49:29–45**, Dec. 2018.

[J5] Andrea Rosà, Eduardo Rosales, Walter Binder. *Accurate Reification of Complete Supertype Information for Dynamic Analysis on the JVM*. In **ACM SIGPLAN Notices, 52(12):104–116**, Dec. 2017. Presented at the 16th International Conference on Generative Programming: Concepts & Experience (GPCE 2017).

[J4] Andrea Rosà, Lydia Y. Chen, Walter Binder. *Failure Analysis and Prediction for Big-Data Systems*. In **IEEE Transactions on Services Computing, 10(6): 984-998**, Nov-Dec 2017.

[J3] Andrea Rosà, Lydia Y. Chen, Walter Binder. *Actor Profiling in Virtual Execution Environments*. In **ACM SIGPLAN Notices, 52(3):36-46**, Mar. 2017. Presented at the 15th International Conference on Generative Programming: Concepts & Experience (GPCE 2016).

[J2] Andrea Rosà, Lydia Y. Chen, Robert Birke, Walter Binder. *Demystifying Casualties of Evictions in Big Data Priority Scheduling*. In **SIGMETRICS Perform. Eval. Rev., 42(4):12-21**, Mar. 2015.

[J1] Derya Çavdar, Andrea Rosà, Lydia Y. Chen, Walter Binder, Fatih Alagöz. *Quantifying the Brown Side of Priority Schedulers: Lessons from Big Clusters*. In **SIGMETRICS Perform. Eval. Rev., 42(3):76-81**, Dec. 2014. Presented at Greenmetrics 2014.

Papers in Conference Proceedings

[C42] Andrea Rosà, Matteo Basso, Leonardo Bohnhoff, Walter Binder. *Automated Runtime Transition between Virtual and Platform Threads in the Java Virtual Machine*. In **Proceedings of the 30th Asia-Pacific Software Engineering Conference (APSEC)**, 2023, pp 1–5.

[C41] Andrea Rosà, Matteo Basso, Leonardo Bohnhoff, Walter Binder. *Adaptive Thread Type Selection on the Java Virtual Machine*. In **Proceedings of the 11th International Symposium on Computing and Networking (CANDAR)**, 2023, pp 1–3.

[C40] Matteo Basso, Andrea Rosà, Luca Omini, Walter Binder. *Java Vector API: Benchmarking and Performance Analysis*. In **Proceedings of the 32nd ACM/SIGPLAN International Conference on Compiler Construction (CC)**, 2023, pp 1–12. Artifact evaluated.

[C39] Filippo Schiavio, Andrea Rosà, Walter Binder. *SQL to Stream with S2S: An Automatic Benchmark Generator for the Java Stream API*. In **Proceedings of the 21nd International Conference on Generative Programming: Concepts & Experience (GPCE)**, 2022, pp. 179–186.

[C38] Matteo Basso, Eduardo Rosales, Filippo Schiavio, <u>Andrea Rosà</u>, Walter Binder. *Accurate Fork-Join Profiling on the Java Virtual Machine*. In **Proceedings of the 28th International European Conference on Parallel and Distributed Computing (EuroPar)**, 2022, pp. 35-50.

[C37] Eduardo Rosales, <u>Andrea Rosà</u>, Matteo Basso, Alex Villazón, Adriana Orellana, Ángel Zenteno, Jhon Rivero, Walter Binder. *Characterizing Java Streams in the Wild*. In **Proceedings of the 26th International Conference on Engineering of Complex Computer Systems (ICECCS)**, 2022, pp. 143-152.

[C36] Matteo Basso, Filippo Schiavio, <u>Andrea Rosà</u>, Walter Binder. *Optimizing Parallel Java Streams*. In **Proceedings of the 26th International Conference on Engineering of Complex Computer Systems (ICECCS)**, 2022, pp. 23-32.

