

Dr. Marcus Denker — Curriculum Vitae

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1 Personal Data

Name: Marcus Denker
Work: Inria Lille – Nord Europe
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PND: 138895775
Citizenship: German
Languages: - German: native speaker.
- English: fluent in writing and speaking.
- French: more and more.
- Spanish: very little.
- Latin: all forgotten.
Erdős Number: 4

Research Interests

Reflective Systems, Context-oriented Programming, Software Evolution, Language Design, Implementation of Dynamic Languages, Secure Dynamic Languages, Compilers, Bio-inspired Computing.

Current Employment

since 15/12/2009 **Inria Lille – Nord Europe**, France.
Tenured Research Scientist (CR).
Member of Team RMoD.

Current Professional Activities

since 01/2009 **ZWEIDENKER GmbH**, Cologne, Germany.
Co-founder and Co-owner
Software Development.
<http://zweidenker.de>
since 2004 **ESUG** European Smalltalk User Group
Member of the Board.
<http://esug.org>

1.1 Employment History

- 04/2009 – 12/2009 **University of Chile**, Santiago de Chile.
Visiting Researcher at the *PLEIAD Laboratory*.
SNF Postdoc Fellowship.
- 06/2008 – 03/2009 **University of Bern, Switzerland**
Postdoc at the *Software Composition Group*.
- 05/2004 – 05/2008 **University of Bern, Switzerland**.
Teaching and Research Assistant.
Ph.D. Student, *Software Composition Group*.
- 03/2003 – 04/2004 **Consultant for Impara GmbH** (self employed)
Worked on Scripting languages for Squeak and Croquet.
Worked on an IDE for Tweak.
- 10/2000 – 04/2001 **Walt Disney Imagineering, Glandale, USA**
Student Internship in the research group of Dr. Alan Kay
Worked on the Squeak Just-In-Time Compiler.
- 1997–2003 **University of Karlsruhe, Germany**
Student Assistant, ATIS, Dept. of Computer Science.
Administered the department's e-Mail system.
Implemented AtisWiki.
- 1995–1996 **CVJM Viktoria Borkum, Germany**
Social Service.

1.2 Education

- 2004–2008 **Dr. phil.-nat. (Ph.D.) Computer Science**
University of Bern, Switzerland.
Dissertation: *Sub-method Structural and Behavioral Reflection*.
Ph.D. committee:
- Prof. Oscar Nierstrasz (*Universtity of Bern*) (adviser)
- Prof. Pierre Cointe (*Ecole des mines de Nantes / Inria*)
- Prof. Robert Hirschfeld (*HPI Potsdam*)
Grade: 6.0 (out of 6.0), "*Summa cum Laude*".
- 1996–2004 **Dipl.-Inform. (M.Sc.) Computer Science**
University of Karlsruhe, Germany.
Minors: Physics (undergraduate), Molecular Genetics (graduate).
Thesis: *Erweiterung eines statischen Übersetzers zu einem Laufzeitübersetzungssystem (Extending a Static Compiler to a Runtime Translation System)*.
Adviser: Prof. Dr. Gerhard Goos.
Grade: 1.5 (In a scale from 1.0 to 4.0), "*Very Good*".
- 1988–1994 **Music school: Horn**
Fritz-Busch-Musikschule, Siegen, Germany
Studied with Albert Prins
- 1986–1995 **Abitur** (German university entrance qualification).
Gymnasium am Löhrtor Siegen, Germany.
Grade: 1.9 (In a scale from 1.0 to 4.0), "*Good*".
- 1982–1986 **Grundschule**
Grundschule Niederdielfen, Niederdielfen, Germany

1.3 Grants and Prizes

- SNF¹ Postdoc Fellowship: *Biologically Inspired Languages for Eternal Systems*, 2009 (CHF 41000 + CHF 3000 travel + CHF 2000 conference travel).
Hosting Institution: PLEIAD Laboratory, University of Chile, Santiago de Chile.
- *Fakultätspreis 2008*. Prize for the Ph.D. dissertation from the Faculty of Mathematics, University of Bern, January 2009 (CHF 3000).
- AOSD-Europe² *Visiting Researcher Bursary in Aspect-Oriented Software Development*, September 2008. (EUR 2000).
Hosting Institution: PROG, Vrije Universiteit Brussel, Belgium.
- CHOOSE³ Conference Sponsorship 2008, 2007, 2006 (each CHF 500).

1.4 Research Funding

- PLOMO Inria Associated Team (2011-2013). Funding for RMoD (Inria) and Pleiad (University of Chile) to collaborate. Budget: 45K.
- PLOMO2 Inria Associated Team (2014-2016). Funding for RMoD (Inria) and Pleiad (University of Chile) to collaborate. Budget: 30K.

1.5 Business: ZWEIDENKER GmbH

ZWEIDENKER GmbH: Co-Founder, Co-Owner.

Founded with Christian Denker January 2009 as *2Denker UG (haftungsbeschränkt)*. Since 2012 *2Denker GmbH*, since 2017 *ZWEIDENKER GmbH*.

For more information, see <http://zweidenker.de>.

1.6 Non-Profit Organizations

Pharo User Association (since 2012): Co-Founder. The goal of the Pharo association is to let individuals support the promotion and development of Pharo.

<http://association.pharo.org>

ESUG (since 2004): Board Member of the *European Smalltalk Usergroup*. ESUG organizes a yearly conference for industry and academics. The conference is attended by 150-170 people. In addition, ESUG has a program to support students attending international conferences. ESUG supports publications of books, articles and talks about Smalltalk.

<http://www.esug.org>

Squeak Germany e.V. (2002–2007): Co-Founder and Member of the board until May 2007.

