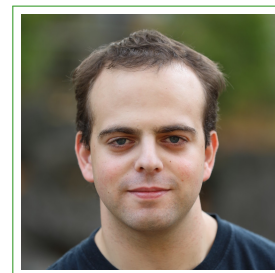


Manuel Eberl

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Personal Information

Full Name **Manuel EBERL**, IPA: [ˈmaːnu̯ɛl ˈʔeːbɛl].
ORCID **0000-0002-4263-6571**.
Languages **German** (native), **English** (near-native), **Esperanto** (fluent) **Swedish** (basic),
Spanish (basic), **French** (basic), **Dutch** (basic, written only).

School Education

2001–2010 **Secondary School**, *Gymnasium Dingolfing*.
Major subjects: Mathematics and Chemistry. Overall final mark: 1.0 (best possible)
1997–2001 **Primary School**, *Grundschule Altstadt, Dingolfing*.

Academic Background

since 2021 **Postdoctoral Researcher in Computer Science**, *Universität Innsbruck*.
2021 **Postdoctoral Researcher in Computer Science**, *TU München*.
2014–2020 **PhD in Computer Science**, *TU München*.
summa cum laude (passed with high distinction, best possible)
2013–2016 **Bachelor of Science in Mathematics**, *TU München*,
Minor subject: Computer Science.
Passed with high distinction (1.2, best possible: 1.0; ≤ top 10 of 223 students)
2012–2014 **Master of Science in Computer Science**, *TU München*,
Minor subject: Mathematics.
Passed with high distinction (1.0, best possible; ≤ top 9 of 396 students)
2010–2012 **Bachelor of Science in Computer Science**, *TU München*,
Minor subject: Physics.
Passed with high distinction (1.0, best possible)
2010–2014 **Fellow of the *Studienstiftung des Deutschen Volkes***.
German Academic Scholarship Foundation
2006–2009 **Jungstudium Bachelor of Science in Computer Science**, *Fernuniversität Hagen*.
early enrolment in a regular Bachelor's course

2006 **Schülerstudium Computer Science**, *Universität Passau*.
one-semester programme for high-schools students, including regular lectures and exams from the computer science curriculum

Theses

PhD thesis (Computer Science)

Title *Asymptotic Reasoning in a Proof Assistant*
Advisor Prof Tobias Nipkow, PhD
Description Various tools and applications in the Isabelle proof assistant related to asymptotics.

Master's thesis (Computer Science)

Title *A Verified Compiler for Probability Density Functions*
Advisor Dr Johannes Hölzl
Description Verified compilation of probabilistic functional programs to density functions

Bachelor's thesis (Mathematics)

Title *A Formal Proof of the Incompatibility of SD-Efficiency and SD-Strategy-Proofness*
Advisor Dr Christian Geist
Description Formal impossibility proof of randomised voting schemes that are anonymous, neutral, SD-efficient, and SD-strategy-proof

Bachelor's thesis (Computer Science)

Title *Efficient and Verified Computation of Simulation Preorders on NFAs*
Advisor Dr Peter Lammich
Description Verification of an algorithm for computing the simulation relation of an automaton

Employment

since 2021 **Researcher**, *Universität Innsbruck, Computational Logic Group*.
2014–2021 **Researcher**, *TU München, Chair for Logic and Verification*.
2013–2014 **Student Research Assistant**, *TU München, Chair for Logic and Verification*.
Verification of efficient data structures
2012–2014 **Student Teaching Assistant**, *TU München*.
Tutorials for *Discrete Structures, Functional Programming, Theoretical Computer Science*
2010–2012 **Working Student**, *Giesecke & Devrient*.
Android/Smartcard Research & Development

Other Activities

since 2018 **Editor of the *Archive of Formal Proofs***.
October 2018 **Visiting Researcher**, *Computer Laboratory, University of Cambridge*.
5 weeks
2016 **Co-organiser**, *PUMA, St. Martin in Passeier*.
2015 **Co-organiser**, *PUMA/RiSE Workshop, Bad Griesbach*.

- 2011 **Research Intern**, *Helmholtz-Zentrum Dresden–Rossendorf*.
Four-week internship on the simulation of plasma physics
- 2010 **Software Development Intern**, *1 week*, Giesecke & Devrient.