[C35] Haiyang Sun, <u>Andrea Rosà</u>, Daniele Bonetta, Walter Binder. *Automatically Assessing and Extending Code Coverage for NPM Packages*. In **Proceedings of the 2nd ACM/IEEE International Conference on Automation of Software Test (AST)**, 2021, pp. 40-49.

[C34] Alex Villazón, Haiyang Sun, <u>Andrea Rosà</u>, Eduardo Rosales, Daniele Bonetta, Isabella Defilippis, Sergio Oporto, Walter Binder. *Automated Large-scale Multi-language Dynamic Program Analysis in the Wild*. In **Proceedings of the 2021 Software Engineering Conference (SE)**, 2021, pp. 111.

[C33] <u>Andrea Rosà</u>, Walter Binder. *P3: A Profiler Suite for Parallel Applications on the Java Virtual Machine*. In **Proceedings of the 18th Asian Symposium on Programming Languages and Systems (APLAS)**, 2020, pp. 364–372.

[C32] Eduardo Rosales, <u>Andrea Rosà</u>, Walter Binder. *FJProf: Profiling Fork/Join Applications on the Java Virtual Machine*. In **Proceedings of the 13th EAI International Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS)**, 2020, pp. 128-135.

[C31] Eduardo Rosales, <u>Andrea Rosà</u>, Walter Binder. *Profiling Streams on the Java Virtual Machine*. In **Proceedings of the 4th Workshop on Modern Language Runtimes, Ecosystems, and VMs (MoreVMs)**, in conjunction with <Programming>, 2020, pp. 27–30.

[C30] Aleksandar Prokopec, <u>Andrea Rosà</u>, David Leopoldseder, Gilles Duboscq, Petr Tůma, Martin Studener, Lubomìr Bulej, Yudi Zheng, Alex Villazón, Doug Simon, Thomas Würthinger, Walter Binder. *Renaissance: Benchmarking Suite for Parallel Applications on the JVM*. In **Proceedings of the 2020 Software Engineering Conference (SE)**, 2020, pp. 145–146.

[C29] <u>Andrea Rosà</u>, Eduardo Rosales, Walter Binder. *Analysis and Optimization of Task Granularity on the Java Virtual Machine*. In **Proceedings of the 2020 Software Engineering Conference (SE)**, 2020, pp. 147.

[C28] Alex Villazón, Haiyang Sun, <u>Andrea Rosà</u>, Eduardo Rosales, Daniele Bonetta, Isabella Defilippis, Sergio Oporto, Walter Binder. *Automated Large-scale Multi-language Dynamic Program Analysis in the Wild*. In **Proceedings of the 2019 European Conference on Object-Oriented Programming (ECOOP)**, 2019, pp. 20:1-20:27. Artifact evaluated.

[C27] Aleksandar Prokopec, <u>Andrea Rosà</u>, David Leopoldseder, Gilles Duboscq, Petr Tůma, Martin Studener, Lubomìr Bulej, Yudi Zheng, Alex Villazón, Doug Simon, Thomas Würthinger, Walter Binder. *Renaissance: Benchmarking Suite for Parallel Applications on the JVM*. In **Proceedings of the 40th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)**, 2019, pp. 31-47. Artifact evaluated.

[C26] Filippo Schiavio, Haiyang Sun, Daniele Bonetta, <u>Andrea Rosà</u>, Walter Binder. *NodeMOP: Runtime Verification for Node.js Applications*. In **Proceedings of the 34th ACM/SIGAPP Symposium On Applied Computing (SAC)**, 2019, pp. 1794–1801.

[C25] Eduardo Rosales, <u>Andrea Rosà</u>, Walter Binder. *Optimization Coaching for Fork/Join Applications on the Java Virtual Machine*. In **Proceedings of the 3rd Workshop on Modern Language Runtimes, Ecosystems, and VMs (MoreVMs)**, in conjunction with <Programming>, 2019, pp. 7:1-7:3.