Squeak e.V. is a registered, tax-exempt german non-profit with the goal to support the use of Squeak and eToys in Germany. <http://www.squeak-ev.de>

The Squeak Foundation (until 2007): Co-Founder and Board-Member until Spring 2007. *The Squeak Foundation* governs the development of Squeak. <http://www.squeak.org>

Square Bracket Associates (since 2008): Co-Founder. *Square Bracket Associates* is dedicated to publishing free and open-source books about Squeak, Smalltalk and related topics. SBA is not a publishing house. We are a group of individuals who are volunteering some of our time and effort to the release of open-source books that are in the interest of the Smalltalk

¹Swiss National Science Foundation

²European Network of Excellence on Aspect-Oriented Software Development

³Swiss Group for Object-Oriented Systems and Environments

community. Currently, we have three books in print. Three more are in preparation.
<http://squarebracketassociates.org>

1.7 Open Source Projects

Pharo (since 2008): Co-founder and core developer. Open Source Smalltalk based on Squeak. Co-author of *Pharo by Example* (<http://pharobyexample.org>).
Website: <http://pharo-project.org>

Reflectivity (since 2005): Reflectivity provides extensions to the standard reflection features of Smalltalk for both structural and behavioral reflection: (i) Structural reflection is extended by sub-method reflection: the structure of method bodies has as a first class and causally connected representation that can easily be extended and annotated. (ii) Behavioral Reflection is provided by a new and improved version of Geppetto, a realization of Partial Behavioral Reflection as pioneered by Reflex.
Website: <http://scg.unibe.ch/research/reflectivity>

Bytesurgeon (since 2004): ByteSurgeon is a library to transform binary code in Smalltalk. It takes full advantage of the flexibility of the Squeak environment to enable bytecode transformation at runtime, thereby allowing dynamic, on-the-fly modification of applications. ByteSurgeon operates on bytecode in order to cope with situation where either the source code or a full compiler is not available, while providing appropriate high-level abstractions so that users do not need to program at the bytecode level.
Website: <http://scg.unibe.ch/research/bytesurgeon>

Squeak (1998–2008): Active participant in the Squeak community. Co-founder of *The Squeak Foundation*, Co-founder of *Squeak Germany e.V.* (board member 2003-2007). Responsible (together with Stéphane Ducasse) for the release 3.9 of Squeak which is used widely in research and industry. Co-author of *Squeak by Example* (<http://squeakbyexample.org>). The book has been translated to french and downloaded more than 88.000 times.
Website: <http://squeak.org>

AtisWiki (1998–1999): Implemented one of the first open source Wiki systems. It was used by both universities and industry. Later, UseModWiki was developed based on AtisWiki. From January 15, 2001 until early 2002, UseModWiki was used to run all versions of Wikipedia.
Website: <http://marcusdenker.de/old/AtisWiki.html>

2 Teaching & Supervising

The research job at Inria does not require teaching duties. Listed course are therefore from the time in Bern.

2.1 Courses (University of Bern)

Co-Lecturer and Head Teaching Assistant. Involved in the conception of the course, designed one, later two lectures myself. I was responsible for the exercises and the final exam.

Fall 07	Dynamic Object-Oriented Programming with Smalltalk. Professor Oscar Nierstrasz. A Course about dynamic OO, using Squeak. (Master) Lectures: <i>Seaside, Working with Bytecodes.</i>
Summer 06	Dynamic Object-Oriented Programming with Smalltalk. Professor Oscar Nierstrasz. A Course about dynamic OO, using Squeak. (Master) Lectures: <i>Working with Bytecodes.</i>
Winter 04/05	Smalltalk. Professor Stéphane Ducasse. A Course about Smalltalk, using Squeak. (Master) Lectures: <i>Working with Bytecodes.</i>

2.2 Lectures

Lectures given as part of other courses.

1. **VUB Brussels**, March 2018.
Course: Metaprogramming and reflection in OO languages (Prof. Elisa Gonzales Boix)
Lecture: *MetaLinks*. (1 hour + 2 hours lab)
2. **Universitat Politècnica de Catalunya, Barcelona**, October 2013.
Course: Advanced Concepts in Programming (Prof. Delgado)
Lecture: *Advanced Reflection in Pharo*. (1.5 hours)
3. **Universite catholique de Louvain**, March 2012.
Course: Programming Paradigms (Prof. Mens, master level)
Lecture: *Reflection and Context*. (1.5 hours)
4. **Universite catholique de Louvain**, March 2011.
Course: Programming Paradigms (Prof. Mens, master level)
Lecture: *Reflection and Context*. (1.5 hours)
5. **DCC University of Chile**, September 2009.
Course: Objetos y Aspectos (Prof. Fabry, master level)
Lecture: *Sub-Method Structural and Behavioral Reflection*. (1.5 hours)
6. **University of Bern**, Fall 2008.
Course: Compiler Construction (Prof. Nierstrasz, master level)
Lecture: *Introduction to SSA* (1.5 hours)
Lecture: *Optimizations* (1.5 hours)
7. **University of Bern**, Spring 2008.
Course: Metamodeling and Metaprogramming Seminar. (Prof. Nierstrasz, master level)
Lecture: *Sub-Method Structural and Behavioral Reflection*. (1.5 hours)

8. **Hasso Plattner Institute, Potsdam, Germany**, November 2007.
 Course: Metaprogramming and Reflection (Prof. Hirschfeld, master level).
 Lecture: *Refactoring* (45 minutes)
 Lecture: *Sub-Method Reflection* (45 minutes)
9. **Hasso Plattner Institute, Potsdam, Germany**, July, 2006.
 Course: Metaprogramming and Reflection (Prof. Hirschfeld, master level)
 Lecture: *Behavioral Reflection* (45 minutes)
 Lecture: *Refactoring* (45 minutes)
10. **DCC University of Chile**, October 2005.
 Course: Topics Avanzados en Lenguajes de Computacion. (Prof. Tanter, master level)
 Lecture: *VMs, Interpreters, JIT & Co* (1.5 hours)
 Lecture: *IRBuilder and ByteSurgeon* (1.5 hours)

2.3 PhD Committees

- *Bridging the Gap between Machine and Language using First-Class Building Blocks*, Toon Verwaest. University of Bern, Switzerland, 12/03/2012.

