

PERSONAL INFORMATION



prof. dr. Andrej Bauer

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Date of birth 1971 | Nationality Slovenia

Academic position [Professor of computational mathematics](#), Faculty of Mathematics and Physics, University of Ljubljana

Research interests logic, type theory, homotopy type theory, constructive and computable mathematics, principles of programming languages, proof assistants and formalized mathematics

Bibliography [COBISS-SI](#), [MathSciNet](#), [Google scholar](#), [DBLP](#)

EDUCATION

PhD Pure & Applied Logic, 2000, Carnegie Mellon University, School of Computer Science, Pittsburgh, USA

BSc Bachelor of Science in Mathematics, 1994, University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia

IB International Baccalaureate, 1990, United World College of the Adriatic, Duino (Trieste), Italy

ACADEMIC AWARDS

2022 American Mathematical Society [Levi L. Conant Prize 2022](#) for the best expository paper published in the Notices of the AMS or the Bulletin of the American Mathematical Society.

2016 Golden plaque for outstanding pedagogical and research performance by a university professor by University of Ljubljana.

2004 Honorary certificate for outstanding pedagogical and scientific achievements by a junior faculty member by University of Ljubljana.

2000 Doctoral Dissertation Award by Carnegie Mellon University, School of Computer Science.

1994 University of Ljubljana Prešeren award for undergraduate thesis.

PROJECT LEADERSHIP

2020–2025 Principal investigator, Type Theory for Data-Intensive Formalization ([TyDiForm](#)), Air Force Office of Scientific Research Award No. FA9550-21-1-0024.

2017–2020 Principal investigator, Foundations of Type Theory for Computation and Mathematics (TypeCoMa), Air Force Office of Scientific Research Award No. FA9550-17-1-0326.

2014–2017 Principal investigator, Computational Effects in Computable and Formalized Mathematics (EffMath), Air Force Office of Scientific Research Award No. FA9550-14-1-0096.

2001–2004 Postdoctoral fellow, Computability in analysis and topology, Slovenian Research Agency grant Z1-3138.

PROJECT MEMBER

2021–2025 Management committee, The European research network on formal proofs (EuroProofNet), [EU COST Action CA20111](#).

2015– Participant, Computationally intensive methods in theoretical computer science, discrete mathematics, combinatorial optimization, and numerical analysis and algebra with applications in natural and social sciences, Slovenian Research Agency grant P1-0294.

2016–2020 Management committee, The European research network on types for programming and verification (EUTypes), [EU COST Action CA15123](#).

2012–2016 Participant, Computable analysis. Marie Curie Actions PIRSES-GA-2011-294962.

RESEARCH VISITS

- September 2015 Visiting professor, Laboratoire Preuves, Programmes et Systèmes, Université Paris Diderot, Paris, France.
- September 2013 Visiting researcher, Japan Advanced Institute of Science and Technology, Kanazawa, Japan.
- September–December 2012 Research fellow, Institute for Advanced Study, Princeton, USA.
- September 2002 Invited lecturer, Computer Science Department, University of Birmingham, Birmingham, United Kingdom.
- January–June 2001 Postdoctoral fellow, Institut Mittag-Leffler, The Royal Swedish Academy of Sciences, Stockholm, Sweden.

