

# Oscar Nierstrasz — Curriculum Vitæ

October 28, 2021



## 1 Personal Data

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Work	Institut für Informatik (INF), Universität Bern, Neubrückstrasse 10 CH-3012 Berne, Switzerland
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ORCID	0000-0002-9975-9791
Google Scholar ID	Yi00hUYAAAAJ
Birthdate	October 15, 1957 (Laren, The Netherlands)
Citizenship	Canada, Switzerland and Italy
Civil status	Married, with one daughter
Hobbies	Cycling, skiing, photography, genealogy, hunting wild mushrooms.
Languages	English (mother tongue). Fluent in Dutch, German, French and Italian. Passive fluency in Swiss German (Bernese dialect).

## 2 Employment History

1996-present	<i>Full Professor of Computer Science (ordinarius)</i> Institut für Informatik, Universität Bern
1994-1996	<i>Associate Professor of Computer Science (extraordinarius)</i> Institut für Informatik, Universität Bern
1987-1994	<i>Maître d'Enseignement et de Recherche (Assistant Professor)</i> , CUI, Université de Genève
1986-87	<i>Maître-Assistant</i> , CUI, Université de Genève
1985	<i>Visiting researcher</i> , Research Institute of Crete (FORTH).
1984	<i>Research assistant</i> , University of Toronto
1981-83	<i>Lecturer</i> , University of Toronto
1982 (summer)	<i>Research assistant</i> , Consiglio Nazionale delle Ricerche, Pisa, Italy.
1980-81	<i>Teaching assistant</i> , University of Toronto
1979 (summer)	<i>Research assistant</i> , University of Waterloo, Ontario.
1977-78 (summers)	Manufacturer's Life Insurance Company, Toronto

## University education

- Ph.D. 1984, Department of Computer Science, University of Toronto.  
Thesis: *Message Flow Analysis*. Supervisor: Prof. D. Tsichritzis
- M.Sc. 1981, Department of Computer Science, University of Toronto.  
Thesis: *Automatic Coordination and Processing of Electronic Forms in TLA (an Intelligent Office Information System)*. Supervisor: Prof. D. Tsichritzis
- B.Math 1979, Departments of Pure Mathematics and Combinatorics and Optimization, University of Waterloo.

## Research interests

Software engineering. Programming Languages. Software evolution. Reverse Engineering.

## 3 Professional Activities

**Editor-In-Chief** Journal of Object Technology<sup>1</sup> (2010-2013).

**Editorial Board Member** Annals of Software Engineering, Editorial board (1996-2002); ACM Transactions on Software Engineering and Methodology, Associate Editor (TOSEM — 2005-2008); Object Oriented Systems, Editorial board (Chapman & Hall — 1994-1999); Springer Software and Systems Modeling, Associate Editor (SoSyM — 2004-2006); Springer LNCS, Series Editor (SL2 — Programming Techniques and Software Engineering — 2004-2012); Science of Computer Programming, Advisory Board (SCP — 2014-2020); PeerJ CS<sup>2</sup> (2015-2019).

**Journal Reviewer** ACM Computing Surveys, ACM Transactions on Programming Languages and Systems (TOPLAS), ACM Transactions on Software Engineering and Methodology (TOSEM), ACTA Informatica, Communications of the ACM (CACM), The Computer Journal, IEEE Transactions on Software Engineering (TSE), IEEE PDT, IEEE Computer, IEEE Software, Information & Software Technology, Elsevier Journal of Systems and Software, Science of Computer Programming (SCP), Software, Practice & Experience, Software Quality Journal, Kluwer Design Automation for Embedded Systems.

**Project Reviewer** Australian Research Council (ARC), Deutsche Forschungsgemeinschaft (DFG), Hasler Foundation, Switzerland, Interuniversity Consortium, Italy (CINECA), Institut national de recherche en informatique et en automatique, France (INRIA), Natural Sciences and Engineering Research Council of Canada (NSERC), Netherlands Organisation for Scientific Research (NWO), Research Foundation — Flanders (FWO), Science Foundation Ireland (SFI), Swiss National Science Foundation (SNSF), US National Science Foundation (NSF).

**Committee Member** ESEC, Steering Committee (1999-2009); Models, Steering Committee (2005-2013); NSERC<sup>3</sup>, General Selection Committee (GSC-330) for Computing & Information Sciences (2003-2006); SARIT<sup>4</sup> Board (2004-2012); Software Composition, Steering Committee (2005-2013); AOSA, Steering Committee for the Aspect-Oriented Software Development Conference (AOSD, 2010-2014); SATToSE<sup>5</sup> Steering Committee (2013-2019); SIRA<sup>6</sup> Board (2012-2018); SI<sup>7</sup> Board (2012-2018); Swiss National Science Foundation Research Council, Division 2 (2012-2020).

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<sup>1</sup><http://jot.fm>

<sup>2</sup><https://peerj.com/computer-science/>

<sup>3</sup>Natural Sciences and Engineering Research Council of Canada

<sup>4</sup>Swiss Association for Research in Information Technology

<sup>5</sup>Seminar on Advanced Techniques & Tools for Software Evolution

<sup>6</sup>Swiss Informatics Research Association

<sup>7</sup>Swiss Informatics Society

**Chair, vice-chair, etc.** Organizing Chair, ECOOP 91; Conference Co-Chair, ECOOP 96; Chairman, CHOOSE (1992-1996, 2003-2007, 2015-2017); Vice-Chair, CHOOSE<sup>8</sup> (1990-92); Manager, AITO<sup>9</sup> (1992-1999), Vice-President AITO (2006-2007); General Co-Chair, SCAM 2016; General Chair, SLE 2019.