2.4 Co-Supervised PhD Theses

1. Clement Bera “*Sista : A Metacircular Architecture for Runtime Optimisation Persistence*” Ph.D. thesis, Université de Lille, 2017.
2. Camillo Bruni “*Towards Self-aware Virtual Machines*”, Ph.D. thesis, Université de Lille, 2014.
3. Nick Papoulias *Languages and Development Environments for Mobile Autonomous Robots*, Ph.D. thesis, Université de Lille, 2013.
4. Jean-Baptiste Arnaud “*Towards First Class References as a Security Infrastructure in Dynamically-Typed Languages*”, Ph.D. thesis, Université de Lille, 2013.
5. Mariano Martinez Peck, “*Application-Level Virtual Memory for Object-Oriented Systems*”, Ph.D. thesis, de Lille, 2012.

2.5 Supervised Bachelor and Master Theses

1. Christoph Hofer, “*Implementing a Backward-In-Time Debugger*” Masters thesis, University of Bern, September 2006.
2. Philippe Marschall, “*Persephone: Taking Smalltalk Reflection to the sub-method Level*,” Masters thesis, University of Bern, December 2006.
3. David Röthlisberger, “*Geppetto: Enhancing Smalltalk’s Reflective Capabilities with Unanticipated Reflection*,” Masters thesis, University of Bern, January 2006.
4. Anselm Strauss, “*Stamp – a Mailinglist Manager*,” Studienarbeit (Bachelors thesis), University of Bern, May 2007.
5. Anselm Strauss, “*Dynamic Aspects*,” Masters thesis, University of Bern, October 2008.

2.6 Mentoring

- Mentor, Google Summer of Code 2007 and 2012. <http://code.google.com/soc/>
- Mentor, ESUG Summertalk 2006. <http://www.esug.org>

3 Professional Activities

3.1 Professional Service

- Organization:
 - PharoDays starting 2012 as a member of the Pharo board.
 - ESUG conferences starting 2005 as a member of the ESUG board.
- PC Chair:
 - Smalltalks 2010 *Workshop at the Argentinean Smalltalk Conference*
- PC Member:
 - SANER 2017, 2016 (*23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering*)
 - Meta'16 (*International Workshop, SPLASH 16*)
 - SLE'16 (*9th International Conference on Software Language Engineering*)
 - DLS 2016, 2013, 2012 (*Dynamic Languages Symposium at SPLASH*)
 - VISSOFT'15 NIER/TD *IEEE Working Conference on Software Visualization, NIER and Tool Tracks*
 - COP 2014, 2012 (*ECOOP International Workshop on Context-Oriented Programming*)
 - IWST 2014, 2012, 2011, 2010, 2009 (*ESUG International Smalltalk Workshop*)
 - Varicomp 2013, 2012, 2011 (*International Workshop on Variability & Composition*)
 - Tool Paper Track, SCAM 2013 (*IEEE International Working Conference on Source Code Analysis and Manipulation*)
 - ICSM 2013, 2012 Tool Demos (*Conference on Software Maintainance*)
 - ICSE 2012 Tool Demos (*International Conference on Software Engineering*)
 - AOSD 2011 (*Annual Aspect-Oriented Software Development Conference*)
 - S3 2010 (*Workshop on Self-sustaining Systems*)
 - RAM-SE 2011, 2010, 2009 (*ECOOP Workshop on Reflection, AOP, and Meta-Data for Software Evolution*)
 - IWST 2012, 2011, 2010, 2009 (*ESUG International Smalltalk Workshop*)
 - Smalltalks 2011 *Workshop at the Argentinean Smalltalk Conference*
 - SC 2009 (*International Conference on Software Composition*)
- Publicity Chair:
 - TOOLS 2009 (*International Conference Objects, Models, Components, Patterns*)
- External Reviewer:

- Vissoft 2011 (*6th IEEE International Workshop on Visualizing Software for Understanding and Analysis*)
- SLE 2013 (*International Conference on Software Language Engineering*)
- Benevol 2010 (*BELgian-NEtherlands software eVOLution seminar*)
- MODELS 2010, 2006 (*Model Driven Engineering Languages and Systems*)
- ICSM 2010, 2007, 2006, 2005 (*IEEE International Conference on Software Maintenance*)
- TOOLS 2011, 2010, 2009 (*International Conference Objects, Models, Components, Patterns*)
- ECOOP 2010, 2005 (*European Conference on Object-Oriented Programming*)
- SAC 2008 (*ACM Symposium on Applied Computing*)
- FASE 2008 (*Fundamental Approaches to Software Engineering*)
- DLS 2007 (*Dynamic Languages Symposium at OOPSLA*)
- WCRE 2006 (*Working Conference on Reverse Engineering*)
- ISC 2006 (*International Smalltalk Conference*)
- NODe 2005 (*Net.ObjectDays*)
- Referee:
 - FONDECYT (Chilean National Science and Technology Commission) Research proposal reviews 2016, 2015.
 - IEEE *Transactions on Software Engineering* (TSE), ISSN 0098-5589
 - Elsevier *Information and Software Technology* (IST), ISSN: 0950-5849
 - Elsevier *Science of Computer Programming* (SCP), ISSN: 0167-6423
 - Elsevier *Journal of Computer Languages, Systems and Structures* (COMLAN), ISSN: 1477-8424
- Moderator
 - Moderator arXiv cs.SE, from 2015. <http://arxiv.org/list/cs.SE/recent>
- Small things:
 - Dynamic Language Lounge at ECOOP 2007.
 - Teacher’s day at ESUG 2004.
 - Multiple one-day Squeak meetings and workshops in Karlsruhe and Bern.

