Curriculum Vitae
Francesco Zappa Nardelli

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Personal Details

Name:	Francesco Zappa Nardelli
Affiliation:	Parkas Project Team, INRIA Paris-Rocquencourt
Present Appointment:	Chargé de Recherche (CR1)
Web Page:	`http://www.di.ens.fr/~zappa`

Education/Qualifications

Oct. 1995 – Oct. 2000 *Laurea* (M.Sc.) in Computer Science, Università di Pisa, Italy.

Oct. 1999 – Sept. 2000 *DEA Programmation* (M.S.), Université Paris Sud, France.

Oct. 2000 – Dec. 2003 *Ph.D.* in Computer Science, *On the Semantics of Higher-Order Processes*, Université Paris 7. Supervised by Giuseppe Castagna. Rewieved by Matthew Hennessy and Davide Sangiorgi and examined by Pierre-Louis Curien, Giuseppe Castagna, Matthew Hennessy, Jean-Jacques Lévy and Glynn Winskel. Viva: December 12th, 2003.

Professional History

Oct. 2004 – present Junior Research Scientist (CR), INRIA Paris-Rocquencourt, France.

Dec. 2003 – Sept. 2004 INRIA Post-doctoral grant, University of Cambridge, UK.

June 2002 – March 2003 Curie Research Fellow, Sussex University, UK.

Sept. 2000 – Dec. 2003 PhD student, Université Paris 7, France.

Grants

2012 – 2015 *ANR JCJC WMC (Weak Memory Concurrency)*.
Approx. 204k€. Sole author and investigator.

2006 – 2010 ANR-06-SETIN-010 ParSec (*Parallelism and Security*).
Approx. 430k€, four partners. Co-author and responsible for the site of Rocquencourt.

2008 – 2011 INRIA Associated Team MM (*Memory Models*).
Approx. 30k€.

Students and Collaborators

- *Graduate Students Advised.* Total Number: 8.

  Current PhD Students: Robin Morisset (starting September 2013, co-supervised with Albert Cohen).

  Past PhD Students: Nataliya Guts (graduated in January 2011; co-supervised with Jean-Jacques Lévy).

  Past Master Student: Jade Alglave, Thomas Braibant, Guillaume Chelfi, Nataliya Guts, Samuel Hym, Kayvan Memarian, Robin Morisset, Pankaj Pawan.

- *PostDoctoral Scholars Funded.* Total Number: 3.

  Giulio Manzonetto (from 1/1/2009 to 31/12/2009, ANR ParSec), Pejman Attar (starting October 2013, ANR JCJC WMC), Thibaut Balabonski (starting February 2014, ANR JCJC WMC).

- *Collaborators:* Andrew Appel (Princeton University), Sandrine Blazy (INRIA, France), Giuseppe Castagna (CNRS, Université Paris Diderot, France), Albert Cohen (INRIA), Massimo Merro (Università di Verona, Italy), Scott Owens (Cambridge University, UK), Jaroslav Sevcik (Microsoft, USA), Peter Sewell (Cambridge University, UK), Viktor Vafeiadis (MPI-SWS, Germany), Jan Vitek (Purdue University, USA), Glynn Winskel (Cambridge University, UK).

Invited Talks

- Keynote, Journées LLL, Orleans, France, 2013.
- Winter School on Semantics and tools for low-level concurrent programming, Lyon, France, 2013.
- UPMARC Multicore Computing summer school, Stockholm, Sweden, 2011.
- BISS summer school, Bertinoro, Italy, 2005.
- Research Seminars: Dagstuhl; ENS Lyon; IT University, Copenhagen; IMDEA, Madrid; Microsoft Research, Cambridge; Purdue University; University of Cambridge; Université Paris Diderot; Università di Pisa; University of Sussex.

Teaching

2000 – 2003 Monitorat, Université Paris Sud, France.

2006 – 2008 Lectures at the Master Parisien de Recherche en Informatique (MPRI) on process languages.

2009 – 2010 Lectures at the Master Parisien de Recherche en Informatique (MPRI) on proof methods for concurrent programs.

2011 – 2013 Lectures at the Master Parisien de Recherche en Informatique (MPRI) on weak memory concurrency.

Synergistic Activities

- Member of the executive team of the CEA-EDF-INRIA summer schools, since 2008.
- PC member of POPL 2012.
- Reviewer for many international journals, including Theoretical Computer Science, Information & Computation, TOPLAS, Mathematical Structures in Computer Science, and many international conferences, including POPL, LICS, CONCUR, ICFP, ECOOP and FOSSACS.
- PhD thesis examination: Eleonora Sibilio (Università di Verona, Italy, reviewer and jury member); Sergueï Lenglet (Université de Grenoble, France, jury member).

Publications

[1] G. Richards, C. Hammer, F. Zappa Nardelli, S. Jagannathan, J. Vitek. *Flexible Access Control for Javascript*, in OOPSLA, 2013.

[2] R. Morisset, P. Pawan, F. Zappa Nardelli. *Compiler testing via a theory of sound optimisations in the C11/C++11 memory model*, in PLDI, 2013.