**Organizer, co-organizer** Agent Technology Spring School 2000<sup>10</sup>; Dagstuhl Perspectives Workshop 16252 — Engineering Academic Software — Dagstuhl, Germany, June 19-24, 2016; ECOOP 89 workshop on Object-Based Concurrent Programming; ECOOP 93 workshop on Object-Oriented Distributed Programming; ECOOP 94 workshop on Coordination Languages; ECOOP 2000 workshop on Pervasive Component Systems; OOPSLA 2004 workshop on Revival of Dynamic Languages; ICSM 2010 Doctoral Symposium; FOSD 2010 (2nd Workshop on Feature-Oriented Software Development); FOSD Schloss Dagstuhl Workshop (Feature-Oriented Software Development); SATToSE 2013 (6th Seminar on Advanced Techniques & Tools for Software Evolution); Tutorials Co-Chair for ICSE 2012 (International Conference on Software Engineering)

**Programme Chair** ECOOP 93<sup>11</sup>; WWW 94<sup>12</sup>; ESEC 99<sup>13</sup>/FSE-7<sup>14</sup>; MoDELS<sup>15</sup> 2006; CASTA<sup>16</sup> 2009.

**PC Member** AOSD 2003<sup>17</sup>; BENEVOL 2015<sup>18</sup>, 2017; CAiSE 91<sup>19</sup>, 2001, 2002; CD 2002<sup>20</sup>; COOMPL 2013<sup>21</sup>; Coordination 96, 97, 99, 2002, 2007; CoopIS 2001<sup>22</sup>; CSMR 2011<sup>23</sup>; CSMR-WCRE-ERA 2014<sup>24</sup>; CTIS 98<sup>25</sup>; C5<sup>26</sup> 2011, 2012; DBPL-3 (91); DMIS-3 (92); DLS 05<sup>27</sup>, 06, 07, 08, 2014; DSE 2007<sup>28</sup>; Dyla07<sup>29</sup>; East EurOOpe 93; EDOC 2001<sup>30</sup>; EDOC 2002; ECOOP 89, 92, 94, 95, 97, 98, 99, 2003, 2004, 2009; ESEC 95, 97; ESEC-FSE 2009 Doctoral Symposium; ESOP 96<sup>31</sup>, 99, 2003; ESS 93<sup>32</sup>; ETSM<sup>33</sup> 2009; Euromicro CBSE 2004<sup>34</sup>, 2005; EVOL<sup>35</sup> 2006; FAMOOSr<sup>36</sup> Workshop 2007, 2008, 2009; FASE 2008<sup>37</sup>; FOAL 2001<sup>38</sup>, 2003; FOSD<sup>39</sup> 2009;

<sup>8</sup>Subgroup of the Swiss Informatics Society (SI) for Object Oriented Systems and Environments.

<sup>9</sup>Association Internationale pour les Technologies Objets — sponsoring foundation for ECOOP

<sup>10</sup>Troisième Cycle Suisse Romande

<sup>11</sup>European Conference on Object-Oriented Programming.

<sup>12</sup>World Wide Web Conference.

<sup>13</sup>European Software Engineering Conference

<sup>14</sup>Foundations of Software Engineering

<sup>15</sup>Model Driven Engineering Languages and Systems

<sup>16</sup>Context-Aware Software Technology and Applications

<sup>17</sup>Aspect-Oriented Software Development

<sup>18</sup>BELgian-NEtherlands software eVOLution seminar

<sup>19</sup>Conference on Advanced Information Systems Engineering

<sup>20</sup>International Working Conference on Component Deployment

<sup>21</sup>International Workshop on Combined Object-Oriented Modeling and Programming Languages

<sup>22</sup>International Conference on Cooperative Information Systems

<sup>23</sup>European Conference on Software Maintenance and Reengineering

<sup>24</sup>European Conference on Software Maintenance and Reengineering/Working Conference on Reverse Engineering

<sup>25</sup>International Workshop on Coordination Technologies for Information Systems

<sup>26</sup>International Conference on Creating, Connecting and Collaborating through Computing