3.2 Extended Professional Visits

02.11-02.12.2015 PLEIAD DCC University of Chile, Santiago de Chile (1 Month).
Visit in the context of the Inria Associated Team PLOMO2.

29.09–24.10.2008 Programming Technology Lab, Vrije Universiteit Brussel, Belgium (1 Month).
Research visit: AOSD-Europe Visiting Researcher Bursary in Aspect-Oriented Software Development.

10/2005–12/2005 DCC University of Chile/Santiago (3 Months).

Invited by Prof. Dr. Eric Tanter.

Lectures: *VMs, Interpreters, JIT & Co* and *IRBuilder and ByteSurgeon*.

10/2000–04/2001 Walt Disney Imagineering R&D, Glandale, USA (6 Months).
Invited by Dr. Alan Kay (Winner *ACM Turing Award 2003*).

3.3 Professional Visits

- 04.12-21.21.2016** PLEIAD DCC University of Chile, Santiago de Chile.
Visit in the context of the Inria Associated Team PLOMO2.
- 02.01-20.01.2015** PLEIAD DCC University of Chile, Santiago de Chile.
Visit in the context of the Inria Associated Team PLOMO2.
- 27.10-01.11.2013** Universitat Politècnica de Catalunya, Barcelona.
Invited by Prof. Dr. Jordi Delgado
Lecture *Advanced Reflection in Pharo* and Talk *Pharo: Objects at Your Fingertips*.
- 05.11-21.11.2012** PLEIAD DCC University of Chile, Santiago de Chile.
Visit in the context of the Inria Associated Team PLOMO.
- 27.03.2012** Universite catholique de Louvain, Louvain-la-Neuve, Belgium.
Invited by Prof. Dr. Kim Mens
Lecture: *Reflection and Context*.
- 18.01-01.02.2012** PLEIAD DCC University of Chile, Santiago de Chile.
Visit in the context of the Inria Associated Team PLOMO.
- 07-28.11.2011** PLEIAD DCC University of Chile, Santiago de Chile.
Visit in the context of the Inria Associated Team PLOMO.
- 17.03.2011** Universite catholique de Louvain, Louvain-la-Neuve, Belgium.
Invited by Prof. Dr. Kim Mens
Lecture: *Reflection and Context*.
- 08-22.02.2011** Eliot Miranda, San Francisco, USA.
Work on an adaptive runtime optimizer for the Cog virtual machine.
- 17-22.10.2009** Inria Lille - Nord Europe, France.
Project Pharo: Sprint Lille.
- 12-15.07.2009** SCG University of Bern, Switzerland.
CHOOSE talk: The present and future of Pharo.
- 15-21.05.2009** Inria Lille - Nord Europe, France.
Presentation for competitive selection CR2.
- 04-10.02.2009** Inria Lille - Nord Europe, France.
Invited to explore the possibilities of applying to a CR2 position.
Meeting for Project Pharo.
- 10-11.01.2009** Impara GmbH, Magdeburg, Germany
Meeting for Project Pharo.
- 8-9.01.2009** Hasso Plattner Institute/Potsdam, Germany.
Invited by Prof. Dr. Robert Hirschfeld.
Talk: *Compile-time Metaobject Protocols for Instance Variable Access*.
- 4-5.12.2008** PPS laboratory, Université Paris Diderot - Paris 7, France.
Invited by Prof. Emmanuel Chailloux and Prof. Jean-Francois Perrot (Université Paris 6)
Talk: *Practical, Pluggable Types*.
- 7-8 and 25-27.10.2008** Inria Lille - Nord Europe, France.
Research visit in the context of REMOOS⁴ (Inria Associated Team).

⁴Remodularisation de systèmes à objets

- 20.10.2008** Universite catholique de Louvain, Louvain-la-Neuve, Belgium.
Meeting *Context Oriented Programming* (COP Belgium).
- 10-23.08.2008** Inria Lille - Nord Europe, France.
Research visit in the context of REMOOS (Inria Associated Team).
- 20.11.2007** Hasso Plattner Institute/Potsdam, Germany.
Invited by Prof. Dr. Robert Hirschfeld.
Lectures: *Refactoring* and *Sub-Method Reflection*.
- 30.05.2007** University of Siegen, Germany.
Invited Talk: *Introduction to Squeak*
- 04-07.12.2006** Hasso Plattner Institute/Potsdam, Germany.
Invited by Prof. Dr. Robert Hirschfeld.
Lecture: *Metaprogramming and Reflection*
- May 2006** Participation at the Dagstuhl seminar 06181: *Latently-Typed Languages*.
- 11/12.04.2006** Hasso Plattner Institute/Potsdam, Germany.
Invited by Prof. Dr. Robert Hirschfeld.
Invited talk: *Beyond Text - Methods as Objects*

3.4 Presentations, Demos and Talks

Slides (and in some cases videos) for these talks are available from the following web site:
<http://marcusdenker.de/Talks.html>

