

# Marijana Lazić

## Curriculum Vitae

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### Personal Information

- Born** May 6, 1988 in Šabac, Serbia
- Nationality** Serbian
- Languages** Serbian (native), English (fluent), German (intermediate) and Spanish (basic knowledge)
- Address** Technische Universität München  
Institut für Informatik (I7)  
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85748 Garching b. München, Germany
- Web** <https://www.cs.cit.tum.de/tcs/personen/marijana-lazic>

### Education

- 2015–2019 **Ph.D. studies in Computer Science**, *Technische Universität Wien, Austria*.  
Thesis Reduction Techniques for Parameterized Model Checking and Synthesis of Fault-Tolerant Distributed Algorithms  
Supervisors Privatdoz. Dr. Josef Widder and Privatdoz. Dr. Igor Konnov  
(Initially supervised by Prof. Dr. Helmut Veith†)  
GPA 1 (Excellent), Passed with Distinctions
- 2011–2012 **Master studies in Mathematics**, *University of Novi Sad, Serbia*.  
Prof. title Master Professor in Mathematics  
GPA 9.61/10 (Excellent)  
Thesis Power structures and Multialgebras  
Supervisor Prof. Dr. Rozalia Madarasz Szilagyi
- 2007–2011 **Bachelor studies in Mathematics**, *University of Novi Sad, Serbia*.  
Prof. title Bachelor with Honors in Mathematics Teaching  
GPA 9.47/10 (Exceptionally good)

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## Work Experience

- 06/2019–08/2023 **Postdoctoral Researcher**, *Institut für Informatik (I7), Technische Universität München*, with Prof. Javier Esparza.
- Teaching assistant in *Automata and Formal Languages*, Winter semesters 2019/2020, 2020/2021 and 2022/2023
  - Teaching assistant in *Logic*, Summer semester 2020 (online) and 2023
  - June 2021 – June 2022 on maternity leave
- 02/2015–05/2019 **Project Assistant**, “*Formal Methods in Systems Engineering*”, *Institut for Information Systems 184/4, Technische Universität Wien, Vienna, Austria*.
- Teaching assistant in *Formal Methods in Computer Science*, Winter semester 2018/2019
- 2013–2015 **Teaching Assistant**, *University of Novi Sad, Novi Sad, Serbia*.
- *Algebra 1* (Applied Mathematics, Graduate Professor of Mathematics)
  - *Algebra 2* (Applied Mathematics)
  - *Algebra for students of informatics* (Information Technologies)
  - *Business Mathematics* (Geography, Tourism and Hotel Management)
  - *Geometry 1* (Graduate Professor of Mathematics)
  - *Theoretical Foundations of Mathematics 1* (Information Technologies)
  - *Theoretical Foundations of Mathematics 2, Automata theory* (Information Technologies)
- 06/2014–08/2014 **Project Assistant**, *Institute for Algebra, Johannes Kepler University, Linz, Austria*.

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## Publications

- 2023 Igor Konnov, Marijana Lazic, Iliana Stoilkovska, and Josef Widder. Survey on parameterized verification with threshold automata and the byzantine model checker. *Log. Methods Comput. Sci.*, 19(1), 2023.
- 2022 Nathalie Bertrand, Vincent Gramoli, Igor Konnov, Marijana Lazic, Pierre Tholoniati, and Josef Widder. Holistic verification of blockchain consensus. In *DISC*, volume 246 of *LIPICs*, pages 10:1–10:24. Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2022.
- 2022 Nathalie Bertrand, Vincent Gramoli, Igor Konnov, Marijana Lazic, Pierre Tholoniati, and Josef Widder. Brief announcement: Holistic verification of blockchain consensus. In *PODC*, pages 424–426. ACM, 2022.
- 2021 Hans van Ditmarsch, Éric Goubault, Marijana Lazić, Jérémy Ledent, and Sergio Rajsbaum. A dynamic epistemic logic analysis of equality negation and other epistemic covering tasks. *Journal of Logical and Algebraic Methods in Programming*, 121:100662, 2021.
- 2021 Nathalie Bertrand, Marijana Lazić, and Josef Widder. A reduction theorem for randomized distributed algorithms under weak adversaries. In *VMCAI*, volume 12597 of *Lecture Notes in Computer Science*, pages 219–239. Springer, 2021.
- 2021 Nathalie Bertrand, Igor Konnov, Marijana Lazić, and Josef Widder. Verification of randomized consensus algorithms under round-rigid adversaries. *International Journal on Software Tools for Technology Transfer*, February 2021.