<sup>27</sup>Dynamic Languages Symposium at OOPSLA

<sup>28</sup>International Workshop on Dynamic Software Evolution

<sup>29</sup>ECOOP Workshop on Dynamic Languages and Applications

<sup>30</sup>International Conference on Enterprise Distributed Object Computing

<sup>31</sup>European Symposium On Programming

<sup>32</sup>European Simulation Symposium

<sup>33</sup>International Symposium on Emerging Trends in Software Metrics

<sup>34</sup>Component-Based Software Engineering

<sup>35</sup>International ERCIM Workshop on Software Evolution

<sup>36</sup>FAMIX and Moose in Reengineering

<sup>37</sup>Fundamental Approaches to Software Engineering

<sup>38</sup>Foundations of Aspect Oriented Languages

<sup>39</sup>International Workshop on Feature-Oriented Software Development

FMOODS 96<sup>40</sup>; FSE-6 (98); GPCE 2012<sup>41</sup>; ICMT 2011<sup>42</sup>; ICPC<sup>43</sup> 2008, 2012; ICSE 97<sup>44</sup>, 2000, 2015; ICSE NIER 2013<sup>45</sup>; ICSM<sup>46</sup> 2010, 2011, 2012, 2013; ICSME<sup>47</sup> 2015, 2016, 2017, 2021; ICSR 94<sup>48</sup>; IDM 2005<sup>49</sup>; ISOOMS 94<sup>50</sup>; ISOTAS 93<sup>51</sup>; ISOTAS 96; IWPSE 2004<sup>52</sup>, 2005; IWST<sup>53</sup> 2009; LIVE 2013<sup>54</sup>; LMO 96<sup>55</sup>, 97; MoDELS/UML 2005; Models@run.time 2008; Modularity 2015 Visions Track; Onward! 2016 Essays Track 2016; OOERM 95<sup>56</sup>; OOPSLA 89<sup>57</sup>, 93, 96, 98, 2001, 2002, 2011 (external review committee); OOPSLA Onward!<sup>58</sup> 2008, 2011; OOPS<sup>59</sup> 2010, 2011; PCODA 2010<sup>60</sup>; RAM-SE<sup>61</sup> 2009, 2010; SANER 2015<sup>62</sup>, 2016, 2017, 2018, 2019, 2020; SCAM 2018<sup>63</sup>; SC 2005<sup>64</sup>; SE 2011, 2012, 2013<sup>65</sup>; SEAA-EDISON<sup>66</sup> 2010; SIGMOD 95; SIGSOFT 96; SLE 2014<sup>67</sup>; SLE 2012 Doctoral Symposium; Smalltalk Directions 2012; SUITE<sup>68</sup> 2009, 2010; TOOLS 90, 91; TOOLS Europe 92, 93, 94, 2007, 2008, 2010; TOOLSEE 2001<sup>69</sup>; VLDB 96<sup>70</sup>; WETSOM<sup>71</sup> 2010; WASDeTT<sup>72</sup> 2008, 2013; WPDRTS 2001<sup>73</sup>; XM 2012<sup>74</sup>; XP 2012, 2013

<sup>40</sup>First IFIP International Workshop on Formal Methods for Open Object-Based Distributed Systems.

<sup>41</sup>Generative Programming and Component Engineering

<sup>42</sup>International Conference on Model Transformation

<sup>43</sup>International Conference on Program Comprehension

<sup>44</sup>International Conference on Software Engineering

<sup>45</sup>New Ideas and Emerging Results

<sup>46</sup>IEEE International Conference on Software Maintenance

<sup>47</sup>IEEE International Conference on Software Maintenance and Evolution

<sup>48</sup>International Conference on Software Reusability

<sup>49</sup>Ingénierie Dirigée par les Modèles

<sup>50</sup>International Symposium on Object-Oriented Methodologies and Systems

<sup>51</sup>International Symposium on Object Technologies for Advanced Software.

<sup>52</sup>International Workshop on Principles of Software Evolution

<sup>53</sup>International Workshop on Smalltalk Technologies

<sup>54</sup>International Workshop on Live Programming

<sup>55</sup>Langages et Modèles à Objets.

<sup>56</sup>Object-Oriented and Entity-Relationship Modeling Conference

<sup>57</sup>ACM SIGPLAN Object-Oriented Programming Systems, Languages and Applications

<sup>58</sup>ACM Conference on New Ideas in Programming and Reflections on Software

<sup>59</sup>Special track on Object-Oriented Programming Languages and Systems at SAC 2010

<sup>60</sup>Program Comprehension through Dynamic Analysis

<sup>61</sup>Workshop on Reflection, AOP and Meta-Data for Software Evolution

<sup>62</sup>International Conference on Software Analysis, Evolution, and Reengineering

<sup>63</sup>IEEE International Working Conference on Source Code Analysis and Manipulation

<sup>64</sup>Software Composition

<sup>65</sup>Software Engineering

<sup>66</sup>Euromicro Special track on Evolution of Distributed, Internet-based and Service-Oriented applications

<sup>67</sup>International Conference on Software Language Engineering

<sup>68</sup>Intl. Workshop on Search-Driven Development — Users, Infrastructure, Tools and Evaluation

<sup>69</sup>TOOLS Eastern Europe

<sup>70</sup>Very Large Data Bases

<sup>71</sup>Workshop on Emerging Trends in Software Metrics

<sup>72</sup>International Workshop on Advanced Software Development Tools and Techniques

<sup>73</sup>Workshop on Parallel and Distributed Real-Time Systems

<sup>74</sup>Extreme Modeling Workshop

## 4 Scholarships, honours and awards

- 2018 VISSOFT 2018 Distinguished Paper Award for “Overcoming Issues of 3D Software Visualization through Immersive Augmented Reality” by Leonel Merino, Alexandre Bergel and Oscar Nierstrasz
- 2016 VISSOFT 2016 Best Paper Award for “Towards Actionable Visualisation in Software Development” by Leonel Merino, Mohammad Ghafari and Oscar Nierstrasz  
IWST 2016 Best Paper Award (1st prize) for “Optimizing Parser Combinators” by Jan Kurš, Jan Vraný, Mohammad Ghafari, Mircea Lungu and Oscar Nierstrasz  
IWST 2016 Best Paper Award (2nd prize) for A Promising Approach for Debugging Remote Promises by Max Leske, Andrei Chiş and Oscar Nierstrasz
- 2014 IWST14 Best Paper Award (3rd prize) for “The Moldable Inspector: A framework for domain-specific object inspection” by Andrei Chiş, Tudor Girba and Oscar Nierstrasz  
ACM TOSEM Distinguished Referee
- 2013 Dahl-Nygaard Senior Prize for contributions to the field of Object-Orientation
- 2012 EAPLS best paper award at TOOLS 2012 for “Incremental Dynamic Updates with First-class Contexts” by Erwann Wernli, Mircea Lungu and Oscar Nierstrasz
- 2008 ECOOP Distinguished Paper award for “Practical Object-Oriented Back-in-Time Debugging” by Adrian Lienhard, Tudor Girba and Oscar Nierstrasz
- 2007 Visiting Professor, Swinburne University of Technology
- 2006 ACM Recognition of Service Award
- 1999 Franqui lecturing chair, Vrije Universiteit Brussel
- 1985-87 NSERC<sup>75</sup> post-doctoral fellowship
- 1983/84 UofT open scholarship
- 1982/83 NSERC post-graduate scholarship
- 1981/82 Ontario Graduate Scholarship
- 1979-81 NSERC post-graduate scholarship
- 1976-79 Descartes Scholarship, University of Waterloo
- 1976 Descartes Mathematics Competition, first prize  
Canadian Mathematics Olympiad, third prize  
Canadian Association of Physicists Contest, third prize