INVITED PLENARY TALKS

- TYPES 2023 29th International Conference on Types for Proofs and Program, June 12–15, 2023, Universitat Politècnica de València, Spain.
- ICFP 2019 24th ACM SIGPLAN International Conference on Functional Programming, August 19–21, 2019, Berlin, Germany.
- FPSAC 2019 31st International Conference on Formal Power Series and Algebraic Combinatorics, July 1–5, 2019, Ljubljana, Slovenia.
- LAP 2018 Logic and Applications, September 24–28, 2018, Dubrovnik, Croatia.
- CCA 2016 Thirteenth International Conference on Computability and Complexity in Analysis, June 15–17, 2016, Faro, Portugal.
- MAP 2016 Effective Analysis: Foundations, Implementations, Certification (MAP meeting), January 2016, Centre International de Rencontres Mathématiques, Marseille, France.
- IUT 2015 The International Conference on Improving University Teaching, 40th annual meeting, July 2015, Ljubljana, Slovenia.
- TYPES 2015 21st International Conference on Types for Proofs and Programs, May 2015, Tallinn, Estonia.
- SCAN 2014 16th GAMM-IMACS International Symposium on Scientific Computing, Computer Arithmetic and Validated Numerics, September 21–26, 2014, University of Würzburg, Germany.
- LC 2014 Logic Colloquium 2014, July 14–19, 2014, Vienna University of Technology.
- CALCO 2013 5th Conference on Algebra and Coalgebra in Computer Science, Warsaw, Poland, September 3–6, 2013.
- CCA 2008 Fifth International Conference on Computability and Complexity in Analysis, August 21–24, 2008, Hagen, Germany.
- MSFP 2008 Mathematically Structured Functional Programming 2008, July 6, 2008, Reykjavik University, Reykjavik, Iceland.
- MFPS 2005 Mathematical Foundations of Programming Semantics, 21st Annual Conference, Birmingham, United Kingdom, May 18–21, 2005.

OTHER INVITED TALKS

- CiE 2023 Computability in Europe 2023, Special session on Weihrauch Complexity, July 24–28, Batumi, Georgia.
- MAP 2023 Machine assisted proofs, February 13–17, Institute for Pure and Applied Mathematics, Los Angeles, USA.
- 8ECM 8th European Congress of Mathematics, June 2021, Portorož, Slovenia.
- CLFU 2016 Workshop on Categorical Logic and Univalent Foundations, July 2016, University of Leeds, UK.
- 5WFT 2015 Fifth Workshop on Formal Topology, June 2015, Mittag-Leffler Institut, Stockholm, Sweden.
- WCM 2014 Workshop on Constructive mathematics and models of type theory, June 2–6, 2014, Institut Henri Poincaré, Paris, France.
- FMPA 2014 Workshop on Formalization of mathematics in proof assistants, May 5–9, 2014, Institut Henri Poincaré, Paris, France.
- MFPS 2013 Mathematical Foundations of Programming Semantics, 29th Annual Conference, June 23–25, 2013, and Logic in Computer Science (LICS 2013), June 25–28, 2013, Tulane University, New Orleans, Louisiana, USA, special joint session in honor of Dana S. Scott's 80th birthday.
- IAS 2013 School of Mathematics, Institute for Advanced Study, Princeton, USA, March 2013, members seminar.
- MFPS 2012 Mathematical Foundations of Programming Semantics, 28th Annual Conference, June 6–9, 2012, University of Bath, UK, special session on Logic, Computation and Algebraic Topology.
- PCAs 2010 Partial Combinatory Algebras in Realizability and Computability, a LICS 2010-affiliated workshop at FLoC 2010, July 9th, 2010, Edinburgh, UK, University of Edinburgh.
- LC 2009 Logic Colloquium 2009, Sofia, Bulgaria, July 31–August 5, 2009, special session on Logic and Category Theory.
- MFPS 2007 Mathematical Foundations of Programming Semantics, 23rd Annual Conference, April 11–14, 2007, Tulane University, New Orleans, USA, tutorial lecture.

CCA 2005 Second International Conference on Computability and Complexity in Analysis, August 25–29, 2005, Kyoto, Japan, tutorial lecture.