- 2020 Igor Konnov, Marijana Lazić, Iliana Stoilkovska, and Josef Widder. Tutorial: Parameterized verification with byzantine model checker. In *FORTE*, volume 12136 of *Lecture Notes in Computer Science*, pages 189–207. Springer, 2020.
- 2020 A. R. Balasubramanian, Javier Esparza, and Marijana Lazić. Complexity of verification and synthesis of threshold automata. In *ATVA*, volume 12302 of *Lecture Notes in Computer Science*, pages 144–160. Springer, 2020.
- 2019 Éric Goubault, Marijana Lazić, Jérémy Ledent, and Sergio Rajsbaum. Wait-free solvability of equality negation tasks. In *DISC*, volume 146 of *LIPICs*, pages 21:1–21:16. Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2019.
- 2019 Éric Goubault, Marijana Lazić, Jérémy Ledent, and Sergio Rajsbaum. A dynamic epistemic logic analysis of the equality negation task. In *DaLi*, volume 12005 of *Lecture Notes in Computer Science*, pages 53–70. Springer, 2019.
- 2019 Nathalie Bertrand, Igor Konnov, Marijana Lazić, and Josef Widder. Verification of Randomized Consensus Algorithms Under Round-Rigid Adversaries. In *30th International Conference on Concurrency Theory (CONCUR 2019)*, volume 140 of *LIPICs*, pages 33:1–33:15. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2019.
- 2019 Idan Berkovits, Marijana Lazić, Giuliano Losa, Oded Padon, and Sharon Shoham. Verification of threshold-based distributed algorithms by decomposition to decidable logics. In *CAV (2)*, volume 11562 of *Lecture Notes in Computer Science*, pages 245–266. Springer, 2019.
- 2018 Cezara Dragöi, Marijana Lazić, and Josef Widder. Communication-closed layers as paradigm for distributed systems: A manifesto. In *Sinteza*, pages 131–138, 2018.
- 2017 Marijana Lazić, Igor Konnov, Josef Widder, and Roderick Bloem. Synthesis of distributed algorithms with parameterized threshold guards. In *OPODIS*, volume 95 of *LIPICs*, pages 32:1–32:20, 2017.
- 2017 Igor V. Konnov, Marijana Lazić, Helmut Veith, and Josef Widder. A short counterexample property for safety and liveness verification of fault-tolerant distributed algorithms. In *Proceedings of the 44th ACM SIGPLAN Symposium on Principles of Programming Languages, POPL 2017, Paris, France, January 18-20, 2017*, pages 719–734, 2017.
- 2017 Igor Konnov, Marijana Lazić, Helmut Veith, and Josef Widder. Para<sup>2</sup>: Parameterized Path Reduction, Acceleration, and SMT for Reachability in Threshold-Guarded Distributed Algorithms. *Formal Methods in System Design*, 2017.
- 2016 Erhard Aichinger, Marijana Lazić, and Nebojša Mudrinski. Finite generation of congruence preserving functions. *Monatshefte für Mathematik*, (181):35–62, 2016.

## Invited Talks

- March 2023 **Parameterized Verification of Randomized Consensus Algorithms**, *Unifying Formal Methods for Trustworthy Distributed Systems*, Dagstuhl seminar, Germany.
- October 2019 **Verification of Randomized Consensus Algorithms under Round-Rigid Adversaries**, The 6th Workshop on Formal Reasoning in Distributed Algorithms (FRIDA 2019), Budapest, Hungary.

- November 2018 **Parameterized Verification of Randomized Distributed Algorithms under Round-Rigid Adversaries**, TU Munich, Germany.
- May 2018 **Synthesizing thresholds for fault-tolerant distributed algorithms**, *Formal Methods and Fault-Tolerant Distributed Computing: Forging an Alliance*, Dagstuhl seminar, Germany.
- April 2018 **Synthesis of Distributed Algorithms with Parameterized Threshold Guards**, University of Novi Sad, Serbia.
- December 2017 **Parameterized Verification and Synthesis of Distributed Algorithms**, Tel Aviv University, Tel Aviv, Israel.
- February 2017 **A Short Counterexample Property for Safety and Liveness Verification of Fault-tolerant Distributed Algorithms**, University of Novi Sad (Faculty of Sciences and Faculty of Technical Sciences), Novi Sad, Serbia.
- July 2016 **Parameterized Verification of Liveness of Distributed Algorithms**, Yale University, New Haven, CT, USA.
- July 2016 **Parameterized Verification of Liveness of Distributed Algorithms**, Amazon, New York City, NY, USA.
- May 2016 **Completeness of Bounded Model Checking of Threshold-Based Distributed Algorithms: Safety and Liveness**, The Third Workshop on Formal Reasoning in Distributed Algorithms (FRIDA 2016), Marrakech, Morocco.

