

# STÉPHANE DUCASSE

Senior Researcher (Directeur de recherche de première classe)  
Inria Lille Nord Europe - Cristal laboratory University of Lille

50 years  
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**Keywords:** Dynamically typed languages, Language Design and Security, Software Engineering, Object-Oriented Programming, Reflective Programming, Meta-Object Protocol, Meta-Modeling, Reengineering, Reverse Engineering, Program Understanding, Integrated Development Environments, Teaching Novices.

**Indexes:** According to Google Scholar, *H-index*: 54 for 12827 citations. I'm ranked the eight Inria researcher from an h-index point of view. According to Microsoft: 307 papers for 10952 citations  
Erdős number 4: O. Nierstrasz - D. M. Jackson - E. Rodney Canfield - P. Erdős

## Education and Titles

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May 2002      PrivatDozent of the University of Bern.  
Sep 2001      Habilitation à diriger des recherches of Université Pierre et Marie Curie (Paris 6).  
1993/1996     Ph.D. Thesis of the Université de Nice-Sophia Antipolis (Laboratoire I3S).

## Professional Employment History

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2013            Promoted "Directeur de recherche première classe" (equivalent *first class* full Professor).  
2011–14        Scientific depute (délégué scientifique) of the INRIA Lille Nord Europe research center.  
The role of the Scientific officer is to help the director of the center to take scientific decisions for the center and to manage the creation and evaluation of teams.  
Sep 2007–...   Senior Researcher (directeur de recherche) Inria Lille Nord Europe (eq. Full Professor).  
Leader of the RMOD INRIA team (7 permanent members and around 25 in total).  
2005–2007     Full Professor of the Université de Savoie, Leader of the Software Engineering team.  
May 2005       Professor at the University of Bern. Leader of the SNF project RECAST and co-responsible of the Software Composition Group directed by Pr. O. Nierstrasz.  
1996–2002     Lecturer at the University of Bern in the Software Composition Group.

## Awards

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2012            Inria Prime d'excellence scientifique - Scientific Excellence Award.  
2011            Distinguished Visiting Fellowship Award of the Royal Academy of Engineering.  
2010            ESUG 2010 best Smalltalk book for *Dynamic Web Development with Seaside*, 2010.  
2008            Best award paper of IEEE Working Conference on Reverse Engineering 2008.  
2003            Best award paper of Joint Modular Language Conference 2003.

## Funding ID

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2017-2018. Utocat 160 Keuros  
2017-2018. BergerLevrault 320 Keuros  
2015-2018. Thales 45 KEuros + 120 Keuros  
2012-2015. SafePython - FUI Systematic - 120 Keuros  
2011-2014. Resilience project - Security in Javascript - FUI Systematic - 240 Keuros  
2010-2014. ANR Project Cutter - Reengineering (LIRMM + INRIA) - 150 Keuros (one Ph.D.)  
2008-2010. Squalo project - Reengineering (AirFrance, Peugeot, Qualixo) - 260 Keuros (1 Ph.D. 1 postdoc)  
2005-2008. ANR Project Recast - Reengineering - 130 Keuros (20% acceptance)  
2002-2006. Swiss National Science Foundation 2002 Professorship - 500 Keuros (18% acceptance)

## Publications

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54 Internat. Journals 3 Trans. of Softw. Eng. (TSE), 1 Trans. of Progr. Lang. and Syst. (TOPLAS), 7 J. of Computer Lang., Syst. and Struc., 3 J. of Soft. Maint. and Evol. (JSME), 4 Infor. and Soft. Tech. (IST), SOSYM, IEEE Software, etc

105 Internat. Conferences 9 OOPSLA (18%), 3 ECOOP (16%), 1 PLDI (16%), 1 ICSE (20%), 1 FSE (16%), 1 ASE (9%), 8 ICSM (21%-35%), 9 WCRE (25%-35%), 2 UML(25%), 6 TOOLS (25%)

