

# Adrien Durier

# Curriculum Vitae

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## Research

**PhD Thesis (2016 – 2020):** *Proving behavioural properties of higher-order concurrent languages* under the supervision of **Daniel Hirschhoff** (ENS Lyon, LIP) and **Davide Sangiorgi** (Bologna)

### **Publications:**

- *Divergence and unique solution of equations*, with Daniel Hirschhoff and Davide Sangiorgi, *CONCUR 2017-28th International Conference on Concurrency Theory*. Vol. 7. 2017.
- *Eager Functions as Processes*, with Daniel Hirschhoff and Davide Sangiorgi *LICS 2018-32<sup>nd</sup> Annual ACM/IEEE Symposium on Logic in Computer Science, Oxford 2018*
- *Divergence and unique solution of equations (Long version)*, with Daniel Hirschhoff and Davide Sangiorgi, *Logical Methods in Computer Science*
- *Towards ‘up to context’ reasoning about higher-order processes*, with Daniel Hirschhoff and Davide Sangiorgi, *Theoretical Computer Science, Elsevier*

**Reviews:** LICS (2017), CONCUR (2017), MFCS (2017), LMCS (2018), RAIRO (2018), CSF (2020)

## Education

**Research Master in Computer Science 'MPRI'** (Université Paris-Diderot)  
Grade 'Very Good' (16,65 out of 20)

**'Ecole Normale Supérieure de Lyon':**  
Bachelor and first year of Master (Theoretical Computer Science)

### **Research Internships:**

- **Tom Hirschowitz** (october – march 2016)
  - Rewriting on PROPs with framed endofunctors and universal shapely monads
- **Dan R. Ghica** (april – july 2016)
  - From operational semantics to game semantics
- **Daniel Hirschhoff** (february – july 2015, september – october 2016)
  - Unique solution of equations for process calculi
- **Michael Pinsker** (april – july 2013)
  - Constraint Satisfaction Problems and topological clones
- **Dominique Larchey** (june – july 2012)
  - Proof search proof compiling in intuitionistic logic

## Teaching

**Tutorials during PhD Thesis (Bachelor level)** – ENS Lyon, L3:

- **Algorithmique 1:** algorithmic course (2016 – 2017)
- **Théorie de la programmation:** 'Theory of Programming Languages' (2016 – 2019)
- **Projet de programmation 1:** Programming (2017 – 2018)
- Support courses (2016 – 2017, 2018 – 2019)

**Tutorials at the university (Under-graduate level)** – Université Claude Bernard Lyon 1, L2:

- **Algorithmique et programmation avancée (LIFAP3):** Practical tutorials on programming and algorithmic (2018 – 2019)

## Science & Engineering Projects

**Science Projects:**

- Coq Formalisation of the main proofs from *Divergence and unique solution of equations*  
On <https://github.com/adurier/uniquestolution>
- Coq Formalisation of the termination of a stratified system F (POPLmark challenge) (M2)
- Work on *Groebner Bases*, along with its implementation in Caml (TIPE).

**Programming Projects:**

- Compilation of a simplified Pascal to SPIM (L3)
- Implementation of the shared memory algorithm 'TL2' in Java (M2)
- Part of the *latexifier project*, aiming to un-compile PDF files to LaTeX (M1)

**Other Projects:**

- Production of a website creation and management service along with two collaborators, previously on *etherweb.net* (2006 – 2008).

## Computer Skills & Programming Languages

- **Coq proof assistant** (In-depth proficiency)
- **Writing with L<sup>A</sup>T<sub>E</sub>X** (In-depth proficiency)
- **OCaml** (Good knowledge)
- **C, C++, PHP, Haskell, Java, Bash** (Basic practical skills)
- Daily use of **Linux OS** (Archlinux, Ubuntu, Debian)

## Languages

- **French** (Native language)
- **English** (Academic level, good technical english)
- **Spanish** (High-school education level)