

Paul Brunet | CV

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Employment

Research Associate

Alexandra Silva – PPLV group

Since Jan. 2017

University College London

Research Assistant

Damien Pous – Plume team

Oct. - Dec. 2016

CNRS - ÉNS de Lyon

PhD Student with Teaching duties

Damien Pous – Plume team

Sept. 2013 - Sept. 2016

Université Lyon 1

PhD

“Relation Algebras : from algorithms to formal proofs.”

PhD Thesis with Damien Pous in UCB Lyon 1 and the LIP in the ÉNS de Lyon.
Defended on October 4th, 2016.

Publications

Journal papers.....

- [1] P. Brunet and D. Pous, “Algorithms for Kleene algebra with converse,” *Journal of Logical and Algebraic Methods in Programming*, vol. 85, no. 4, pp. 574–594, 2016.

Conference Papers.....

- [1] P. Brunet, T. Kappe, B. Luttik, A. Silva, and F. Zanasi, “Brzozowski goes concurrent - a kleene theorem for pomset languages,” in *CONCUR*, to appear, 2017.
- [2] P. Brunet, D. Pous, and G. Struth, “On decidability of concurrent kleene algebra,” in *CONCUR*, to appear, 2017.
- [3] P. Brunet, “Reversible kleene lattices,” in *MFCS*, to appear, 2017.
- [4] P. Brunet, D. Pous, and I. Stucke, “Cardinalities of Finite Relations in Coq,” in *ITP*, Springer, 2016.
- [5] P. Brunet and D. Pous, “A Formal Exploration of Nominal Kleene Algebra,” in *MFCS, LIPIcs*, 2016.
- [6] —, “Decidability of Identity-free Relational Kleene Lattices,” in *JFLA*, 2015.
- [7] —, “Petri Automata for Kleene Allegories,” in *LICS*, IEEE, 2015.
- [8] —, “Kleene Algebra with Converse,” in *RAMICS*, Springer, 2014.

Peer-review activities

Workshops: EXPRESS/SOS 2015, JFLA 2015

Conferences: FSTTCS 2014, MFCS 2014, FoSSaCS 2016, ICALP 2016, ICALP 2017, ICFP 2017, Petri Nets 2017, MFCS 2017

Journal: Journal of Logical and Algebraic Methods in Programming

Presentations without published proceedings

The equational theory of algebras of languages

RAMiCS – Lyon

May 2017

PPLV seminar – London

April 2017

The equational theory of positive relation algebra

Move seminar – Marseille

March 2017

PACE meeting – Shanghai

November 2016

A Kleene theorem for Petri automata

Highlights – Brussels

September 2016

Algèbres de Kleene : entre sémantique des programmes et automatisations des mathématiques

Inter'Actions en Mathématiques – Lyon

Mai 2016

Petri automata for Kleene allegories

Rapido meeting – Paris

June 2015

Midlands Graduate School – Sheffield

April 2015

Decidability of identity-free Kleene lattices

LAC meeting – Chambéry

November 2014

Deciding Kleene algebra with converse is PSpace-complete

GeoCal meeting – Bordeaux

March 2014

Pace meeting – Lyon

February 2014

Teaching

Master program in ÉNS de Lyon.....

Semantics and Verification – exercises 2016

Master program in UCB Lyon 1.....

Calculability and complexity – exercises 2014-2015

Bachelor degree in UCB Lyon 1.....

Industrial Internship – reports 2014-2016

Theory of formal languages – exercises & project 2013-2015

Classical logic – exercises & project 2014-2015

Numeric Algorithms – exercises 2013

Algorithmics and Imperative programming – exercises & programming 2013-2014

Education

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| Université Paris VII Diderot <i>Master Parisien de Recherche en Informatique – Summa Cum Laude</i> Main topics : Logics, Semantics, Automata Theory, Lambda-calculus, Categories, Functional Programming. | Paris 2011-2013 |
| École Normale Supérieure de Cachan, antenne de Bretagne <i>Second Year in Computer Science</i> Main topics : Logics, Algorithmics and Computer Science Foundations. | Rennes 2009-2010 |
| École Normale Supérieure de Cachan, antenne de Bretagne <i>Licence d'Informatique (Bachelor's Degree in Computer Science)</i> Main topics : Logics, Algorithmics and Computer Science Foundations. | Rennes 2008-2009 |
| École Normale Supérieure de Lyon <i>First Year in Computer Science</i> Main topics : Logics, Algorithmics and Computer Science Foundations. | Lyon 2007-2008 |
| Lycée Corneille <i>Classe Préparatoire aux Grandes Écoles</i> Main topics : Mathematics, Physics and Computer Science. | Rouen 2005-2007 |
| Lycée Jean Prévost <i>Baccalauréat Scientifique option Physique – Summa Cum Laude</i> Main topics : Mathematics, Physics and Biology. | Montivilliers 2005 |

Research Internships

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| École Normale Supérieure de Lyon <i>Relation algebras, automata and regular expressions</i> supervised by Damien Pous in the team PLUME | Lyon 2013 |
| University Paris VII Diderot <i>Categorical study of the exponential in Linear Logic</i> supervised by Paul-André Mellies | Paris 2012 |
| University of Chicago <i>Functional Minimalist Grammars</i> supervised by Gregory M. Kobele | Chicago, IL 2011 |
| Laboratoire Bordelais de Recherche en Informatique <i>Relevance of linear logic for composing semantic representations in simply typed λ-calculus</i> supervised by Christian Retoré and Lionel Clément in the team SIGNES | Bordeaux 2009 |
| INRIA Saclay Île de France <i>Proof to help programming</i> supervised by Sylvie Boldo in the team PROVAL | Saclay 2008 |

Skills

Languages: French, English

Programming: Proficient in OCaml, Coq and \LaTeX , working knowledge of C/C++, java, python, HTML, CSS, PHP and SQL

Operating Systems: Ubuntu, ArchLinux and Windows