1. Lecture: “*MetaLinks*”, VUB Brussels, Mar 22, 2018.
2. Demo/Tutorial: : “*Contributing to Pharo7*”, PharoTechTalk, Feb 15, 2018.
3. Talk: “*Feedback Loops in Practice*”, ESUG 2017, Maribor, Slovenia, Sept 04, 2017.
4. Talk: “*Pharo 6*”, ESUG 2017, Maribor, Slovenia, Sept 04, 2017.
5. Talk: “*Pharo 6*”, PharoDays 2017, Lille, France, May 17, 2017.
6. Tutorial: : “*Reflectivity*”, PharoTechTalk, Feb 28, 2017.
7. Talk: “*Perfection & Feedback Loops or: why worse is better*”, ESUG 2016, Prag, Aug 26, 2016.
8. Paper Presentation: “*Dynamically Composing Collection Operations through Collection Promises*”, IWST 2016, Prag, Aug 23, 2016.
9. Talk: “*Reflection in Pharo: Beyond Smalltak*”, PharoDays 2016, Namur, Belgium, April 1, 2016.
10. Talk: “*Reflection in Pharo: Beyond Smalltak*”, Talk held at SOFT research group VUB, Brussels, Belgium, January 25, 2016.
11. Talk: “*Variables in Pharo5*”, ESUG 2015, Brescia, Italy, July 17, 2015.
12. Talk: “*Reflection in Pharo5*”, ESUG 2015, Brescia, Italy, July 14, 2015.
13. Talk: “*Pharo Status*”, Fosdem 2015, Brussels, Belgium, February 02, 2015.
14. Talk: “*How to Contribute to Pharo*”, PharoDays 2015, Lille, France, January 30, 2015.
15. Talk: “*Pharo Status*”, PharoDays 2015, Lille, France, January 30, 2015.
16. Talk: “*Nomads do not build Cathedrals*”, ESUG 2014, Cambridge, UK, August 21, 2014.
17. Talk: “*Pharo Status*”, ESUG 2014, Cambridge, UK, August 20, 2014.
18. Talk: “*Pharo: A Reflective System*”, 30min of Science, Inria Lille, France, February 12, 2014.

19. Talk: “*Pharo3*”, FOSDEM 2014, Brussels, Belgium, February 01, 2014.
20. Talk: “*Pharo4: Plans and Dreams*”, FOSDEM 2014, Brussels, Belgium, February 01, 2014.
21. Talk: “*Pharo: Objects at your Fingertips*”, Universitat Politècnica de Catalunya, Barcelona, Spain, October 30, 2013.
22. Lecture: “*Advanced Reflection in Pharo*”, Universitat Politècnica de Catalunya, Barcelona, Spain, October 29, 2013.
23. Paper presentation: “*Towards a flexible Pharo Compiler*” IWST 2013, Annecy, France, September 2013.
24. Talk: “*Pharo. 2.0 Update.*”, FOSDEM 2013, Brussels, Belgium, February 03, 2013.
25. Talk: “*Pharo : a Dynamic Reflective System*”, FOSSa 2012, Lille, France, December 05, 2012.
26. Talk: “*Pharo: Syntax in a Nutshell.*”, FOSSa 2012, Lille, France, December 05, 2012.
27. Lecture: “*Reflection and Context*”, Université catholique de Louvain, Louvain-la-Neuve, Belgium, March 27, 2012.
28. Talk: “*Pharo. Next Steps.*”, FOSDEM 2012, Brussels, Belgium, February 07, 2012.
29. Talk: “*Research at RMoD*”, Smalltalks 2011, Quilmes, Argentina, November 05, 2011.
30. Talk: “*Bootstrapping a Smalltalk*”, Smalltalks 2011, Quilmes, Argentina, November 04, 2011.
31. Talk: “*Pharo. One Year Later*”, Smalltalks 2011, Quilmes, Argentina, November 03, 2011.
32. Talk: “*Pharo Roadmap*”, ESUG 2011, Edinburgh, UK, August 25, 2011.
33. Lecture: “*Reflection and Context*”, Université catholique de Louvain, Louvain-la-Neuve, Belgium, March 17, 2011.
34. Talk: “*Pharo: A Dynamic Environment for Business and Research*”, Smalltalks 2010, Concepción del Uruguay, Argentina, November 12, 2010.
35. Talk: “*Pharo*”, ESUG 2010, Barcelona, Spain, September 13, 2010.
36. Invited talk: “*Pharo*”, JM2L 2009, Sophia Antipolis, France, November 28, 2009.
37. Lecture: “*Sub-method Structural and Behavioral Reflection.*” University of Chile, September 22, 2009.
38. Talk: “*An Instrument whose Music is Ideas. Smalltalk, eToys and the Idea of the Children’s Machine*”, DCC University of Chile, August 2009.
39. Talk: “*The present and future of Pharo*”, CHOOSE Talk, SCG University of Bern, Switzerland, July 2009.
40. Presentation for competitive selection CR2 junior research scientists, Inria Lille, May 18, 2009.
41. Invited talk: “*Practical, Pluggable Types*”, PPS laboratory, Université Paris Diderot - Paris 7, December 2008.
42. Presentation about my research, DCC University of Chile (via video conference), October 29, 2008.
43. Lecture: “*Compiler Construction: Introduction to SSA.*” University of Bern, fall 2008.
44. Lecture: “*Compiler Construction: Optimizations.*” University of Bern, fall 2008.
45. Paper presentation: “*The Meta of Meta-Object Architectures.*” TOOLS 2008, Zürich, Switzerland, June 2008.
46. Presentation: “*2denker engineering: Time/Source.*” Venturelab venture challenge. Bern, Switzerland, June 2008.