## 5 Invited/Keynote Speaker

- Keynote Speaker at ASE 2020 Doctoral Symposium (35th IEEE/ACM International Conference on Automated Software Engineering — Melbourne, Australia, Sept. 21, 2020)
- Invited Speaker at Simula 50 Years: Great Moments in the History of OOP (50 years anniversary of Simula, the first object-oriented programming language — Oslo, Norway, Sept. 27, 2017)
- Invited Speaker at SATToSE 2016 (9th Seminar Series on Advanced Techniques & Tools for Software Evolution — Bergen, Norway, July 11-13, 2016)
- Invited Speaker at FASE-ETAPS 2016 (19th International Conference on Fundamental Approaches to Software Engineering (FASE) — Eindhoven, The Netherlands, April 4-7, 2016)
- Invited Speaker at INRIA Lille: Domain-Specific Tooling (Nov. 20, 2014)
- Keynote Speaker at SCAM 2013 (13th IEEE International Working Conference on Source Code Analysis and Manipulation — Eindhoven, The Netherlands, 22-23 September 2013)
- Keynote Speaker at ECOOP 2013 (27th European Conference on Object-Oriented Programming — Montpellier, France, July 1-5, 2013)
- Keynote Speaker at Karlsruher Entwicklertag 2013 (Karlsruhe, Germany, June 5-7, 2013)

- Keynote Speaker at BENEVOL 2012 (11th BELgian-NEtherlands software eVOLution symposium — Delft, The Netherlands, Dec 3-4, 2012)
- Keynote speaker, ICPC 2012 (20th IEEE International Conference on Program Comprehension — Passau, Germany, June 11-13, 2012)
- Keynote speaker, IWRE 2012 (3rd India Workshop on Reverse Engineering, co-located with ISEC '12 — Kanpur, India, Feb 22, 2012)
- Keynote speaker, TOOLS 2011 (49th International Conference on Objects, Models, Components and Patterns — Zurich, Switzerland, 27 June - 1 July 2011)
- Invited Speaker, SOFSEM 2010 (36th International Conference on Current Trends in Theory and Practice of Computer Science, Principles of Software Construction track — Spindleruv Mlyn, Czech Republic, January 23-29, 2010)
- Invited Speaker, SVPP 2008 (Software Variability: a Programmers' Perspective — Brussels, Belgium, August 8-9, 2008)
- Keynote Speaker, ASWEC 2007 (18th Australian Conference on Software Engineering — Melbourne, April 10-13, 2007)
- Keynote speaker at NODe 2006 (NET.ObjectDays 2006 — Erfurt, Germany, Sept. 18-21, 2006)
- Invited Speaker, GPCE'05 (Generative Programming and Component Engineering — Tallinn, Estonia, Sep 29 - Oct 1, 2005)
- Invited Speaker, ESEC/FSE'05 (European Software Engineering Conference — Lisbon, Portugal, Sept. 5-9, 2005)
- Invited speaker, UML 2004 — Lisbon, Portugal, Oct. 11-15, 2004.
- Keynote speaker, CBSE7 (International Symposium on Component-Based Software Engineering — Edinburgh, Scotland, May 24-25, 2004)
- Speaker, SI-SE 2004 (“Components – The Future of Software Engineering?” — Zürich, March 18-19, 2004)
- Speaker, SI-SE 2003 (Software Sanierung — Zürich, March 13-14, 2003)
- Invited Speaker, FMCO 2002 (First International Symposium on Formal Methods for Components and Objects — Leiden, The Netherlands, Nov. 5-8, 2002)
- Invited Speaker, Industrielle Software Produktion 2002 — Stuttgart, Sept. 19-20, 2002
- Keynote speaker, GCSE 2001 (Third International Conference on Generative and Component-Based Software Engineering — Erfurt, Germany Sept 10-13, 2001)
- Invited speaker, the Component Based Software Day (CWI, Amsterdam — April 27, 2001)
- Speaker, Software Architectures and Component Technology — Twente, The Netherlands, January 20-21, 2000
- Invited speaker, EESI System Architecture Colloquia — TUE Eindhoven, NL, Oct. 6, 1999
- Invited speaker, FMOODS 99 — Florence, Italy, Feb 15-18, 1999
- Invited speaker, Architectural Approaches to Software Engineering — Open University, UK, Dec 8-9, 1998