[C24] Alex Villazón, Haiyang Sun, <u>Andrea Rosà</u>, Eduardo Rosales, Daniele Bonetta, Isabella Defilippis, Sergio Oporto, Walter Binder. *NAB: Automated Large-scale Multi-language Dynamic Program Analysis in Public Code Repositories.* In **Proceedings Companion of the 2019 ACM SIGPLAN International Conference on Systems, Programming, Languages, and Applications: Software for Humanity, (SPLASH)**, 2019, pp. 9–10.

[C23] Aleksandar Prokopec, <u>Andrea Rosà</u>, David Leopoldseder, Gilles Duboscq, Petr Tůma, Martin Studener, Lubomìr Bulej, Yudi Zheng, Alex Villazón, Doug Simon, Thomas Würthinger, Walter Binder. *Renaissance: A Modern Benchmark Suite for Parallel Applications on the JVM.* In **Proceedings Companion of the 2019 ACM SIGPLAN International Conference on Systems, Programming, Languages, and Applications: Software for Humanity, (SPLASH)**, 2019, pp. 11–12.

[C22] Eduardo Rosales, <u>Andrea Rosà</u>, Walter Binder. *lpt: A Tool for Tuning the Level of Parallelism of Spark Applications.* In **Proceedings of the 25th Asia-Pacific Software Engineering Conference (APSEC)**, 2018, pp. 633-637.

[C21] <u>Andrea Rosà</u>, Eduardo Rosales, Walter Binder. *Analyzing and Optimizing Task Granularity on the JVM.* In **Proceedings of the 16th IEEE/ACM International Symposium on Code Generation and Optimization (CGO)**, 2018, pp. 27–37.

[C20] <u>Andrea Rosà</u>, Eduardo Rosales, Filippo Schiavio, Walter Binder. *Understanding Task Granularity on the JVM: Profiling, Analysis, and Optimization.* In **Proceedings of the 2nd Workshop on Modern Language Runtimes, Ecosystems, and VMs (MoreVMs)**, in conjunction with <Programming>, 2018, pp. 54–56.

[C19] Eduardo Rosales, <u>Andrea Rosà</u>, Walter Binder. *tgp: a Task-Granularity Profiler for the Java Virtual Machine.* In **Proceedings of the 24th Asia-Pacific Software Engineering Conference (APSEC)**, 2017, pp. 570-575.

[C18] Haiyang Sun, <u>Andrea Rosà</u>, Walter Binder. *ADRENALIN-RV: Android Runtime Verification using Load-time Weaving.* **10th IEEE International Conference on Software Testing, Verification and Validation (ICST)**, 2017.

[C17] <u>Andrea Rosà</u>, Eduardo Rosales, Walter Binder. *Accurate Reification of Complete Supertype Information for Dynamic Analysis on the JVM.* In **Proceedings of the 16th International Conference on Generative Programming: Concepts & Experience (GPCE)**, 2017, pp. 104–116. ACM SIGPLAN Notices, 52(12):104-116, Dec. 2017

[C16] <u>Andrea Rosà</u>, Walter Binder. *Speeding up Type-specific Instrumentation for the Analysis of Complex Systems.* In **22nd International Conference on Engineering of Complex Computer Systems (ICECCS)**, 2017, pp. 138-141.

[C15] Haiyang Sun, <u>Andrea Rosà</u>, Omar Javed, Walter Binder. *ADRENALIN-RV: Android Runtime Verification using Load-time Weaving.* In **Proceedings of the 10th IEEE International Conference on Software Testing, Verification and Validation (ICST)**, 2017, pp. 532-539.

[C14] <u>Andrea Rosà</u>, Lydia Y. Chen, Walter Binder. *Actor Profiling in Virtual Execution Environments.* In **Proceedings of the 15th International Conference on Generative Programming: Concepts & Experience (GPCE)**, 2016, pp. 36–46. ACM SIGPLAN Notices, 52(3):36-46, Mar. 2017.