Talks

- 2021 **Invited Talk**, *Formal Mathematics for Mathematicians*, Timisoara, Romania (online).
Title: 'Fighting the Curse of De Bruijn'
- 2020 **Invited Talk**, *Formal Methods in Mathematics*, Pittsburgh, USA.
Title: 'Automating Asymptotics in a Theorem Prover'
- 2018 **Invited Talk**, *FastRelax Meeting*, Sophia Antipolis, France.
Title: 'Semi-Automatic Real Asymptotics in Isabelle/HOL'
- 2017 **Invited Talk**, *Linear Algebra in Isabelle/HOL Workshop*, Logroño, Spain.
Title: 'Automation of Asymptotic Analysis in Isabelle/HOL'
- 2017 **Uninvited Talk**, *Big Proof Workshop*, Automatic Asymptotics in Isabelle/HOL, Cambridge, UK.
Title: 'Automation of Asymptotic Analysis in Isabelle/HOL'
- 2016 **Informal Talk**, *Curry Club*, Augsburg, Germany.
Title: 'What is the Square Root of a Tree?'

Awards

- 2021 **Winner of the *Proof Ground* competition at ITP 2021.**
- 2020 **Winner of the *Proof Ground* competition at ITP 2020.**
- 2019 **Winner of the *Proof Ground* competition at ITP 2019.**
as a member of the team *Sledgehammer Squad* together with Peter Lammich
- 2019 **Best Paper by a Junior Researcher at FroCoS 2019**, endowed with € 125.
for *Verifying Randomised Social Choice*
- 2019 **Distinguished Student Author Award at ISSAC 2019**, endowed with \$ 500.
for *Verified Real Asymptotics in Isabelle/HOL*
- 2012 **Award for an excellent Bachelor's thesis**, endowed with € 300.
awarded by the *German Informatics Society*
- 2011–2014 **Member of *best.in.tum*.**
Programme for the best 2% of computer science students at TU Munich
- 2010 **Award for the school's best student in chemistry.**
awarded by the *German Chemical Society*
- 2010 **Silver Medal at the *International Chemistry Olympiad*.**
- 2009 **Award at the *German Federal Computer Science Competition (BWINF)*.**
- 2008 **Silver Medal at the *European Union Science Olympiad*.**

Teaching

- Summer 2021 **Organiser**, Seminar: *Functional Pearls*.
- Winter 2020/21 **Senior Teaching Assistant**, *Functional Programming and Verification*.
- Winter 2019/20 **Senior Teaching Assistant**, *Functional Programming and Verification*.
- Summer 2019 **Senior Teaching Assistant**, *Introduction to Theoretical Computer Science*.
- Winter 2017/18 **Co-organiser**, Practical Course: *Specification and Verification*.
- Winter 2017/18 **Co-organiser**, Seminar: *Functional Data Structures*.
- Summer 2016 **Co-organiser**, Seminar: *Decision Procedures*.
- Winter 2014/15 **Senior Teaching Assistant**, *Functional Programming and Verification*.

Supervision

- 2021 **Daniel Seidl**, *Bachelor's thesis*.
Formalisation of Interval Methods for Nonlinear Root-Finding
- 2021 **Joseph Thommes**, *Bachelor's thesis*.
Formalisation of Selected Results from Group Theory
- 2020 **Yecine Megdiche**, *Practical course*.
Contributing to an Open Source Project: XMonad
- 2020 **Kristiyan Nachev**, *Bachelor's thesis*.
Lazy Computation of Infinite Series
- 2020 **Shuwei Hu**, *Interdisciplinary project*.
Verified Approximation of Integrals in Isabelle/HOL
- 2020 **Klaus Weidinger**, *Bachelor's thesis*.
Specialized mathematical proof procedures in Isabelle/HOL
- 2019 **Rodrigo Raya**, *Guided research*.
The Group Law for Edwards Curves
- 2019 **Rodrigo Raya**, *Practical course*.
Specification and Verification: Gauss Sums and the Polyá–Vinogradov Inequality
- 2018 **Fabian Hellauer**, *Interdisciplinary project*.
Field Extensions in Isabelle/HOL
- 2018 **Daniel Stüwe**, *Interdisciplinary project*.
Formal Verification of Randomized Primality Tests
- 2018 **Max W. Haslbeck**, *Master's thesis*.
Verification of Randomized Data Structures
- 2017 **Markus Großer**, *Bachelor's thesis*.
Verification of Selected Efficient Algorithms in Discrete Mathematics
- 2017 **Jonas Keinholz**, *Practical course*.
Specification and Verification: Matroids
- 2016 **Julian Biendarra**, *Practical course*.
Specification and Verification: Bertrand's Postulate