Amaury Pouly
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Date of birth: 21 may 1989
Nationality: French

Work Experience

Since 2016	MPI-SWS, Saarbrücken, Germany. Research Assistant under the supervision of Joel Ouaknine.
2016 − 2015	COMPUTER SCIENCE DEPARTMENT, University of Oxford, United-Kingdom. Research Assistant under the supervision of Joel Ouaknine: *Infinite State Systems and Dynamical Systems Verification and Synthesis: Algorithms and Complexity.*
2011 − 2015	LIX, École Polytechnique and University of Algarve, France and Portugal. PhD under supervision of Olivier Bournez and Daniel Graça: *Continuous models of computation: from computability to complexity..*
2011 (5 month)	LIX, École Polytechnique, France. Research Internship in the Algorithm and Complexity group with Olivier Bournez: *Continuous Models of Computation. From computability to Complexity.*
2010 (2 month)	UNIVERSITÄT DE SAARLANDES, Sarrebruck, Allemagne. Research Intership in the Compiler Design Lab, with Sebastian Hack: *Instruction schedluing for register pressure.*
2010 (3 month)	LIX, École Polytechnique, France. Research Internship in the Algorithm and Complexity group with Olivier Bournez: *Continuous Models of Computation. From computability to Complexity.*
2009 (2 month)	G-SCOP, Grenoble, France. Research intership in the Combinatorial Optimisation group with Myriam Preissmann and András Sebö: *Graph edge coloring. A study of Tarsi's conjecture.*

Education

2008 − 2011	ÉCOLE NORMALE SUPÉRIEURE DE LYON, France. Bachelor and Master Degree in Theoretical Computer Science.
2006 − 2008	LYCÉE DU PARC, Lyon, France. Two-year intensive program preparing for the national competitive exam for entry to engineering schools.

Teaching Experience

2015-2016	UNIVERSITY OF OXFORD. Class tutor (Concurrency and Data Structures, Concurrent Programming, Computer Architecture).
2013-2015	IUT ORSAY. Teaching Assistant in 1st and 2nd year (equivalent of Institute of Technology) (object-oriented programming, advanced object-oriented, operating systems principles, computer architecture, advanced algorithms).
2012-2013	ÉCOLE POLYTECHNIQUE. Teaching Assistant in 1st and 2nd year (equivalent of 3rd year B.Sc and 1st year M.Sc) (programming and algorithms, web development).

2011-2012	Université de Versailles Saint-Quentin-en-Yvelines (UVSQ). Teaching Assistant in 1st and 3rd year of B.Sc (C programming, graph theory and NP-completeness.
2010-2011	Lycée du Parc, Lyon. Teaching Assistant in 2nd year (equivalent of B.Sc) (O'Caml programming, algorithms, automata theory).

Diplomas, Awards and Languages

· Recipient of the Ackermann Award 2017.
· Recipient of the best paper award at CMSB 2017.
· Recipient of the best paper award at ICALP 2016.
· Recipient of the "Prix de thèse de l'École Polytechnique 2016" (Best PhD award).
· Ph. D. Degree in Theoretical Computer Science, obtained in 2015.
· Master Degree in Theoretical Computer Science, obtained in 2011 with high honours.
· Bachelor Degree in Theoretical Computer Science, obtained in 209 with highest honours.
· High School Degree obtained in 2006 with high honours.
· French: native speaker.
· English: highly proficient.

Community service

2017	PC member of the SASB workshop.
Since 2013	Reviewer for conferences and journals MFCS, CiE, ICALP, Computability, SICOMP, STACS, JCSS, FOSSACS, FCT, Journal of Complexity, LICS, TCS.