[C13] Omar Javed, Yudi Zheng, <u>Andrea Rosà</u>, Haiyang Sun, Walter Binder. *Extended Code Coverage for AspectJ-based Runtime Verification Tools.* In **Proceedings of the 16th International Conference on Runtime Verification (RV)**, 2016, pp. 219–234.

[C12] <u>Andrea Rosà</u>, Yudi Zheng, Haiyang Sun, Omar Javed, Walter Binder. *Adaptable Runtime Monitoring for the Java Virtual Machine.* In **Proceedings of the 7th International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA)**, 2016, pp. 531–546.

[C11] <u>Andrea Rosà</u>, Lydia Y. Chen, Walter Binder. *An Endpoint Communication Profiling Tool for Distributed Computing Frameworks.* In **Proceedings of the 36th IEEE International Conference on Distributed Computing Systems (ICDCS)**, 2016, pp. 765–766.

[C10] <u>Andrea Rosà</u>, Lydia Y. Chen, Walter Binder. *AkkaProf: a Profiler for Akka Actors in Parallel and Distributed Applications*. In **Proceedings of the 14th Asian Symposium on Programming Languages and Systems (APLAS)**, 2016, pp. 139–147.

[C9] Yudi Zheng, <u>Andrea Rosà</u>, Luca Salucci, Yao Li, Haiyang Sun, Omar Javed, Lubomìr Bulej, Lydia Y. Chen, Zhengwei Qi, Walter Binder. *AutoBench: Finding Workloads That You Need Using Pluggable Hybrid Analyses*. In **Proceedings of the 23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER)**, 2016, pp. 639–643.

[C8] <u>Andrea Rosà</u>, Lydia Y. Chen, Walter Binder. *Profiling Actor Utilization and Communication in Akka*. In **Proceedings of the 15th ACM SIGPLAN Erlang Workshop (Erlang)**, in conjunction with ACM SIGPLAN ICFP, 2016, pp. 24–32.

[C7] <u>Andrea Rosà</u>, Lydia Y. Chen, Walter Binder. *Efficient Profiling of Actor-based Applications in Parallel and Distributed Systems*. In **Proceedings of the 11th Workshop on Implementation, Compilation, Optimization of Object-Oriented Languages, Programs and Systems (ICOOOLPS)**, in conjunction with ECOOP, 2016, pp. 9:1–9:3.

[C6] <u>Andrea Rosà</u>, Lydia Y. Chen, and Walter Binder. *Understanding the Dark Side of Big Data Clusters: An Analysis beyond Failures*. In **Proceedings of the 45th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN)**, 2015, pp. 207–218.

[C5] <u>Andrea Rosà</u>, Lydia Y. Chen, and Walter Binder. *Catching Failures of Failures at Big-Data Clusters: a Two-Level Neural Network Approach*. In **Proceedings of the 23rd IEEE International Symposium of Quality of Service (IWQoS)**, 2015, pp. 231–236.

[C4] <u>Andrea Rosà</u>, Lydia Y. Chen, and Walter Binder. *Predicting and Mitigating Jobs Failures in Big Data Clusters*. In **Proceedings of the 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)**, 2015, pp. 221–230.

[C3] <u>Andrea Rosà</u>, Lydia Y. Chen, and Walter Binder. *Understanding Unsuccessful Executions in Big-Data Systems*. In **Proceedings of the 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)**, 2015, pp. 741–744.

[C2] <u>Andrea Rosà</u>, Walter Binder, Lydia Y. Chen, Marco Gribaudo, Giuseppe Serazzi. *ParSim: a Tool for Workload Modeling and Reproduction of Parallel Applications*. In **Proceedings of the 22nd IEEE International Symposium on Modelling, Analysis & Simulation of Computer and Telecommunication Systems (MASCOTS)**, 2014, pp. 494–497.