## 6 Research Projects

- “Agile Software Assistance”, SNSF project No. 200020-181973, Funding: 368’517 SFr., Feb. 2019 - Apr. 2022
- “Agile Software Analysis”, SNSF project No. 200020-162352, Funding: 708’852 SFr., Jan. 2016 - Jan. 2019
- “Agile Software Assessment”, SNSF project No. 200020-144126/1, Funding: 650’000 SFr., Jan. 2013 - Dec. 2015
- “Synchronizing Models and Code”, SNSF Project No. 200020-131827, Funding: 337’337 SFr., Oct. 2010 - Sept. 2012.
- “Bringing Models Closer to Code”, SNSF Project No. 200020-121594, Funding: 395’304 SFr., Oct. 2008 - Sept. 2010.
- “Enabling the evolution of J2EE applications through reverse engineering and quality assurance”, Hasler Foundation, Funding: 352’820 SFr., Oct. 2008 - Sept. 2010.
- “Analyzing, capturing and taming software change”, SNSF Project No. 200020-113342, Funding: 260’152 SFr., Oct. 2006 - Sept. 2008.
- “NOEX: Network of Reengineering Expertise”, SCOPES 2005-2008: Scientific Co-operation between Eastern Europe and Switzerland, Nov 1, 2005 - Oct 31, 2007.
- Software Evolution Working Group, ERCIM, Oct. 2004-2017.
- “A Unified Approach to Composition and Extensibility”, SNSF Project No. 200020-105091/1, Funding: 264,915 SFr., Oct. 2004 - Sept. 2006.
- “Tools and Techniques for Decomposing and Composing Software”, SNSF Project No. 2000-067855.02. Funding: 259,212 SFr., Oct. 2002 - Sept. 2004.
- “Meta-models and Tools for Evolution Towards Component Systems”, SNSF Project No. 20-61655.00. Funding: 216,614 SFr., Oct. 2000 - Sept. 2002.
- “Pervasive Component Systems” (PECOS), EU IST-1999-20398 / Swiss BBW 00.0170. Funding: 400,326 SFr., Oct. 2000 - Sept. 2002.
- “A Framework Approach to Composing Heterogeneous Applications”, SNSF Project No. 20-53711.98. Funding: 313,122 SFr., Oct. 1998 - Sept. 2000.
- “Framework-based Approach for Mastering Object-Oriented Software Evolution” (FAMOOS), ESPRIT Project 21975 / Swiss BBW Nr. 96.0015. Funding: 748,900 SFr., Sept. 1996 - Dec. 1999.
- “COORDINA: Coordination Models and Languages”, EU ESPRIT Working Group 24512, Swiss BBW Nr. 96.00335-1. Funding: 32,360 SFr. (travel only), Aug. 1997 - Aug. 2000
- “Infrastructure For Software Component Frameworks”, SNSF Project No. 2000-46947.96. Funding: 276,137 SFr., Oct. 1996 - Sept. 1998.
- “Composing Active Objects”, Swiss National Science Foundation (SNSF) Project No. 2140610.94. Funding: 308,793 SFr., Oct. 1994 - Sept. 1996.

## 7 Teaching

### 7.1 Courses (University of Berne)

- Introduction to Databases (1995-1998)
- Introduction to C++ (1996-1998)
- Introduction to Software Engineering (1995-2021)
- Object-Oriented Programming with Java (1998-2021)
- Software Composition Seminar (1995-2018)
- Programming Languages (1995-2006, 2008, 2010, 2012, 2014, 2016, 2018, 2021)
- Concurrent Programming (1998, 2000, 2001 (Tokyo), 2002, 2004, 2006, 2009, 2010, 2012, 2015, 2017, 2019, 2021)
- Object-Oriented Software Reengineering (1999, 2000, 2002, 2004, 2006)
- Dynamic Object-Oriented Programming with Smalltalk (2006, 2007, 2009)
- Metamodeling Seminar (2008)
- Compiler Construction (2008, 2011, 2013, 2015, 2017, 2019)
- Software Design and Evolution (2011, 2014)
- Software Modeling and Analysis (2016, 2018, 2020)

### 7.2 PhD Theses supervised or co-supervised

1. Leonel Merino, “The Medium of Visualization for Software Comprehension,” Ph.D. thesis, University of Bern, June 2018.
2. Nevena Milojković, “Augmenting Type Inference with Lightweight Heuristics,” Ph.D. thesis, University of Bern, June 2017.
3. Haidar Osman, “Empirically-Grounded Construction of Bug Prediction and Detection Tools,” Ph.D. thesis, University of Bern, December 2017.
4. Yuriy Tymchuk, “Quality-Aware Tooling,” Ph.D. thesis, University of Bern, December 2017.
5. Andrea Caracciolo, “A Unified Approach to Architecture Conformance Checking,” Ph.D. thesis, University of Bern, March 2016.
6. Andrei Chiş, “Moldable Tools,” Ph.D. thesis, University of Bern, September 2016.
7. Jan Kurš, “Parsing For Agile Modeling,” Ph.D. thesis, University of Bern, October 2016.
8. Boris Spasojević, “Developing Ecosystem-aware Tools,” Ph.D. thesis, University of Bern, December 2016.
9. Niko Schwarz, “Scaleable Code Clone Detection,” Ph.D. thesis, University of Bern, February 2014.
10. Erwann Wernli, “Run-time Variability with First-class Contexts,” Ph.D. thesis, University of Bern, November 2013.
11. Fabrizio Perin, “Reverse Engineering Heterogeneous Applications,” Ph.D. thesis, University of Bern, November 2012.
12. Jorge Ressoa, “Object-Centric Reflection,” Ph.D. thesis, University of Bern, October 2012.
13. Toon Verwaest, “Bridging the Gap between Machine and Language using First-Class Building Blocks,” Ph.D. thesis, University of Bern, March 2012.
14. Adrian Kuhn, “Software Cartography and Code Navigation,” Ph.D. thesis, University of Bern, April 2011.