## Conference and Workshop Talks

- January 2021 **A Reduction Theorem for Randomized Distributed Algorithms under Weak Adversaries**, The 22nd International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI 2021), Online.
- August 2019 **Verification of Randomized Consensus Algorithms under Round-Rigid Adversaries**, The 30th International Conference on Concurrency Theory (CONCUR 2019), Amsterdam, The Netherlands.
- January 2017 **A Short Counterexample Property for Safety and Liveness Verification of Fault-tolerant Distributed Algorithms**, The 44th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2017), Paris, France.
- February 2015 **On terms in 3-supernilpotent groups with an additional unary operation**, The 89th Workshop on General Algebra (89. Arbeitstagung Allgemeine Algebra, AAA89), Dresden, Germany.
- February 2014 **On a class of finite modular congruence lattices**, The 87th Workshop on General Algebra (87. Arbeitstagung Allgemeine Algebra, AAA87), Linz, Austria.

## Other Talks

- December 2020 **Parameterized Verification of Fault-Tolerant Distributed Algorithms**, (*in Serbian*), Serbian AI meeting.
- December 2017 **Synthesis of Distributed Algorithms with Parameterized Threshold Guards**, The 2nd Winter School in Engineering and Computer Science on Formal Verification (student spotlight), Jerusalem, Israel.

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## Research Visits

- Sep 2018 **Sergio Rajsbaum**, *Universidad Nacional Autónoma de México*, Mexico City.  
Jun-Jul 2017 **Yoram Moses**, *Technion, Israel Institute of Technology*, Haifa, Israel.  
Nov-Dec 2017  
Oct-Dec 2016 **Prakash Panangaden and Vijay D'Silva**, *Simons Institute for the Theory of Computing, University of California, Berkeley*.  
Jun-Aug 2014 **Erhard Aichinger**, *Johannes Kepler University*, Linz, Austria.  
Jan-Feb 2014  
May-Jun 2013

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## Awards and Grants

- Female promotion measure "Doktorandinnen ans Rednerpult", travel grant for attending Dagstuhl Seminar 18211, May 2018
- Travel Grants for attending GETCO 2018, FLoC 2018, CAV & VMW 2016, AAA89
- Travel Grant by Amazon for attending LICS 2016 and LMW 2016
- Zonta Club Wien 1 mobility grant for female researchers, 2016
- Relocation Grant by FFG, February 2015
- Grant of Serbian Ministry of Education, Science and Technological Development for PhD students for the school year 2012/2013
- Grant of Serbian Ministry of Education for the school years 2011/2012, 2010/2011, 2009/2010, 2008/2009

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## Scientific Services

- Organizing the Verification Mentoring Workshop 2023 co-located with CAV 2023
- Participation in the panel discussion "From Surviving to Thriving – Crafting your good professional Life" for PhD students at TU Wien, Austria
- FLoC 2022 Mentoring Workshop Co-chair
- Organizing The 9th Workshop on Formal Reasoning in Distributed Algorithms (FRIDA 2022)
- Program committee member at CAV 2022, CAV 2021 and CONCUR 2020
- Organizing The 7th Workshop on Formal Reasoning in Distributed Algorithms (FRIDA 2020)
- Reviewer for Acta Informatica, Journal of Logical and Algebraic Methods in Programming, Software Quality Journal
- Reviewer for MFCS 2023, CONCUR 2018/2017, FMCAD 2018/2017, PSSV 2018/2017, STACS 2017, ICDCN 2017
- Co-organizing CAV 2016 Buddy System
- Student volunteer at DISC 2017, FMCAD 2017, POPL & VMCAI 2017, CAV 2016
- Co-organizing The 90th Workshop on General Algebra (AAA90)