

Aurèle Barrière

Post-Doc at EPFL

Education

- 2019–2022 **PhD student**, *ENS Rennes, Celtique Team (IRISA)*,
Formal Verification of Just-in-Time Compilation,
Supervised by Sandrine Blazy and David Pichardie.
- 2015–2019 **Magistère in Computer Science**, *ENS Rennes*,
Four-year program focused on scientific research.
- 2016–2019 **Master's Degree in Computer Science**, *University Rennes 1*.
- 2017–2018 **Prélab**, *ENS Rennes*, Year dedicated to research internships.
- 2015–2016 **Bachelor's Degree in Computer Science**, *University Rennes 1*.

Publications

- POPL 2023 **Formally Verified Native Code Generation in an Effectful JIT:
Turning the CompCert Backend into a Formally Verified JIT Compiler**,
Aurèle Barrière, Sandrine Blazy, David Pichardie.
- POPL 2021 **Formally Verified Speculation and Deoptimization in a JIT compiler**,
Aurèle Barrière, Sandrine Blazy, Olivier Flückiger, David Pichardie, Jan Vitek.
- CoqPL 2020 **Towards Formally Verified Just-in-Time Compilation**,
Aurèle Barrière, Sandrine Blazy, David Pichardie.
- AAMAS 2019 **Reasoning about Changes of Observational Power in Logics of Knowledge
and Time**,
Aurèle Barrière, Bastien Maubert, Aniello Murano, Sasha Rubin.
- KR 2018 **Changing Observations in Epistemic Temporal Logic**,
Aurèle Barrière, Bastien Maubert, Aniello Murano, Sasha Rubin.

Program Committees

- OOPSLA **External Review Committee**.
2022
- OOPSLA **Artifact Evaluation Committee**.
2022
- Subreviewer **ITP 2022, ESOP 2023**.

Research Internships

- 2019 **Formally Verified Just-in-Time Compilation**,
IRISA, Supervisor: Sandrine Blazy.
- 2018 **VST Verification of B+Trees with Cursors**,
Princeton University, Supervisor: Andrew Appel.
- Winter 2017 **Observation Change in Epistemic Temporal Logic**,
Universita degli Studi Federico II,
Supervisors: Aniello Murano, Bastien Maubert and Sasha Rubin.
- Summer 2017 **Implementation of a C memory model for integer-pointer casts in CompCert**,
Seoul National University, Supervisor: Chung-Kil Hur.
- 2016 **High level WCET estimation using Abstract Interpretation and Constraint Programming**,
IRISA, Supervisors: Charlotte Truchet and David Cachera.

Teaching

- 2019–2022 **SEM**, *University Rennes 1*, An introduction to Coq, program semantics and compiler verification, With Sandrine Blazy and David Pichardie.
- 2021–2022 **Préparation Agrégation**, *ENS Rennes*, Preparing students for the *Agrégation* teaching degree.
- 2019–2021 **GEN**, *University Rennes 1*, Software Engineering, With Thomas Genet.
- 2020–2021 **ACF**, *University Rennes 1*, Software Formal Analysis and Design, With Thomas Genet.