[3] N. M. Lê, A. Pop, A. Cohen, F. Zappa Nardelli. *Correct and efficient work-stealing for weak memory models*, in PPoPP, 2013.

[4] J. Sevcik, V. Vafeiadis, F. Zappa Nardelli, S. Jagannathan, P. Sewell. *CompCertTSO: a verified compiler for relaxed-memory concurrency*, *Journal of ACM*, Vol. 60, No. 3, 2013.

[5] V. Vafeiadis, F. Zappa Nardelli. *Verifying Fence Elimination Optimisations*, in SAS, 2011.

[6] J. Sevcik, V. Vafeiadis, F. Zappa Nardelli, S. Jagannathan, P. Sewell. *Relaxed-memory concurrency and verified compilation*, in POPL, 2011.

[7] S. Owens, P. Böhm, F. Zappa Nardelli, P. Sewell. *Lightweight Tools for Heavyweight Semantics*, in ITP, 2011.

[8] T. Wrigstad, F. Zappa Nardelli, S. Lebresne, J. Östlund, J. Vitek. *Integrating typed and untyped code in a scripting language*, in POPL, 2010.

[9] P. Sewell, S. Sarkar, S. Owens, F. Zappa Nardelli, M. Myreen. *x86-TSO: a rigorous and usable programmer's model for x86 multiprocessors*, in *Communications of the ACM*, 53(7), 2010.

[10] P. Sewell, F. Zappa Nardelli, S. Owens, G. Peskine, T. Ridge, S. Sarkar, R. Strnisa. *Ott: Effective tool support for the working semanticist*, in *Journal of Functional Programming*, 20(1), 2010.

[11] N. Guts, C. Fournet, F. Zappa Nardelli. *Reliable Evidence: Auditability by Typing*, in ESORICS, 2009.

[12] S. Sarkar, P. Sewell, F. Zappa Nardelli, S. Owens, T. Ridge, T. Braibant, M. Myreen, J. Alglave. *The semantics of x86-CC multiprocessor machine code*, in POPL, 2009.

[13] A. Hobor, A. Appel, F. Zappa Nardelli. *Oracle Semantics for Concurrent Separation Logic*, in ESOP, 2008.

[14] C. Fournet, N. Guts, F. Zappa Nardelli. *A Formal Implementation of Value Commitment*, in ESOP, 2008.

[15] P. Sewell, F. Zappa Nardelli, S. Owens, G. Peskine, T. Ridge, S. Sarkar, R. Strnisa. *Ott: Effective tool support for the working semanticist*, in ICFP, 2007.

[16] P. Sewell, J. Leifer, K. Wansbrough, F. Zappa Nardelli, M. Allen-Williams, P. Habouzit, V. Vafeiadis. *Acute: high-level programming language design for distributed computation*, in *Journal of Functional Programming*, 17(4-5), 2007.

[17] P. Sewell, J. Leifer, K. Wansbrough, F. Zappa Nardelli, M. Allen-Williams, P. Habouzit, V. Vafeiadis. *Acute: high-level programming language design for distributed computation*, in ICFP, 2005.

[18] G. Castagna, J. Vitek, F. Zappa Nardelli. *The Seal Calculus*, in *Information & Computation*, 201(1), 2005.

[19] M. Merro, F. Zappa Nardelli. *Behavioural Theory for Mobile Ambients*, in *Journal of ACM*, 52(6), 2005.

[20] G. Winskel, F. Zappa Nardelli. *new-HOPLA — a Higher-Order Process Language with Name Generation*, in IFIP TCS, 2004.

[21] M. Merro, F. Zappa Nardelli. *Behavioural Theory for Mobile Ambients*, in IFIP TCS, 2004.

[22] M. Merro, F. Zappa Nardelli. *Bisimulation Proof Methods for Mobile Ambients*, in ICALP, 2003.

[23] G. Castagna, F. Zappa Nardelli. *The Seal Calculus Revisited: Contextual Equivalence and Bisimilarity*, in FSTTCS, 2002.

[24] G. Castagna, G. Ghelli, F. Zappa Nardelli. *Typing Mobility in the Seal Calculus*, in CONCUR, 2001.

Software

- Main author of the Cmmtest tool (`http://www.di.ens.fr/~zappa/projects/cmmtest`). This tool performs differential testing to hunt concurrency compiler bugs in C and C++ compilers against the C11/C++11 memory model. The tool is still under development but it already identified several mistaken write introductions and other unexpected behaviours in the latest release of the gcc compiler.
- Main author of the Ott system (`http://www.di.ens.fr/~zappa/software/ott`). Ott is a tool for writing definitions of programming languages and calculi. It takes as input a definition of a language syntax and semantics, in a concise and readable ASCII notation that is close to what one would write in informal mathematics. It generates LaTeX to build a typeset version of the definition, and Coq, HOL, and Isabelle versions of the definition. One of Ott aims is the construction of a common library of frequently used idioms in the programming language community.
- Author of the drivers for PCF and BDF font format for the Freetype library (`http://www.freetype.org`). This free-software is part of the X11 system and of several proprietary softwares.