Olivier Tardieu

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EDUCATION

École des Mines	Sep 2001 – Sep 2004
Ph.D. in Computer Science. Advisor: Dr. Gérard Berry. Obtained with honors.	Paris, France
Dissertation: Loops in Esterel: from Operational Semantics to Formally Specified Compilers	

École des Mines	Sep 1998 – Aug 2001
Master in Public Administration ("Corps des Mines" training program)	Paris, France
Curriculum in economics, law, public policy, and management	

University Denis Diderot, Paris VII	Oct 2000 – Jun 2001
M.S. in Computer Science. Specialty: Semantics, Proofs, and Languages	Paris, France
Undertaken concurrently with degree at École des Mines	

École Polytechnique	Sep 1995 – Jul 1998
Engineering Degree	Paris, France
Broad curriculum based on fundamental sciences	

University of Provence, Aix-Marseille I	Oct 1995 – Jun 1996
B.S. in Mathematics	Marseille, France
Undertaken remotely and concurrently with degree at École Polytechnique	

Lycée Thiers	Sep 1993 – Jul 1995
Curriculum in Mathematics, Physics, and Chemistry	Marseille, France
Corresponding to first two years of undergraduate school	

EXPERIENCE

Columbia University, Department of Computer Science	Jan 2005 – present
Postdoctoral Researcher & Lecturer	New York, NY
Supervisors: Prof. Alfred V. Aho and Prof. Stephen A. Edwards	
Developed programming languages and models for the design of heterogeneous embedded systems.	

INRIA, AOSTE Research Team	Sep 2001 – Dec 2004
Research Assistant	Sophia Antipolis, France
Supervisors: Dr. Gérard Berry & Dr. Robert de Simone	
Worked on the semantics and compilation of synchronous programming languages.	

Lucent Technologies, Bell Labs	Nov 1999 – Sep 2000
Intern	Murray Hill, NJ
Supervisors: Dr. Nevin Heintze & Prof. David B. MacQueen	

Worked on points-to analysis. Contributed to the development of GDA. GDA is an open-source tool for scalable analysis of C code. Built into GDA is an implementation of Andersen's aliasing analysis using sub-transitive graphs, as well as a dependence analysis for tracking dependencies between variables, fields etc.

Société des Autoroutes du Sud de la France	Nov 1998 – Oct 1999
(highway-managing corporation for the south of France)	Avignon, France
Developed software infrastructure for wireless toll collection.	

Compaq, Altavista Research Center	Apr 1998 – Jul 1998
Summer Intern	San Mateo, CA
Supervisors: Dr. François Bourdoncle & Dr. Patrice Bertin	
Worked on automatic topic extraction from text collections for guiding query refinement.	

TEACHING

Advanced Program Analysis: Graduate-level
Columbia University
Prepared and gave the lectures, homework assignments, and exams

Spring Semester 2005
New York, NY

Boolean Calculus, Automata, and Circuits: Graduate-level
University of Nice-Sophia Antipolis
Prepared and gave 50% of the lectures, homework assignments, and exams

Spring Semester 2004
Sophia Antipolis, France

AWARDS and HONORS

Best Paper Award – DATE'06
Title: Optimizing Sequential Cycles through Shannon Decomposition and Retiming
Authors: Cristian Soviani, Olivier Tardieu, and Stephen A. Edwards
Conference: Design Automation and Test in Europe, Munich, Germany, March 2006

2006

Ingénieur au Corps des Mines
Lifelong position as an engineer for the French ministry of Industry
Granted to the top two percentiles of graduates of École Polytechnique

2000

L.E. Rivot Prize from the French Academy of Sciences
Jordan Prize from École Polytechnique
Awarded for being ranked second on graduation from École Polytechnique

1998

Best Research Project in Computer Science, École Polytechnique

1998

Concours Général de Mathématiques
Ranked 6th in the nationwide examination in Mathematics at the end of high school

1993

REFERENCES

Prof. Alfred V. Aho
Columbia University, Department of Computer Science, New York, NY
aho@cs.columbia.edu