[C1] Derya Çavdar, <u>Andrea Rosà</u>, Lydia Y. Chen, Walter Binder, Fatih Alagöz. *Quantifying the Brown Side of Priority Schedulers: Lessons from Big Clusters*. **Greenmetrics**, in conjunction with ACM SIGMETRICS, 2014, pp. 6. SIGMETRICS Perform. Eval. Rev., 42(3):76-81, Dec. 2014.

Invited Seminars and Talks

2022 *P3: A Profiler Suite for Parallel Applications on the Java Virtual Machine*. Talk at SPLASH.

2020 *Renaissance: Benchmarking Suite for Parallel Applications on the JVM*. Talk at MoreVMs (colocated with <Programming>).

2019 *NAB: Automated Large-scale Multi-language Dynamic Program Analysis in Public Code Repositories*. Invited talk at NJR (colocated with SPLASH).

2016 *Actor Profiling on the JVM*. Invited talk at the 3rd Virtual Machine Meetup (VMM).

2016 *AutoBench: Finding Workloads That You Need Using Pluggable Hybrid Analyses*. Seminar talks at The University of Tokyo, Tokyo Institute of Technology and Kyoto University.

Leadership in Funded Research Projects

2020 **Automatic and Scalable Test Coverage Extension via Dependent Applications**
Hasler Foundation; project 20022.
Principal Investigator - Main Applicant.
Amount granted: 49'950 CHF.

Awards and Honors

2023 **Best Poster Award**
International Symposium on Computing and Networking (CANDAR)

2022 **Invited to submit a journal article to a special issue reserved for best papers**
IEEE Transactions on Reliability, special issue for best papers published at the 26th International Conference on Engineering of Complex Computer Systems (ICECCS).

2021 **Invited to submit a journal article to a special issue reserved for best papers**
Wiley Journal of Software: Evolution and Process (JSEP), special issue for best papers published at the 2nd ACM/IEEE International Conference on Automation of Software Test (AST).

2020 **Best Reviewer Award**
European Conference on Computer Systems (EuroSys) - Shadow Program Committee

2017 **Invited to submit a journal article to a special issue reserved for best papers**
Elsevier Journal of Visual Languages & Computing 49:29–45, special issue for best papers published at the 16th International Conference on Generative Programming: Concepts & Experience (GPCE).

2013 ***Cum laude* MSc degree**
Politecnico di Milano, Italy.

Teaching

All courses are taught at USI.

Instructor and Course Director

2019–2023 **Advanced Java Programming**, MSc, 6 ECTS.

2020–2023 **Dynamic Program Analysis**, PhD, 4 ECTS.

2021 **Introduction to Computer Systems**, *Taught in Italian, original course name: "Introduzione ai Sistemi di Calcolatori"*, MSc, 5 ECTS.
Taught with Prof. Antonio Carzaniga.

Adjunct Lecturer

2017–2023 **Programming Fundamentals III**, BSc, 6 ECTS.

2016–2023 **Introduction to Programming**, MSc, 6 ECTS.

Teaching Assistant

2016 **Programming Fundamentals III**, BSc, 6 ECTS.

2015 **Advanced Programming & Design**, MSc, 6 ECTS.

2015 **Algorithms & Data Structures**, BSc, 6 ECTS.

2014 **Computer Networking**, BSc, 6 ECTS.

2014 **Databases**, MSc, 6 ECTS.

Advising Students

Unless otherwise noted, all students were matriculated at USI.

PhD

2019–ongoing **Matteo Basso**. Co-advised with Prof. Walter Binder.

2018–2022 **Eduardo Rosales**. Co-advised with Prof. Walter Binder.