Publications

2017	**Polynomial Time corresponds to Solutions of Polynomial Ordinary Differential Equations of Polynomial Length**, JACM, *Olivier Bournez, Daniel S. Graça, Amaury Pouly.*
	A Universal Ordinary Differential Equation, ICALP, *Olivier Bournez, Amaury Pouly.*
	Semialgebraic Invariant Synthesis for the Kannan-Lipton Orbit Problem, STACS, *Nathanaël Fijalkow, Pierre Ohlmann, Joel Ouaknine, Amaury Pouly, James Worrell.*
	Strong Turing Completeness of Continuous Chemical Reaction Networks and Compilation of Mixed Analog-Digital Programs, CMSB, *Olivier Bournez, François Fages, Guillaume Le Guludec, Amaury Pouly.* **Best paper award**.
	On the Functions Generated by the General Purpose Analog Computer, Information and Computation, *Olivier Bournez, Daniel S. Graça, Amaury Pouly.*
2016	**Model Checking Flat Freeze LTL on One-Counter Automata**, CONCUR, *Antonia Lechner, Richard Mayr, Joel Ouaknine, Amaury Pouly, James Worrell.*
	On The Complexity of Bounded Time and Precision Reachability for Piecewise Affine Systems, TCS, *Hugo Bazille, Olivier Bournez, Walid Gomaa, Amaury Pouly.*
	Computing with Polynomial Ordinary Differential Equations, Journal of Complexity, *Olivier Bournez, Daniel S. Graça, Amaury Pouly.*

	Solvability of Matrix-Exponential Equations, LICS, *Joel Ouaknine, Amaury Pouly, João Sousa-Pinto, James Worrell.*
	Polynomial Time corresponds to Solutions of Polynomial Ordinary Differential Equations of Polynomial Length, ICALP, *Olivier Bournez, Daniel S. Graça, Amaury Pouly.* **Best paper award**.
	Computational complexity of solving polynomial differential equations over unbounded domains, TCS, *Daniel S. Graça, Amaury Pouly.*
2014	**On The Complexity of Bounded Time Reachability for Piecewise Affine Systems**, RP, *Hugo Bazille, Olivier Bournez, Walid Gomaa, Amaury Pouly.*
2013	**Turing Machines Can Be Efficiently Simulated by the General Purpose Analog Computer**, TAMC, *Olivier Bournez, Daniel S. Graça, Amaury Pouly.*
2013	**Computability and Computational Complexity of the Evolution of Nonlinear Dynamical Systems**, CiE, *Olivier Bournez, Daniel S. Graça, Amaury Pouly, Ning Zhong.*
2012	**On the complexity of solving initial value problems**, ISSAC, *Olivier Bournez, Daniel S. Graça, Amaury Pouly.*
2011	**Solving Analytic Differential Equations in Polynomial Time over Unbounded Domains**, MFCS, *Olivier Bournez, Daniel S. Graça, Amaury Pouly.*

Scientific talks

■ **International Conferences**.

2017	International Colloquium on Automata, Languages and Programming (ICALP), Computer Science Logic (CSL), Foundations of Computational Mathematics (FoCM), Computability and Complexity in Analysis (CCA, **invited speaker**).
2016	Logic in Computer Science (LICS), International Colloquium on Automata, Languages and Programming (ICALP).
2015	Computability and Complexity in Analysis (CCA), International Conference on Mathematical Aspects of Computer and Information Sciences (MACIS).
2014	International Workshop on Reachability Problems (RP).
2013	Computability and Complexity in Analysis (CCA), Theory and Applications of Models of Computation (TAMC).
2012	International Symposium on Symbolic and Algebraic Computation (ISSAC).
2011	International Symposium on Mathematical Foundations of Computer Science (MFCS), New Worlds of Computation (NWC).

■ **Workshops**.

2017	Calculabilités.
2015	Calculabilités.
2014	Calculabilités; Systèmes Dynamiques, Automates et Algorithmes (SDA2).
2013	Calculabilités; Complexité et Modèles Finis (CMF).

■ **Seminars**.

2017	LSV (Cachan), LORIA (Nancy), LIFO (Orléans), ENS (Paris), GREYC (Caen), Dagsthul.

2015	LSV (Cachan, France), University of Oxford (England), VERIMAG (Grenoble, France), GREYC (Caen, France), University of Swansea (Wales).
2013	FCT (Faro, Portugal), IST (Lisbon, Portugal).

Computer Skills

· Programming languages: expert in C and C++; good knowledge of PHP, assembly (x86, ARM, MIPS), O'Caml, bash, Latex and Java; basic knowledge of Pascal and Python.
· Open-Source software: active developer of Rockbox[1] since 2009.

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[1] http://www.rockbox.org/
[2] http://www.france-ioi.org/