Dr. Gérard Berry
Esterel Technologies, Villeneuve-Loubet, France
Gerard.Berry@esterel-technologies.com

Prof. Stephen A. Edwards
Columbia University, Department of Computer Science, New York, NY
sedwards@cs.columbia.edu

Dr. Nicolas Halbwachs
CNRS, VERIMAG Laboratory, Grenoble, France
Nicolas.Halbwachs@imag.fr

Dr. Jean-Jacques Lévy
INRIA, MOSCOVA Research Team, Rocquencourt, France
Jean-Jacques.Levy@inria.fr

Prof. David B. MacQueen
University of Chicago, Department of Computer Science, Chicago, IL
dbm@cs.uchicago.edu

Dr. Robert de Simone
INRIA, AOSTE Research Team, Sophia Antipolis, France
Robert.de-Simone@inria.fr

PUBLICATIONS

Journals

IEEE TVLSI	SHIM: a Deterministic Model for Heterogeneous Embedded Systems Stephen A. Edwards and Olivier Tardieu IEEE Transactions on Very Large Scale Integration Systems, to appear.
ACM TOPLAS	A Deterministic Logical Semantics for Esterel Olivier Tardieu ACM Transactions on Programming Languages and Systems, to appear.
ACM TECS	Loops in Esterel Olivier Tardieu and Robert de Simone ACM Transactions on Embedded Computing Systems, Volume 4, Issue 4, Nov. 2005.

Conferences

LCTES'06	Efficient Code Generation from SHIM Models Stephen A. Edwards and Olivier Tardieu Languages, Compilers, and Tools for Embedded Systems, Ottawa, Canada, June 2006.
DATE'06	Optimizing Sequential Cycles through Shannon Decomposition and Retiming Cristian Soviani, Olivier Tardieu, and Stephen A. Edwards Design Automation and Test in Europe, Munich, Germany, March 2006.
ATVA'05	Approximate Reachability for Dead Code Elimination in Esterel* Olivier Tardieu and Stephen A. Edwards Automated Technology for Verification and Analysis, Taipei, Taiwan, Oct. 2005.
EMSOFT'05	SHIM: A Deterministic Model for Heterogeneous Embedded Systems Stephen A. Edwards and Olivier Tardieu ACM Conference on Embedded Software, Jersey City, New Jersey, Sept. 2005.
MEMOCODE'05	Deterministic Receptive Processes are Kahn Processes Stephen A. Edwards and Olivier Tardieu Formal Methods and Models for Codesign, Verona, Italy, July 2005.
MEMOCODE'04	Curing Schizophrenia by Program Rewriting in Esterel Olivier Tardieu and Robert de Simone Formal Methods and Models for Codesign, San Diego, California, June 2004.
SAS'03	Instantaneous Termination in Pure Esterel Olivier Tardieu and Robert de Simone Static Analysis Symposium, San Diego, California, June 2003.
PLDI'01	Demand-Driven Pointer Analysis Nevin Heintze and Olivier Tardieu Programming Language Design and Implementation, Snowbird, Utah, June 2001.
PLDI'01	Ultra-fast Aliasing Analysis using CLA: A Million Lines of C Code in a Second Nevin Heintze and Olivier Tardieu Programming Language Design and Implementation, Snowbird, Utah, June 2001.

Workshops

IWLS'05 (DAC'05)	High-Level Optimization by Combining Retiming and Shannon Decomposition Cristian Soviani, Olivier Tardieu, and Stephen A. Edwards International Workshop on Logic and Synthesis, Lake Arrowhead, California, June 2005.
SOS'04 (CONCUR'04)	A Deterministic Logical Semantics for Esterel Olivier Tardieu Structural Operational Semantics, London, United Kingdom, August 2004.
SLAP'04 (ETAPS'04)	Goto and Concurrency: Introducing Safe Jumps in Esterel Olivier Tardieu Synchronous Languages, Applications, and Programming, Barcelona, Spain, March 2004.