47. PhD Defense: “*Sub-method Structural and Behavioral Reflection.*” University of Bern, May 26, 2008.
48. Lecture: “*Sub-method Structural and Behavioral Reflection.*” University of Bern, May 03, 2008.
49. Lecture: “*Working with Bytecode.*” University of Bern, December 05, 2007.
50. Lecture: “*Refactoring.*” Hasso Plattner Institute, Potsdam, Germany, November 11, 2007.
51. Lecture: “*Sub Method Reflection.*” Hasso Plattner Institute, Potsdam, Germany, November 11, 2007.
52. Lecture: “*Seaside.*” University of Bern, Oktober 24, 2007.
53. Demo: “*Reflectivity.*” ESUG⁵ 2007 Lugano, Switzerland, August 2007.
54. Paper presentation: “*Practical, Pluggable Types.*” International Conference on Dynamic Languages (ICDL 2007), Lugano, Switzerland, August 2007.
55. Paper presentation: “*Type Feedback for Bytecode Interpreters.*” IC00OLPS’07 Workshop at ECOOP 2007. Berlin, Germany, July 2007.
56. Demo: “*Reflectivity.*” Dynamic Languages Workshop at ECOOP 2007, Berlin, July 2007.
57. Paper Presentation: “*Sub-Method Reflection’.*” TOOLS 2007 Zürich, Switzerland, June 2007.
58. Invited talk: “*Squeak Introduction.*” University of Siegen, May 2007.
59. Lecture: “*Behavioral Reflection.*” Hasso Plattner Institute, Potsdam, Germany, December 05, 2006.
60. Lecture: “*Refactoring.*” Hasso Plattner Institute, Potsdam, Germany, December 05, 2006.
61. Lecture: “*Working with Bytecode.*” University of Bern, fall 2006.
62. Paper presentation: “*Design And Implementation of a Backward-In-Time Debugger.*” Net.ObjectDays 2006, Erfurt, Germany, September 2006.
63. Invited talk: “*Squeak News.*” ESUG 2006, Prag, September 2006.
64. Paper presentation: “*Unanticipated Partial Behavioral Reflection.*” International Smalltalk Conference, (ISC 2006), Prag, September 2006.
65. Invited talk: “*Beyond Text - Methods as Objects.*” Hasso Plattner Institute, Potsdam, Germany. April 2006.
66. Paper presentation: “*Software Evolution from the Field: an Experience Report.*” ERCIM⁶ Working Group on Software Evolution (2006), Lille, France, April 2006.
67. Talk and demo: “*Seaside: Agile Web Application Development with Squeak.*” 22nd Chaos Communication Congress (22C3), Berlin, Germany, December 2005.
68. Lecture: “*VMs, Interpreters, JIT.*” DCC University of Chile, December 2005.
69. Lecture: “*RBuilder and ByteSurgeon.*” DCC University of Chile, December 2005.
70. Paper presentation: “*Runtime Bytecode Transformation for Smalltalk.*” ESUG 2005, Brussels, Belgium, August 2005.
71. Talk and demo: “*Croquet: Squeak in 3D.*” RMLL⁷ 2005, Dijon, France, July 2005.
72. Talk and demo: “*Squeak and Croquet*” LinuxTag05, Karlsruhe, Germany, June, 2005.
73. Invited talk and demo: “*Squeak and Croquet.*” PyPy EU Project Meeting, Leysin, Switzerland, January 2005.

⁵European Smalltalk User Group

⁶European Research Consortium for Informatics and Mathematics

⁷Rencontres Mondiales du Logiciel Libre

74. Talk and demo: “*Squeak and Croquet.*” 21st Chaos Communication Congress (21C3), Berlin, Germany, December 2004.
75. Lecture: “*Working with Bytecode.*” University of Bern, December 2004.
76. Talk: “*AOSTA.*” ESUG 2004, Köthen, Germany, September 2004.
77. Talk: “*Squeak e.V.*”, ESUG 2004, Köthen, Germany, September 2004.
78. Defense Diplomarbeit (Master): “*Erweiterung eines statischen Übersetzers zu einem Laufzeit-übersetzungssystem.*” University of Karlsruhe, Spring 2004.
79. Talk: “*A Programming Language Babel.*” Squeak Meeting Bern, Fall 2003.
80. Talk: “*A JIT as a System Service.*” Squeak Meeting Bern, Fall 2003.
81. Talk and demo: “*Beyond VI.*” European Ruby Conference (euroko03), Karlsruhe, Germany, June 2003.
82. Talk and demo: “*Squeak.*” GpN2, Entropia e.V. CCC Karlsruhe, May 2003.
83. Talk and demo: “*Squeak als agile Entwicklungsumgebung.*” Entwicklertage 2003, February 5, 2003.
84. Defense Studienarbeit (Similar to bachelor project): “*Entwurf von Optimierungen für Squeak.*” University of Karlsruhe, January 2003.
85. Talk and demo: “*Einführung in Squeak.*” Jahrestagung Fsub e.V., 2002.
86. Talk: “*Neue Medien, Lehr- und Lernsysteme.*” University of Karlsruhe, Seminar Multimedia. 1999.

3.5 Memberships

- Pharo Association. *Founding member since 2012*
<http://association.pharo.org>
- Squeak Germany e.V. *Founding member since 2002, (Board 2002 - May 2007)*
<http://squeak-ev.de>
- European Smalltalk User Group (ESUG). *Board member since 2004*
<http://www.esug.org>
- Square Bracket Associates, *Founding member (2007)*
<http://SquareBracketAssociates.org>
- Moose Association, *Founding Member (2007)*
<http://moose.unibe.ch/>
- Association for Computing Machinery (ACM)
Student Member since 2001, Member since 2008
<http://acm.org>
- EAPLS European Association for Programming Languages and Systems, *Member since 2011*
<http://eapls.org>
- Gesellschaft für Informatik (GI), *Member since 1998*
<http://gi-ev.de>
- Electronic Frontier Foundation (EFF), *Member*
<http://www.eff.org>
- Solidarite & Initiative par l'Activite Economique & Educative (SIA2E), *Member*
<http://sia2e.org>