4 Invited Papers, 3 Book Chapters, 3 National Journals, 11 Books

## Professional Activities

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8 Habilitation evaluation, 26 Ph.D. thesis evaluation  
29 Ph.D. thesis supervisions - defended  
6 International Conference General Chair: ESUG International Conference on Smalltalk (05, 06, 09, 10 - 150 participants), WCRE 2009 (90 ppts), LMO 2005 (60 ppts).  
International Journal Steering Board: open-archive Journal of Object Technology (<http://www.jot.fm>)  
40 International Conference Program Committee Participation  
ECOOP Core A\*, Models Core B, ICSM Core A, WCRE Core B, TOOLS Core B, CSMR Core B.  
80 International Conference reviewer for OOPSLA, ECOOP, FSE/ESEC, ICSM, MODELS...  
International Journal reviewer: Transaction on Software Engineering (Core A\*), Journal of Software Maintenance and Evolution: Research and Practice, Journal of Software and Systems Modeling, Information and Software Technology, Journal on Computer Programming (Core A),...  
Research Network Building: European Science Foundation Network: "RELEASE: Research Links to Explore and Advance Software Evolution" (02-05).

## Keynotes and Invited Courses

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*Conference Keynotes* Modularity 2017, Software Language Engineering 2015, Software Composition 2009, Smalltalks 2009

*Invited Papers* with O. Nierstrasz, Software Composition 2005, ESEC/FSE'05, Generative Programming and Component Engineering, 2005

*Invited Lectures* University of Skikda, Algeria (3 days), ENSI Tunisia (3 days), Univ. Novi Sad, Serbia (3 days), 2018  
University of Cagliari (3 days), 2017  
University of Lviv (7 days), 2016  
University of Prague (5 days), 2016  
Universitat Politècnica de Catalunya (5 days), 2010  
Universidad de Buenos Aires (3 days), 2009  
Università di Torino (5 days), 2007, 2008  
Università di Torino Timisoara (5 days), 2002

*Invited Seminars* University of Skikda, Univ. of Novi Sad, Serbia 2018  
University of Turino, 2017

## Scientific Reviewer

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I act as reviewer for IST (Information Society Technology), SSF (Stiftelsen för Strategisk Forskning Sweden), EPSRC (UK), for the Fonds de Recherche sur la Nature et les Technologies of Quebec – Canada, NWO (Dutch National Research Council), NSERC (Natural Sciences and Engineering Research Council of Canada), and ANR (Agence Nationale de la Recherche), IWT-Flanders (Belgium), and SSF (Swedish Science Foundation).

## References

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**Prof. O. Nierstrasz**, University of Bern, [oscar@iam.unibe.ch](mailto:oscar@iam.unibe.ch)  
**Prof. A. Black** Portland State University [black@cs.pdx.edu](mailto:black@cs.pdx.edu)  
Directeur de recherche CNRS **J.-P. Briot**, Laboratoire d'informatique de Paris 6, [jean-pierre.briot@lip6.fr](mailto:jean-pierre.briot@lip6.fr)  
**Prof. T. D'Hondt**, Head of the PROG Laboratory of the University of Brussels [tjdondt@vub.ac.be](mailto:tjdondt@vub.ac.be)  
**Prof. J.-M. Jezequel**, IRISA - Université de Rennes, [jezequel@irisa.fr](mailto:jezequel@irisa.fr)

## Full list of Publications

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<http://stephane.ducasse.free.fr/Publications.html>