COMMUNITY SERVICE

- 2024–2025 Member of jury, [Ackermann Award](#) – EACSL Outstanding Dissertation Award for Logic in Computer Science
- 2023 Member of the organizing committee, Automated mathematics – integrating proofs, algorithms and data, Dagstuhl Seminar 23401, October 2023, Dagstuhl, Germany.
- 2020–2023 Member of the steering committee, ACM SIGPLAN International Conference on Functional Programming.
- 2022 General chair, 27th ACM SIGPLAN International Conference on Functional Programming (ICFP 2022), 11–16 September 2022, Ljubljana, Slovenia
- 2021 Member of the organizing committee, Computer Science Logic (online), 25–28 January 2021, Ljubljana, Slovenia.
- 2018 Member of the organizing committee, Formalization of Mathematics in Type Theory, Dagstuhl Seminar 18341, August 2018, Dagstuhl, Germany.
- 2018 Member of the organizing committee and program committee, Workshop Domains 2018, an event affiliated with the Federated Logic Conference 2018 (FLoC 2018), July 2018, Oxford University, UK.
- 2016 Member of the organizing committee, From Theory to Practice of Algebraic Effects and Handlers, Dagstuhl Seminar 16112, March 2016, Dagstuhl, Germany.
- 2015– Member of the steering committee, International Symposium on Scientific Computing, Computer Arithmetics and Verified Numerics (SCAN).
- 2013– Member of the steering committee, Mathematical Foundations of Programming Semantics (MFPS).
- 2013 Chair of the organizing committee, Fourth workshop on Formal Topology, Ljubljana, Slovenia, June 15–20, 2013.
- 2013 Chair of the organizing committee, Workshop on Higher-dimensional algebra, categories and types, Ljubljana, Slovenia, June 15–20, 2013.
- 2011 Co-chair of the program committee and member of the organizing committee, European Summer School in Logic, Language and Information (ESSLLI), Ljubljana, Slovenia, August 1–13, 2011.
- 2011 Chair of the organizing committee, European Workshop on Computational Effects, University of Ljubljana, March 17–18, 2011.
- 2009 Chair of the organizing committee, Sixth International Conference on Computability and Complexity in Analysis (CCA), University of Ljubljana, August 18–22, 2009.
- 2008 Chair of the program committee, Mathematical Foundations of Programming Semantics 24 (MFPS), University of Pennsylvania, Philadelphia, USA.

TEACHING

- undergraduate logic and sets, software in education, fundamentals of databases, theory of programming language, principles of programming languages, computer lab, programming 1 & 2
- master logic, set theory, mathematics with computers, functional programming, logic in computer science
- doctoral categorical logic, category theory, topology in computer science, homotopy type theory
- doctoral students Davorin Lešnik (2010), Melita Hajdinjak (2012), Gregor Dolinar (2013, co-advisor), Maja Lovrenov (2013, co-advisor) Philipp Georg Haselwarter (2021), Anja Petković Komel (2021)

INVITED LECTURES

- April 2022 Lectures on realizability theory, Midlands Graduate School in the Foundations of Computing Science, University of Nottingham, UK.
- April 2021 Lectures on type theory, Spring School on Homotopy Type Theory (online), Ecole de Printemps d'Informatique Théorique, France.
- April 2019 Lecture on type theory, School and Workshop on Univalent Mathematics, University of Birmingham, UK.
- July 2018 Lectures on algebraic effects and handlers, Oregon programming language summer school (OPLSS), Oregon University, USA.
- December 2017 Lectures on type theory, School and Workshop on Univalent Mathematics, University of Birmingham, UK.
- September 2006 Lectures on synthetic computability theory, Summer school in logic, Gargnano, Italy.
- September 2005 Lectures on synthetic computability theory, EST training workshop, Fischbachau, Germany.

Curriculum vitae

MANAGEMENT

- 2017– Member of the University habilitation committee, University of Ljubljana, Slovenia.
- 2015– Head of the Theoretical computer science department, Institute for Mathematics, Physics and Mechanics, Ljubljana, Slovenia.
- 2003–2009 Deputy head, Department of mathematics, Faculty of mathematics and physics, University of Ljubljana.

OTHER

- Languages Slovenian, English, Croatian-Serbian, German, Italian
- Computer art www.random-art.org, online computer-generated art exhibition.
- Martial arts aikido – nidan