MSc

2023 **Pietro Rodolfo Masera**

2023 **Leonardo Bohnhoff**

2022 **Luca Omini**

2020 **Sebastien Bouquet**

| 2020 | **Luca Reina**, USI and Università degli Studi di Milano-Bicocca. |
| 2020 | **Matteo Basso**, USI and Università degli Studi di Milano-Bicocca. |

BSc

2024	**Thomas Bertini**
2024	**Riccardo Carmellini**
2022	**Marzio Lunghi**
2021	**Claudio Maggioni**
2019	**Federico van Swaij**

Research Internships

2023	**Mohamad Ali Atwi**
2023	**Loredana De Filippo**
2023	**Riccardo Carmellini**
2023	**Thomas Bertini**
2022	**Alen Sugimoto**
2021	**Luca Omini**
2020	**Claudio Maggioni**
2020	**Matteo Basso**
2018	**Federico van Swaij**
2018	**Simone Masiero**
2016	**Samuele Decarli**

Academic Service

Internal Service

| 2021–2023 | **Member of the Academic Senate of USI**.
Member of the Presidential Office, University Council Commission, Electoral Committee, Legal Basis Committee. |
| 2020–2021 | **Representative of Postdoctoral Researchers in the USI Faculty of Informatics Council**. |

Revisor for Funding Schemes

| 2021 | Italian Ministry of University and Research - PRIN Call 2020. |

Conference Organization

2023	**Workshop and Program Chair**, 15th ACM SIGPLAN International Workshop on Virtual Machines and Language Implementations (VMIL).
2017	**Publicity Co-chair**, ACM/SPEC International Conference on Performance Engineering (ICPE) and 8 co-located workshops.
2016	**Publicity Chair**, International Conference on Managed Languages & Runtimes Week (Man-Lang), including the International Conference on Principles and Practices of Programming on the Java Platform: Virtual Machines, Languages, and Tools (PPPJ), the International Workshop on Java Technologies for Real-time and Embedded Systems (JTRES), and the Virtual Machine Meetup (VMM).
2016	**Local Arrangements**, Managed Languages & Runtimes Week (ManLang).
2014	**Local Arrangements**, International Conference on Modularity (Modularity).

Program Committee

2019–2021	International Conference on Managed Programming Languages & Runtimes (MPLR)
2020	Object-Oriented Programming Systems, Languages and Applications (OOPSLA) - Artifact evaluation track
2020	European Conference on Object-Oriented Programming (ECOOP) - Artifact evaluation track

2020	ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI) - Artifact evaluation track
2020	European Conference on Computer Systems (EuroSys) - Shadow Program Committee
2017	ACM/SPEC International Conference on Performance Engineering (ICPE) - Posters and Demonstrations track

Reviewer

2019–20, 2022, 2024	International Symposium on Code Generation and Optimization (CGO)
2015, 2016, 2023	International Conference on Generative Programming: Concepts & Experience (GPCE)
2023	International Conference on Managed Programming Languages & Runtimes (MPLR)
2023	Elsevier Sustainable Computing: Informatics and Systems
2023	ACM International Workshop on Context-Oriented Programming and Advanced Modularity (COP)
2021–2023	Elsevier Journal of Parallel and Distributed Computing
2015–16, 2022–23	ACM/SPEC International Conference on Performance Engineering (ICPE)
2023	International European Conference on Parallel and Distributed Computing (EuroPar)
2023	ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)
2022	ACM Transactions on Modeling and Performance Evaluation of Computing Systems (TOMPECS)
2022	ACM SIGPLAN/SIGBED International Conference on Languages, Compilers, and Tools for Embedded Systems (LCTES)
2014–2022	International Conference on Service-Oriented Computing (ICSOC)
2021, 2022	ACM/SIGPLAN International Conference on Compiler Construction (CC)
2021	European Conference on Object-Oriented Programming (ECOOP)
2017, 2020	IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)
2020	Elsevier Science of Computer Programming
2019	Elsevier Journal of Computer Languages
2018	ACM/SIGAPP Symposium On Applied Computing (SAC)
2017	International Conference on Managed Languages & Runtimes (ManLang)
2017	Elsevier Simulation Modelling Practice and Theory
2016	Asian Symposium on Programming Languages and Systems (APLAS)
2015, 2016	IEEE International Symposium on Modelling, Analysis & Simulation of Computer and Telecommunication Systems (MASCOTS)
2016	International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA)
2016	IEEE Transactions on Modeling and Performance Evaluation of Computing Systems
2016	International Workshop on Big Data and Cloud Performance (DCPerf)
2015	ACM/IFIP/USENIX International Middleware Conference (Middleware)
2015	IEEE International Symposium of Quality of Service (IWQoS)
2015	IEEE International Conference on Autonomic Computing (ICAC)
2014	IEEE Global Communications Conference (GLOBECOM)

