Yannick Zakowski – Curriculum Vitae

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Birth date
1990, March 19th

Nationality
French

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Experience

2020-
Researcher (Chargé de Recherche) at Inria Lyon
Member of the CASH research group in the LIP laboratory.

2018-2020
Postdoctoral researcher at UPenn, within the Programming Language research group,
under the supervision of Steve Zdancewic.
Participant of the DeepSpec NSF-supported project.

2014-2017
PhD student at the ENS Rennes, hosted within the IRISA,
under the supervision of David Pichardie and David Cachera.
Topic: “Verification of a Concurrent Garbage Collector.”
Teaching duties at the ENS Rennes and University of Rennes 1.

Publications

Conference
Modular, Compositional, and Executable Formal Semantics for LLVM IR
Yannick Zakowski, Calvin Beck, Irene Yoon, Ilia Zaichuk, Vadim Zaliva, Steve Zdancewic
In the 26th ACM SIGPLAN International Conference on Functional Programming (ICFP’21)

Conference
An Equational Theory for Weak Bisimulation via Generalized Parameterized Coinduction
P. He, CK. Hur, Y. Zakowski, S. Zdancewic
In the 9th ACM SIGPLAN International Conference on Certified Programs and Proofs (CPP’20)

Conference
Interaction Trees – Representing Recursive and Impure Programs in Coq
L. Xia, Y. Zakowski, P. He, CK. Hur, G. Malecha, B. Pierce, S. Zdancewic
In the 47th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL’20)

Conference
Compilation of Linearizable Data Structures: A Mechanised RG Logic for Semantic Refinement
Y. Zakowski, D. Cachera, D. Demange, D. Pichardie
In the Proceedings of the 33rd Annual ACM Symposium on Applied Computing (SAC’18) –
Software Verification and Testing track

Conference
Verifying a Concurrent Garbage Collector using a Rely-Guarantee Methodology
In Interactive Theorem Proving (ITP’17), LNCS 10499, Springer 2017.

Journal
Verifying a Concurrent Garbage Collector using a Rely-Guarantee Methodology
In the Journal of Automated Reasoning (JAR’18).

Thesis
Verification of a Concurrent Garbage Collector
Yannick Zakowski

1 of 2
Teaching duties

fall 2021  Program Verification with Coinduction and Proof Assistants
with Damien Pous
Audience: Second year of Master at ENS Lyon.

fall 2021  Static Analyses for Optimizing Compilers
with Christophe Alias and Laure Gonnord during fall 2021
Audience: Second year of Master at ENS Lyon.

Fundings

fall 2021-  PhD co-advisor to Nicolas Chappe
Co-advisor: Mattieu Moy
Topic: "Toward a verified compilation infrastructure for concurrent programs:
Non-sequential paradigms in Vellvm"
Source of funding: Allocation Specifique Normalien (ASN)

Participant to the ANR RECIPROG
Principal investigator: Alexis Saurin
Local coordinator: Denis Kuperberg

Service

- Member of program committees: ICFP’22, JFLA’22, CPP’21
- Popularization article hosted on the blog Binaire as part of the series “Il était une fois... Ma thèse”.
  https://www.lemonde.fr/blog/binaire/2018/01/23/il-etait-une-fois-ma-these-le-lave-vaisselle-de-la-memoire
- Co-conception and co-hosting of a popularization demo at the IRISA, Decembre 2015 (“Journée portes ouvertes pour les 40 ans de l’IRISA”)
- Conception and co-organisation of the first edition of the national seminar for french PhD students in computer science (2016).
- Student volunteer at the European Conference on Object-Oriented Programming 2015 (ECOOP’15) in Prague.

Education

2009-2014  Studies at the ENS Rennes.

2013-2014  Ten months internship at the Aarhus University, in the Logics and Semantics group.
Supervisors: Lars Birkedal and Filip Sieczkowski
Topic: “Toward a formalization in Coq of a parallelization theorem for an higher order concurrent language with general references”

2013  Five months internship at IRISA, Rennes, in the Celtique team.
Supervisor: David Cachera
Topic: “Generation of polynomial inequalities as invariants”

2012  Three month internship in Sweden, at Chalmers University.
Supervisor: David Sands
Topic: “Programming With Information Flow-Control: the Paragon language”

2011  Two month internship at IRISA, Rennes, in the Celtique team.
Supervisor: David Cachera
Topic: “Fast inference of polynomial invariants for imperative programs”