15. Lukas Renggli, “Dynamic Language Embedding With Homogeneous Tool Support,” Ph.D. thesis, University of Bern, October 2010.
16. David Röthlisberger, “Augmenting IDEs with Runtime Information for Software Maintenance,” Ph.D. thesis, University of Bern, May 2010.
17. Marcus Denker, “Sub-method Structural and Behavioral Reflection,” Ph.D. thesis, University of Bern, May 2008.
18. Adrian Lienhard, “Dynamic Object Flow Analysis,” Ph.D. thesis, University of Bern, December 2008.
19. Orla Greevy, “Enriching Reverse Engineering with Feature Analysis,” Ph.D. thesis, University of Bern, May 2007.
20. Juan Carlos Cruz, “A Group Based Approach for Coordinating Active Objects,” Ph.D. thesis, University of Bern, Bern, June 2006.
21. Markus Gaelli, “Modeling Examples to Test and Understand Software,” Ph.D. thesis, University of Bern, November 2006.
22. María Laura Ponisio, “Exploiting Client Usage to Manage Program Modularity,” Ph.D. thesis, University of Bern, Bern, June 2006.
23. Gabriela Arévalo, “High Level Views in Object-Oriented Systems using Formal Concept Analysis,” Ph.D. thesis, University of Bern, Bern, January 2005.
24. Alexandre Bergel, “Classboxes — Controlling Visibility of Class Extensions,” Ph.D. thesis, University of Bern, November 2005.
25. Tudor Gîrba, “Modeling History to Understand Software Evolution,” Ph.D. thesis, University of Bern, Bern, November 2005.
26. Matthias Rieger, “Effective Clone Detection Without Language Barriers,” Ph.D. thesis, University of Bern, June 2005.
27. Nathanael Schärli, “Traits — Composing Classes from Behavioral Building Blocks,” Ph.D. thesis, University of Bern, February 2005.
28. Michele Lanza, “Object-Oriented Reverse Engineering — Coarse-grained, Fine-grained, and Evolutionary Software Visualization,” Ph.D. thesis, University of Bern, May 2003.
29. Franz Achermann, “Forms, Agents and Channels — Defining Composition Abstraction with Style,” Ph.D. thesis, University of Bern, January 2002.
30. Tamar Richner, “Recovering Behavioral Design Views: a Query-Based Approach,” Ph.D. thesis, University of Bern, May 2002.
31. Sander Tichelaar, “Modeling Object-Oriented Software for Reverse Engineering and Refactoring,” Ph.D. thesis, University of Bern, December 2001.
32. Markus Lumpe, “A Pi-Calculus Based Approach to Software Composition,” Ph.D. thesis, University of Bern, Institute of Computer Science and Applied Mathematics, January 1999.
33. Jean-Guy Schneider, “Components, Scripts, and Glue: A conceptual framework for software composition,” Ph.D. thesis, University of Bern, Institute of Computer Science and Applied Mathematics, October 1999.
34. Luca Deri, “A Component-based Architecture for Open, Independently Extensible Distributed Systems,” Ph.D. thesis, University of Bern, June 1997.
35. Simon Moser, “Measurement and Estimation of Software and Software Processes,” Ph.D. thesis, University of Bern, December 1996.
36. Igor Metz, “Bintree Lab: Ein Framework von Datenstrukturen und Algorithmen für Bintrees,” Ph.D. thesis, University of Bern, October 1995.

### 7.3 Masters and Diploma Theses supervised or co-supervised

1. Patrick Frischknecht, “Detection of Cybersquatted Domains,” Masters thesis, University of Bern, July 2021.
2. Jonas Richner, “Interactive Visualizations for Software Duplication,” Masters thesis, University of Bern, January 2021.