- Les Amis de la Biere, Member since 2015
<https://www.amis-biere.org>
- Alumni Organizations:
 - Joint Alumni in computer science of the Universities Bern, Fribourg, Neuchatel, *Member*
<https://www.jointalumni.ch>
 - AlumniKaTH, *Member*
<http://www.rsm.kit.edu/alumni.php>
 - Freundeskreis der Fakultät für Informatik (FFI) Karlsruhe, *Member*
<http://www.ffi-ka.de>
 - Verein der Freunde, Förderer und Ehemaligen Löhrtor e.V., *Member*
<http://www.gal.de/schulleben/ehemalige.html>
 - Förderverein *Fritz-Busch-Musikschule der Stadt Siegen e. V.*, *Member*
<http://www.siegen.de/leben-in-siegen/bildung/fritz-busch-musikschule/>

4 Publications

The majority of these publications are available as PDF downloads:

- HAL-Inria Open Archive: <http://hal.inria.fr>
- Private Archive: <http://marcusdenker.de/Publications.html>

4.1 Refereed Papers in International Journals

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<https://hal.inria.fr/hal-01424787>
- [2] Clément Béra, Eliot Miranda, Marcus Denker and Stéphane Ducasse. Practical Validation of Bytecode to Bytecode JIT Compiler Dynamic Deoptimization. *Journal of Object Technology*, Volume 16, no. 2 (March 2016), pp. 1:1-26
<https://hal.inria.fr/hal-01299371>
- [3] Andrei Chis, Marcus Denker, Tudor Girba, Oscar Nierstrasz. Practical domain-specific debuggers using the Moldable Debugger framework. *Science of Computer Programming*, Volume 44, Part A, December 2015, Pages 89–113, Elsevier, 2015.
<https://hal.inria.fr/hal-01247941>
- [4] Jean-Baptiste Arnaud, Stéphane Ducasse, Marcus Denker, Camille Teruel. Handles: Behavior-propagating first class references for dynamically-typed languages. *Science of Computer Programming*, Elsevier, 2015, 98 (3), pp. 318–338
<https://hal.inria.fr/hal-01060537>
- [5] Mariano Martinez Peck, Noury Bouraqadi, Luc Fabresse, Marcus Denker, Camille Teruel. Ghost: A uniform and general-purpose proxy implementation. *Science of Computer Programming*, Elsevier, 2015, , 98 (3), pp.339–359.
<https://hal.inria.fr/hal-01081236v1>
- [6] Nick Papoulias, Noury Bouraqadi, Luc Fabresse, Stéphane Ducasse, Marcus Denker “Mercury: Properties and Design of a Remote Debugging Solution using Reflection,” *Journal of Object Technology*, Volume 14, no. 2 (May 2015), pp. 1:1-36.
<https://hal.inria.fr/hal-01185730>
- [7] Esteban Allende, Oscar Callaú, Johan Fabry, Éric Tanter, Marcus Denker. “Gradual Typing for Smalltalk” In *Science of Computer Programming*, Volume 96, Part 1, 15 December 2014, Pages 52–69, Elsevier.
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<https://hal.inria.fr/hal-00781129>
- [10] Niklaus Haldiman, Marcus Denker and Oscar Nierstrasz, “Practical, Pluggable Types for a Dynamic Language,” *Journal of Computer Languages, Systems and Structures*, vol. 35, no. 1, Elsevier, April 2009, pp. 48–64.
<https://hal.inria.fr/inria-00555441>

- [11] David Röthlisberger, Marcus Denker and Éric Tanter, “Unanticipated Partial Behavioral Reflection: Adapting Applications at Runtime,” *Journal of Computer Languages, Systems and Structures*, vol. 34, no. 2-3, Elsevier, July 2008, pp. 46–65.
<https://hal.inria.fr/inria-00555557>
- [12] Marcus Denker, Stéphane Ducasse, Adrian Lienhard and Philippe Marschall, “Sub-Method Reflection,” *Journal of Object Technology*, Special Issue TOOLS Europe 2007, vol. 6, ETH, October 2007, pp. 231–251. (acceptance rate: 30%)
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4.2 Book Chapters

- [14] Christian Denker, Norbert Hartl and Marcus Denker, “Kapitel 1: Apps” In Christian Solmecke, Juergen Taeger, Thorsten Feldmann, *Mobile Apps - Rechtsfragen und rechtliche Rahmenbedingungen*. ISBN 978-3-11-030503-6., De Gruyter, pp. 1-8, August 2013.
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- [19] Camille Teruel, Stéphane Ducasse, Damien Cassou, Marcus Denker, “Access Control to Reflection with Object Ownership”, *Dynamic Languages Symposium*, USA, October 2015.
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- [20] Nick Papoulias, Marcus Denker, Stéphane Ducasse, “Reifying the Reflectogram”, *30th ACM/SIGAPP Symposium On Applied Computing*, Salamanca, Spain, April 2015.
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- [21] Juan Pablo Sandoval Alcocer, Alexandre Bergel, Stéphane Ducasse, and Marcus Denker. “Performance Evolution Blueprint: Understanding the Impact of Software Evolution on Performance.” *First IEEE Working Conference on Software Visualization (VISSOFT) 2013*.
<https://hal.inria.fr/hal-00849004>

