

Pierre Vial

Software engineer

Experience

- 10/22 – 1/23 **Software verification engineer**, *Formal Land*
- 2020 – 9/22 **Post-doc at Deducteam (Inria)**, *ENS Paris-Saclay*
- 2018 – 2022 **Vacataire**, *Université de Nantes, IMT Atlantiques, Polytech'Saclay, IUT d'Orsay*, 212 h
- 2018 – 2019 **Post-doc in the Gallinette Team**, *LS2N (Inria and CNRS)*, Nantes
Under the supervision of Nicolas Tabareau, ERC project CoqHott
- 2017 **Teaching and research assistant (“A.T.E.R.”)**, *Paris Diderot*
- 2014 – 2017 **Phd student - teaching assistant**, *Paris Diderot — Paris 7*
Giving some “hands-on” to undergraduate students. 64 hrs per year
- 2009 – 2012 **Colleur de mathématiques en ECS**
Preparation to oral examination in mathematics for Management Schools.
- 2007 – 2014 **Professeur agrégé de mathématiques**, *Éducation nationale*
Mathematic teacher in the french public education system, mostly in high school and in Académie de Versailles

Education

- 2014 – 2017 **PhD**, *IRIF*, Paris Diderot, Advisor: Delia Kesner. Co-advisor: Damiano Mazza.
- 2014 **M2 LMFI (Mathematical logic and computer science)**, *Paris Diderot*
Magna cum laude
- 2007 **Master Stochastic Processes**, *Paris 6*
- 2005 **Agrégation de mathématiques**
- 2001 – 2007 **Élève fonctionnaire stagiaire**, *ENS Ulm*, Paris
Provisional civil-servant and student in ENS Paris
- 1999 – 2001 **Classes préparatoires MPSI-MP***, *Lycée Henri Poincaré*, Nancy
Intensive preparation for the entrance exams of french Grandes Écoles
- 1999 **High school graduation**, *Lycée E. Bichat*, Lunéville

IT Skills

- Langages **OCaml**, **Coq**, **JavaScript**
- As a teacher **Java**, **Python**, **C** (incl. some system programming), compilers, **MySQL**
- Misc. **L^AT_EX**, **emacs**, **shell**, **git**, metaprogramming

Software

- Sniper** Coq plugin for automated reasoning (<https://github.com/smtcoq/sniper>)

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🌐 <https://pierrevial.github.io/> • 🇫🇷 Permis B (driver's license)

Languages

French	Native
English	Fluent
German	Basic communication skills (\sim B1+)
Yiddish	Medium communication skills
Hebrew	Notions

Personal interests

Literature (19th and 20th century), helping reviving Yiddish culture, films (from Hollywood Golden Age to now), music (classical, minimalist, punk, rock), yoga, partner dancing (Forró), running, trekking, climbing (as a beginner)

Research and publications

My research has been focussed on typed functional programming languages, mainly through their archetypal model, the λ -calculus. During my PhD, I worked on typing systems capturing quantitative aspects of functional programs and during my post-docs, I operated a thematic mobility towards the **Coq** proof assistant, notably by studying its termination (normalization) property and co-developing a plugin allowing **Coq** to call external solvers and thus enhancing its automated reasoning.

POPL and LiCS are A* conferences, which are the two most important on logic applied to computer science (which in particular includes formal methods). FSCD does not have a ranking, but is the merge of two A conferences (RTA – TLCA). Two out of three of my papers accepted at LiCS were single-authored and one at FSCD.

2018 Invited speaker of HOR (Higher-order rewriting)

2021 Member of the POPL Artifact Evaluation Committee

The role of this committee is to evaluate the software developments submitted to POPL

International Conferences and Journals

- [1] Pierre Vial. Infinitary Intersection Types as Sequences: a New Answer to Klop’s Problem. In *LICS 2017, Reykjavik, Iceland, June 20-23, 2017*.
- [2] Delia Kesner and Pierre Vial. Types as Resources for Classical Natural Deduction. In *FSCD 2017, Oxford, England, September 3-9, 2017*.
- [3] Damiano Mazza, Luc Pellissier, and Pierre Vial. Polyadic Approximations, Fibrations and Intersection types. In *POPL 2018, Los Angeles, USA, January 8-13, 2018*.
- [4] Pierre Vial. Every λ -term is meaningful in the infinitary relational model. In *LICS, Oxford, July 9-12, 2018*.
- [5] Pierre Vial. Sequence types for hereditary permutators. In *FSCD, Dortmund, June 25-28, 2019*.
- [6] Delia Kesner and Pierre Vial. Non-idempotent types for classical calculi in natural deduction style. *Log. Methods Comput. Sci.*, 16(1), 2020.
- [7] Delia Kesner and Pierre Vial. Consuming and persistent types for classical logic. In *LICS ’20, Saarbrücken, Germany, July 8-11, 2020*, pages 619–632. ACM, 2020.
- [8] V. Blot, D. Cousineau, E. Crance, L. Dubois de Prisque, C. Keller, A. Mahboubi, and P. Vial. Compositional pre-processing for automated reasoning in dependent type theory. In *CPP (Certified Programs and Proofs) 2023, Boston, USA, . ACM, 2023*.

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