3. Mathias Birrer, “Analysis of Developer Information Needs on Collaborative Platforms,” Masters thesis, University of Bern, July 2020.
4. Melike Geçer, “Debugging Spark Applications — A Study on Debugging Techniques of Spark Developers,” Masters thesis, University of Bern, May 2020.
5. Rathesan Iyadurai, “On Demand Runtime Information — A language- and IDE-agnostic approach to provide runtime information,” Masters thesis, University of Bern, January 2020.
6. Ivan Kravchenko, “Moldable scenario builder,” Masters thesis, University of Bern, June 2020.
7. Robert Niemiec, “Modeling requirements artifacts in an IDE,” Masters thesis, University of Bern, September 2020.
8. Andreas Wälchli, “A Sampling Profiler for a JIT Compiler,” Masters thesis, University of Bern, September 2020.
9. Marc-Andrea Tarnutzer, “Web Communication Analysis of Android Applications,” Masters thesis, University of Bern, May 2019.
10. Andreas Hohler, “Big Commit Analysis — Towards an Infrastructure for Commit Analysis,” Masters thesis, University of Bern, January 2018.
11. Mario Kaufmann, “Reproducible moldable interactions,” Masters thesis, University of Bern, April 2018.
12. Pascal Gadiet, “Security in Android Applications,” Masters thesis, University of Bern, August 2017.
13. Manuel Leuenberger, “Nullable Method Detection — Inferring Method Nullability From API Usage,” Masters thesis, University of Bern, February 2017.
14. Roger Stebler, “An empirical investigation into the usage of a live debugger,” Masters thesis, University of Bern, June 2017.
15. Max Leske, “Improving live debugging of concurrent threads,” Masters thesis, University of Bern, August 2016.
16. Michael Rüfenacht, “Error Handling in PEG Parsers — Local Error Recovery for PetitParser,” Masters thesis, University of Bern, August 2016.
17. Bledar Aga, “Marea — A Tool for Breaking Dependency Cycles Between Packages,” Masters thesis, University of Bern, January 2015.
18. Aliya Ibragimova, “CiteWise — The Citation Search Engine,” Masters thesis, University of Bern, June 2015.
19. Cedric Reichenbach, “DoodleDebug, Clustered — Morphing DoodleDebug into a clustered setup using fat clients,” Masters thesis, University of Bern, August 2015.
20. Oskar Truffer, “Continuous Integration with Architectural Invariants — A case study about architectural monitoring in practice,” Masters thesis, University of Bern, December 2015.
21. Olivier Flückiger, “Compiled Compiler Templates for V8 or: How I Learned to Stop Worrying and Love JavaScript,” Masters thesis, University of Bern, February 2014.
22. Nicole Haenni, “Information Needs in Software Ecosystems Development — A Contribution to Improve Tool Support Across Software Systems,” Masters thesis, University of Bern, September 2014.
23. Aaron Karper, “Efficient regular expressions that produce parse trees,” Masters thesis, University of Bern, December 2014.
24. Dennis Schenk, “Quicksilver — A Framework for Hierarchical Data Analysis,” Masters thesis, University of Bern, September 2014.
25. Simon Vogt, “Clone detection that scales,” Masters thesis, University of Bern, February 2014.
26. Erik Aeschlimann, “St1-PL/1: Extracting quality information from PL/1 legacy ecosystems,” Masters thesis, University of Bern, December 2013.
27. Raffael Krebs, “Vera — An extensible Eclipse Plug-In for Java Enterprise Application Analysis,” Masters thesis, University of Bern, April 2012.
28. Andrea Quadri, “Chameleon: Decoupling Instrumentation from Development Tools with Explicit Meta-Events,” Masters thesis, University of Bern, January 2012.

29. Camillo Bruni, “Optimizing Pinocchio,” Masters thesis, University of Bern, January 2011.
30. David Gurtner, “Safe Dynamic Software Updates in Multi-Threaded Systems with ActiveContext,” Masters thesis, University of Bern, April 2011.
31. Daniel Langone, “Subjectopia — Unifying Subjectivity,” Masters thesis, University of Bern, February 2011.
32. Peter Loretan, “Software Cartography — A Prototype for Thematic Software Maps,” Masters thesis, University of Bern, April 2011.
33. David Erni, “Codemap—Improving the Mental Model of Software Developers through Cartographic Visualization,” Masters thesis, University of Bern, January 2010.
34. Marcel Härry, “Augmenting Eclipse with Dynamic Information,” Masters thesis, University of Bern, May 2010.
35. Philipp Bunge, “Scripting Browsers with Glamour,” Masters thesis, University of Bern, April 2009.
36. Sandro De Zanet, “Grammar Generation with Genetic Programming — Evolutionary Grammar Generation,” Masters thesis, University of Bern, July 2009.
37. Julien Fierz, “Compass: Flow-Centric Back-In-Time Debugging,” Masters thesis, University of Bern, January 2009.
38. Lea Hänsenberger, “Defect Isolation As Responsibility of the Framework — Automated API Migration from JUnit to JExample,” Masters thesis, University of Bern, September 2009.
39. Matthias Junker, “Kumpel: Visual Exploration of File Histories,” Masters thesis, University of Bern, January 2009.
40. Dominique Matter, “Who Knows about That Bug? — Automatic Bug Report Assignment with a Vocabulary-Based Developer Expertise Model,” Masters thesis, University of Bern, June 2009.
41. Andrea Brühlmann, “Enriching Reverse Engineering with Annotations,” Masters thesis, University of Bern, April 2008.
42. Anselm Strauss, “Dynamic Aspects — An AOP Implementation for Squeak,” Masters thesis, University of Bern, November 2008.
43. Niklaus Haldimann, “TypePlug — Pluggable Type Systems for Smalltalk,” Masters thesis, University of Bern, April 2007.
44. Stefan Reichhart, “Assessing Test Quality — TestLint,” Masters thesis, University of Bern, April 2007.
45. Florian Thalmann, “Musical Composition with Grid Diagrams of Transformations,” Masters thesis, University of Bern, March 2007.
46. Pascal Zumkehr, “Changeboxes — Modeling Change as a First-Class Entity,” Masters thesis, University of Bern, February 2007.
47. Christoph Hofer, “Implementing a Backward-In-Time Debugger,” Masters thesis, University of Bern, September 2006.
48. Adrian Kuhn, “Semantic Clustering: Making Use of Linguistic Information to Reveal Concepts in Source Code,” Masters thesis, University of Bern, March 2006.
49. Philippe Marschall, “Persephone: Taking Smalltalk Reflection to the sub-method Level,” Masters thesis, University of Bern, December 2006.
50. Michael Meyer, “Scripting Interactive Visualizations,” Masters thesis, University of Bern, November 2006.
51. Lukas Renggli, “Magritte — Meta-Described Web Application Development,” Masters thesis, University of Bern, June 2006.
52. David Röthlisberger, “Geppetto: Enhancing Smalltalk’s Reflective Capabilities with Unanticipated Reflection,” Masters thesis, University of Bern, January 2006.
53. Mauricio Seeberger, “How Developers Drive Software Evolution,” Masters thesis, University of Bern, January 2006.
54. Rafael Wampfler, “Eg — a Meta-Model and Editor for Unit Tests,” Masters thesis, University of Bern, November 2006.
55. Markus Kobel, “Parsing by Example,” Masters thesis, University of Bern, April 2005.

