

PIERRE-MALO DENIÉLOU

Date of Birth: 31/07/1982
Nationality: French
malo@doc.ic.ac.uk
<http://www.doc.ic.ac.uk/~malo>
+44 (0) 20 75 94 82 33

Room 558b, Huxley Building
Imperial College London
180 Queen's Gate
LONDON
SW7 2AZ

EMPLOYMENT

- 2009- current Research associate of Nobuko Yoshida at Imperial College London (EPSRC EP/F003757/1 – Engineering Foundations of Web Services: Theories and Tool Support).
- 2005-2008 Teaching assistant at Université Paris VII Denis Diderot.
- 2002-2006 Work as a “fonctionnaire stagiaire - élève normalien” for the French State.

EDUCATION

- 2005-2009 *Abstraction safety and secure sessions in distributed languages*, PhD thesis supervised by Jean-Jacques Lévy and James J. Leifer in the Moscova team at INRIA Rocquencourt (Paris) and the Microsoft Research-INRIA Joint Centre (to work with Ricardo Corin, Cédric Fournet and Karthik Bhargavan). Awarded in January 2010.
- 2004-2005 Passed with honors a Master of Science (called *Master Parisien de Recherche en Informatique – MPRI*) in theoretical computer science in Paris (ENS, ENS Cachan, École Polytechnique and Université Paris VII). Rank : 2nd/44.
- 2002-2004 Computer Science studies at ENS Cachan (Prof. Hubert Comon).
- 1999-2002 Studied 3 years Mathematics and Physics in *Classes préparatoires aux Grandes Écoles* at *Lycée du Parc* in Lyon.

TEACHING EXPERIENCE

- 2009-2011 Tutor for the Mathematical Methods (MMT) course (part of the first year classes for DoC students) at Imperial College.
- 2009-2011 Lecture and tutorial for the Models of Concurrent Computation class (on the applied- π calculus) at Imperial College.
- 2005-2008 Tutorial and lab classes at Université Paris VII Denis Diderot (various Java programming classes, incl. project).

INTERNSHIPS

- 2006 and 2008 Research internship at Microsoft Research in Cambridge, UK. Work with Cédric Fournet and Karthik Bhargavan.
- 03-08/2005 Master's internship with Jean-Jacques Lévy and James Leifer at INRIA.
- 03-07/2004 Research internship in Philadelphia, Pennsylvania. Work with Prof. Benjamin C. Pierce, University of Pennsylvania, on the *Unison* and *Harmony* projects.

MAIN CONFERENCE PRESENTATIONS AND SEMINARS

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| Jan. 2012 | Seminar at Chinese Academy of Sciences, Beijing. | Mar. 2010 | FOSSACS'10, Paphos, Cyprus. |
| Apr. 2011 | Concurrency Workshop, Dublin. | July 2009 | CSF'09, New-York, USA. |
| Mar. 2011 | Seminar, Univ. Paris Diderot. | Nov. 2008 | Seminar at Queen Mary University of London. |
| Jan. 2011 | POPL'11, Austin, USA. | Nov. 2007 | TGC'07, Nice, France. |
| Aug. 2010 | CONCUR'10, Paris. | Oct. 2006 | Seminar at Univ. of Pennsylvania. |
| Aug. 2010 | Invited talk, Polytechnique, Paris. | Oct. 2006 | Seminar at Brown University. |
| May 2010 | Seminar, University of Lisbon. | Sep. 2006 | ICFP'07, Portland, USA. |

SCHOLARSHIPS

- 2006, 2008 Microsoft Research Internships
- 2006-2009 PhD Scholarship by the French Ministry of Research and ENS Cachan.
- 2002-2006 Funded for higher-education towards research, as a “fonctionnaire stagiaire - élève normalien” at ENS Cachan, by the French State.

INDUSTRIAL COLLABORATION

- Microsoft Research Long-standing collaboration with Cédric Fournet on formal proofs of language-based security
- RabbitMQ, Red Hat, Ocean Observatory Initiative Collaboration to design a next-generation self-governing cyber-infrastructure for scientific research based on multiparty sessions, prototyping and weekly conference call.

RESEARCH

I am interested in giving to programmers language tools such as new primitives, type systems, compilers, etc., that make it easier to write robust, safe and secure distributed programs and, at the same time, provide strong (formal) safety and security guarantees about the resulting code.

KEYWORDS: Programming languages, semantics, type systems, session types, distributed systems, concurrency, language-based security.

RESEARCH COMMUNITY INVOLVEMENT: PC member of ICE'10, WS-FM'11, TLDI'12, ICE'12. Multiple reviews. Reading group organisation <http://www.doc.ic.ac.uk/~pmalo/mrg/>.

MAIN PUBLICATIONS

- Journal [1] Pierre-Malo Deniérou, Nobuko Yoshida, Andi Bejleri and Raymond Hu, *Parameterised Multiparty Session Types*, submitted to LMCS, 2011.
- [2] Karthikeyan Bhargavan, Ricardo Corin, Pierre-Malo Deniérou, Cédric Fournet, James Leifer, *A secure compiler for session abstractions*, Journal of Computer Security, 2008.
- Conference [3] Pierre-Malo Deniérou and Nobuko Yoshida, *Multiparty session types meet Communicating Automata*, ESOP, 2012.
- [4] Pierre-Malo Deniérou and Nobuko Yoshida, *Dynamic multirole session types*, POPL'11, 2011.
- [5] Pierre-Malo Deniérou and Nobuko Yoshida, *Buffered Communication Analysis in Distributed Multiparty Sessions*, CONCUR'10, 2010.
- [6] Pierre-Malo Deniérou, Nobuko Yoshida, Andi Bejleri and Raymond Hu, *Parameterised Multiparty Session Types*, FOSSACS'10, 2010.
- [7] Karthikeyan Bhargavan, Ricardo Corin, Pierre-Malo Deniérou, Cédric Fournet, James Leifer, *Cryptographic Protocol Synthesis and Verification for Multiparty Sessions*, CSF22, 2009.
- [8] Ricardo Corin, Pierre-Malo Deniérou, *A protocol compiler for secure sessions in ML*, TGC'07, 2007.
- [9] Karthikeyan Bhargavan, Ricardo Corin, Pierre-Malo Deniérou, Cédric Fournet, James Leifer, *Secure Implementations for Typed Session Abstractions*, CSF20, 2007.
- [10] Pierre-Malo Deniérou, James Leifer, *Abstraction Preservation and Subtyping in Distributed Languages*, ICFP'06, 2006.
- Workshop [11] Nuno Alves, Raymond Hu, Nobuko Yoshida, Pierre-Malo Deniérou, *Secure Execution of Distributed Session Programs*, PLACES'10, 2010.