Software

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2022	**JVBench**. Contributor to JVBench, a benchmark suite for the Java Vector API. Presented at the 32nd International Conference on Compiler Construction (CC), 2023.
2022	**StreamProf**. Contributor to StreamProf, an accurate profiler for stream-based applications running on the JVM. Presented at the 2023 International Conference on The Art, Science and Engineering of Programming (Programming), 2023.

2022 **wosp**. Contributor to wosp, an accurate fork-join profiler for the JVM. Presented at the 28th International European Conference on Parallel and Distributed Computing (EuroPar), 2022.

2020 **P3**. Lead developer of P3, a profiler suite for parallel applications running on the Java Virtual Machine. Presented at the 18th Asian Symposium on Programming Languages and Systems (APLAS), 2020.

2019 **Renaissance**. Contributor to Renaissance, a modern, open, and diversified benchmark suite for the JVM. Member of the reviewing committee. Presented at the 40th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI), 2019.

2018 **NAB**. Contributor to NAB, a framework for automated large-scale multi-language dynamic program analysis in the wild. Presented at the 2019 European Conference on Object-Oriented Programming (ECOOP), 2019.

2017 **tgp**. Lead developer of tgp, a tool for profiling task granularity on the JVM. Presented at the 24th Asia-Pacific Software Engineering Conference (APSEC), 2017.

2017 **DiSL**. Contributor to DiSL, a program analysis framework for Java bytecode. Main contribution presented at the 16th International Conference on Generative Programming: Concepts & Experience (GPCE), 2017.

2017 **Shadow VM**. Contributor to Shadow VM, an extension of DiSL that improves code coverage and isolation of dynamic analyses.

2016 **AutoBench**. Contributor to AutoBench, a framework for automating program analysis on large-scale open-source code repositories. Presented at the 23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER), 2016.

2016 **AkkaProf**. Lead developer of AkkaProf, a tool for profiling Akka actors in parallel and distributed applications. Presented at the 14th Asian Symposium on Programming Languages and Systems (APLAS), 2016.

2012 **ParSim**. Lead developer of ParSim, a software tool for modeling, reproduction, and analysis of arbitrary workloads in parallel systems. Presented at the 22nd IEEE International Symposium on Modelling, Analysis & Simulation of Computer and Telecommunication Systems (MASCOTS), 2014.

References

[1] **Prof. Walter Binder**, *Full Professor*, Faculty of Informatics, Università della Svizzera italiana (USI), via Giuseppe Buffi 13, Lugano, Switzerland, CH-6904.
E-mail: walter.binder@usi.ch. Phone: +41 58 666 4303.

[2] **Prof. Lydia Y. Chen**, *Associate Professor*, Distributed Systems Group, TU Delft, Van Mourik Broekmanweg 6, Delft, The Netherlands, NL-2628.
E-mail: lydiaychen@ieee.org.

[3] **Prof. Petr Tůma**, *Full Professor*, Department of Distributed and Dependable Systems, Charles University, Malostranské náměstí 25, Prague, Czech Republic, CZ-11800.
E-mail: petr.tuma@d3s.mff.cuni.cz. Phone: +420 951 554 267.

[4] **Prof. Giuseppe Serazzi**, *Emeritus Professor*, Dipartimento di Elettronica, Informazione e Bioingegneria (DEIB), Politecnico di Milano, via Ponzio 34/5, Milan, Italy, IT-20133.
E-mail: giuseppe.serazzi@polimi.it. Phone: +39 02 2399 3535.

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