- [22] Marcus Denker, Jorge Ressoa, Orla Greevy and Oscar Nierstrasz: “Modeling Features at Runtime”. *Proceedings of MODELS 2010, Part II*, LNCS 6395, Springer, pp. 138–152. (acceptance rate: 20.8%).
<https://hal.inria.fr/inria-00531045v2>
- [23] Jean-Baptiste Arnaud, Marcus Denker, Stéphane Ducasse, Damien Pollet, Alexandre Bergel, Mathieu Suen: “Read-Only Execution for Dynamic Languages”. *Proceedings of TOOLS EUROPE 2010*, LNCS 6141, p. 117–136, Springer, 2010 (acceptance rate: $16/57 = 28\%$).
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- [27] Niklaus Haldiman, Marcus Denker and Oscar Nierstrasz, “Practical, Pluggable Types,” *Proceedings of the 2007 International Conference on Dynamic Languages (ICDL 2007)*, ACM Digital Library, 2007, pp. 183–204.
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<https://hal.inria.fr/inria-00555773>
- [29] David Röthlisberger, Marcus Denker and Éric Tanter, “Unanticipated Partial Behavioral Reflection,” *Advances in Smalltalk — Proceedings of 14th International Smalltalk Conference (ISC 2006)*, LNCS, vol. 4406, Springer, 2007, pp. 47–65.
<https://hal.inria.fr/inria-00555650/>
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- [31] Éric Tanter, Kris Gybels, Marcus Denker and Alexandre Bergel, “Context-Aware Aspects,” *Proceedings of the 5th International Symposium on Software Composition (SC 2006)*, LNCS, vol. 4089, Springer, Vienna, Austria, March 2006, pp. 227–242. (acceptance rate: 35%)
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3410-2. <http://squeakbyexample.org>.
 French translation: “*Squeak par l'exemple*”, ISBN: 978-3-9523-3413-3.

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- [34] Oscar Nierstrasz, Alexandre Bergel, Marcus Denker, Stéphane Ducasse, Markus Gaelli and Roel Wuyts, “On the Revival of Dynamic Languages,” *Proceedings of Software Composition 2005*, Thomas Gschwind and Uwe Aßmann (Eds.), vol. 3628, LNCS, Springer, 2005, pp. 1–13, Invited paper.
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4.6 Refereed Workshop Papers

- [35] Henrique Rocha, Stéphane Ducasse, Marcus Denker, and Jason Lecerf. “Solidity Parsing Using SmaCC: Challenges and Irregularities.” *International Workshop on Smalltalk Technology IWST'17*, Maribor, Slovenia, 2017.
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- [36] Steven Costiou, Mickaël Kerboeuf, Marcus Denker, Alain Plantec. “Unanticipated Debugging with Dynamic Layers”, *LASSY 2017 Live Adaptation of Software SYstems*, April 2017, Brussels, Belgium. In: Companion to the first International Conference on the Art, Science and Engineering of Programming, 2017.
<http://hal.univ-brest.fr/hal-01591077>
- [37] Juan Pablo Sandoval Alcocer, Marcus Denker, Alexandre Bergel, Yasett Acurana. . “Dynamically Composing Collection Operations through Collection Promises”, *Proceedings of the IWST 16 Workshop (ESUG 2016)*.
<https://hal.inria.fr/hal-01358347>
- [38] Clement Bera and Marcus Denker. “Towards a flexible Pharo Compiler.”, *Proceedings of the IWST 13 Workshop (ESUG 2013)*.
<https://hal.inria.fr/hal-00862411>
- [39] Sergio Castro, Sebastian Gonzalez, Kim Mens and Denker, Marcus, “DynamicSchema: a light-weight persistency framework for context-oriented data management”, *Proceedings of COP 2012, Workshop at ECOOP*, Beijing, China 2012.
<https://hal.inria.fr/hal-00720348>
- [40] Mariano Martinez Peck, Noury Bouraqadi, Marcus Denker, Stéphane Ducasse, Luc Fabresse, “Problems and Challenges when Building an Unused-Object Manager for Pharo,” *Smalltalks 2011*.
<https://hal.inria.fr/inria-00635793>
- [41] Mariano Martinez Peck, Noury Bouraqadi, Marcus Denker, Stéphane Ducasse, Luc Fabresse: “Efficient Proxies in Smalltalk,” *Proceedings of the IWST 11 Workshop (ESUG 2011)*.
<https://hal.inria.fr/inria-00614720>
- [42] Nick Papoulias, Noury Bouraqadi, Marcus Denker, Stéphane Ducasse, Luc Fabresse: “Towards Structural Decomposition of Reflection with Mirrors,” *Proceedings of the IWST 11 Workshop (ESUG 2011)*.
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- [45] Gwenaël Casaccio, Damien Pollet, Stéphane Ducasse, Marcus Denker: “Object Spaces for Safe Image Surgery,” *Proceedings of the IWST 09 Workshop (ESUG 2009)*, ACM, 2009, pp. 77-81.
<https://hal.inria.fr/inria-00531046v2>
- [46] Stéphane Ducasse, Marcus Denker, Adrian Lienhard: “Evolving a Reflective Language: Lessons Learned from Implementing Traits,” *Proceedings of the IWST 09 Workshop (ESUG 2009)*, ACM, 2009, pp. 82-86.
<https://hal.inria.fr/inria-00531048v1>
- [47] Sebastián González, Marcus Denker, Kim Mens, “Transactional Contexts: Harnessing the Power of Context-oriented Reflection,” *Proceedings of COP '09: International Workshop on Context-Oriented Programming (ECOOP 2009)*, ACM, 2009, pp. 1-6.
<https://hal.inria.fr/inria-00531216>
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<https://hal.inria.fr/inria-00555868>
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- [50] Michael Haupt, Robert Hirschfeld and Marcus Denker, “Type feedback for bytecode interpreters,” *Proceedings of the Second Workshop on Implementation, Compilation, Optimization of Object-Oriented Languages, Programs and Systems (ICOOOLPS'2007)*, TU Berlin, July 2007, pp. 17-22.
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