### 5 Year Selection of Refereed Articles in International Journals

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- G. Chari, D. Garbervetsky, S. Marr and S. Ducasse, Fully Reflective Execution Environments: Virtual Machines for More Flexible Software, *Transaction on Software Engineering*, 2018.
- G. Polito, C. Teruel, S. Ducasse, and L. Fabresse, Scoped Extension Methods in Dynamically-Typed Languages, *The Art, Science, and Engineering of Programming*, 2, 2017.
- D. Pollet and S. Ducasse, A critical analysis of string APIs: the case of Pharo, *Science of Computer Programming*, 2017.
- G. Polito, L. Fabresse, N. Bouraqadi and S. Ducasse, Run-Fail-Grow: Creating Tailored Object-Oriented Runtimes, *The Journal of Object Technology*, 16, Chair of Software Engineering, 2017.
- N. Papoulias, M. Denker, S. Ducasse, and L. Fabresse, End-User Abstractions for Meta-Control: Reifying the Reflectogram, *Science of Computer Programming*, 140, 2-16, 2017.
- C. Béra, E. Miranda, M. Denker and S. Ducasse, Practical Validation of Bytecode to Bytecode JIT Compiler Dynamic Deoptimization, *Journal of Object Technology*, 15, 1:1-26, 2016.
- V. Uquillas Gomez, S. Ducasse and A. Kellens, Supporting Streams of Changes during Branch Integration, *Journal of Science of Computer Programming*, 2014, 5-year impact factor (2012) 0.903.
- M. Dias, S. Ducasse, D. Cassou and V. Uquillas Gomez, Do Tools Support Code Integration? A Survey, *Journal of Object Technology*, 16, 2:1-20, 2016.
- V. Blondeau, A. Etien, N. Anquetil, S. Cresson, P. Croisy and S. Ducasse, Test Case Selection in Industry: An Analysis of Issues Related to Static Approaches, *Software Quality Journal*, 1-35, Springer Verlag, 2016.
- A. Hora, N. Anquetil, A. Etien, S. Ducasse and M. Tulio Valente, Automatic Detection of System-Specific Conventions Unknown to Developers, *Journal of Systems and Software*, 2015.

### 5 Year Selected Refereed Articles in Top International Conferences

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- J. Delplanque, S. Ducasse, A. Etien, G. Polito and A. P. Black, Rotten Tests, *International Conference on Software Engineering (ICSE'19)*, 2019.
- J. Lecerf, J. Brant, T. Goubier and S. Ducasse, A Reflexive and Automated Approach to Syntactic Pattern Matching in Code Transformations, *IEEE International Conference on Software Maintenance and Evolution (ICSME'18)*, 2018.
- G. Santos, K. Paixao, N. Anquetil, A. Etien, M. Maia and S. Ducasse, Recommending Source Code Locations for System Specific Transformations, *24th IEEE International Conference on Software Analysis, Evolution, and Reengineering*, 1-10, 2017, acceptance rate:  $34/140 = 24\%$ .
- V. Blondeau, A. Etien, N. Anquetil, S. Cresson, P. Croisy and S. Ducasse, What are the Testing Habits of Developers? A Case Study in a Large IT Company, *Proceedings of the 21st IEEE International Conference on Software Maintenance and Evolution (ICSME'17)*, 2017.
- A. Hora, R. Robbes, N. Anquetil, A. Etien, S. Ducasse and M. Tulio Valente, How Do Developers React to API Evolution? The Pharo Ecosystem Case, *Proceedings of the 31st IEEE International Conference on Software Maintenance*, 2015, acceptance rate:  $32/148 = 22\%$ .
- Erwann Wernli, Oscar Nierstrasz, Camille Teruel and Stéphane Ducasse, Delegation Proxies: The Power of Propagation, *Proceedings of the 13th International Conference on Modularity*, 2014.
- S. Marr and S. Ducasse, Tracing vs. Partial Evaluation: Comparing Meta-Compilation Approaches for Self-Optimizing Interpreters, *OOPSLA'2015*, ACM, 2015.
- G. Santos, N. Anquetil, A. Etien, S. Ducasse and M. Tulio Valente, System Specific, Source Code Transformations, *31st IEEE International Conference on Software Maintenance and Evolution*, 2015, acceptance rate:  $32/148 = 22\%$ .
- A. Hora, R. Robbes, N. Anquetil, A. Etien, S. Ducasse and M. Tulio Valente, How Do Developers React to API Evolution? The Pharo Ecosystem Case, *Proceedings of the 31st IEEE International Conference on Software Maintenance*, 2015, acceptance rate:  $32/148 = 22\%$ .
- S. Marr, C. Seaton and S. Ducasse, Zero-Overhead Metaprogramming: Reflection and Metaobject Protocols Fast and without Compromises, *PLDI - Proceedings of the 36th ACM SIGPLAN Conference on Programming Language Design and Implementation*, ACM, 2015.