56. Christoph Wyseier, “Interactive 3-D Visualization of Feature-Traces,” Masters thesis, University of Bern, Switzerland, November 2005.
57. Thomas Bühler, “Detecting and Visualizing Phases in Software Evolution,” Masters thesis, University of Bern, September 2004.
58. Michael Freidig, “Trace Based Object-Oriented Application Testing,” Masters thesis, University of Bern, January 2004.
59. Marc-Philippe Horvath, “Automatic Recognition of Class Blueprint Patterns,” Masters thesis, University of Bern, October 2004.
60. Adrian Lienhard, “Bootstrapping Traits,” Masters thesis, University of Bern, November 2004.
61. Florian Minjat, “Vers une modélisation transverse et modulaire des collaborations par couplage des traits et des classboxes,” Masters thesis, Ecole des mines de Nantes, September 2004.
62. David Vogel, “Management and Security of Collaborative Web Environments,” Masters thesis, University of Bern, June 2004.
63. Tobias Aebi, “Extracting Architectural Information using Different Levels of Collaboration,” Masters thesis, University of Bern, September 2003.
64. Frank Buchli, “Detecting Software Patterns using Formal Concept Analysis,” Masters thesis, University of Bern, September 2003.
65. Stefan Kneubühl, “Typeful Compositional Styles,” Masters thesis, University of Bern, April 2003.
66. Andreas Schlapbach, “Enabling White-Box Reuse in a Pure Composition Language,” Masters thesis, University of Bern, January 2003.
67. Daniele Talerico, “Grouping in Object-Oriented Reverse Engineering,” Masters thesis, University of Bern, June 2003.
68. Daniel Schweizer, “Navigation in Object-Oriented Reverse Engineering,” Masters thesis, University of Bern, June 2002.
69. Georges Golomingi Koni-N’sapu, “A Scenario Based Approach for Refactoring Duplicated Code in Object Oriented Systems,” Masters thesis, University of Bern, June 2001.
70. Thomas F. Hofmann, “OPENSACES, An Object-Oriented Framework for Configurable Coordination of Heterogeneous Agents,” Masters thesis, University of Bern, April 2001.
71. Christian Kaufmann, “Software Engineering im Spannungsfeld Theorie und Praxis,” Masters thesis, University of Bern, 2001.
72. Nathanael Schärli, “Supporting Pure Composition by Inter-language Bridging on the Meta-level,” Masters thesis, University of Bern, September 2001.
73. Lukas Steiger, “Recovering the Evolution of Object Oriented Software Systems Using a Flexible Query Engine,” Masters thesis, University of Bern, June 2001.
74. Roger Blum, “Entwicklung eines Prototypen für die aktive Schicht ALFRED,” Masters thesis, University of Bern, May 2000.
75. Fredi Frank, “An Associative Documentation Model,” Masters thesis, University of Bern, October 1999.
76. Michael Held, “Scripting für CORBA,” Masters thesis, University of Bern, March 1999.
77. Michele Lanza, “Combining Metrics and Graphs for Object Oriented Reverse Engineering,” Masters thesis, University of Bern, October 1999.
78. Tobias Röthlisberger, “Compiler Framework for the Java Virtual Machine,” Masters thesis, University of Bern, May 1999.
79. Manuel Günter, “Explicit Connectors for Coordination of Active Objects,” Masters thesis, University of Bern, March 1998.
80. Daniel Kühni, “APROCO: A Programmable Coordination Medium,” Masters thesis, University of Bern, October 1998.
81. Roland Loser, “Objekt-orientierter Compilerentwurf,” Masters thesis, University of Bern, January 1998.

82. Benno Burkhardt, “Erweiterung objektorientierter Methoden für den konzeptuellen Datenbankentwurf,” Masters thesis, University of Bern, October 1997.
83. Jürg Gertsch, “Fruitlets — a Kind of Mobile Component,” Masters thesis, University of Bern, June 1997.
84. Georg Lörincze, “Modellierung, Analyse und Simulation von Regeln in der aktiven Schicht ALFRED,” Masters thesis, University of Bern, April 1997.
85. Matthias Rieger, “Implementing the FACE Object Model in C++,” Masters thesis, University of Bern, June 1997.
86. Sander Tichelaar, “A Coordination Component Framework for Open Distributed Systems,” Masters thesis, University of Groningen, NL — University of Bern, CH, May 1997.
87. Pierre Viret, “Viewing C++ Objects as Communicating Processes,” Masters thesis, Laboratoire de Téléinformatique, Ecole Polytechnique Fédérale de Lausanne (EPFL), CH, March 1996.

## 8 Publications

*H-index*: 54.

All publications are available online: <http://scg.unibe.ch/staff/oscar/onpubs>.

### 8.1 Invited papers

1. Oscar Nierstrasz, “The Death of Object-Oriented Programming,” *FASE 2016*, Perdita Stevens and Andrzej Wasowski (Eds.), LNCS, vol. 9633, Springer-Verlag, 2016, pp. 3–10.
2. Oscar Nierstrasz, “Agile software assessment with Moose,” *SIGSOFT Softw. Eng. Notes*, vol. 37, no. 3, May 2012, pp. 1–5.
3. Oscar Nierstrasz and Mircea Lungu, “Agile software assessment,” *Proceedings of International Conference on Program Comprehension (ICPC 2012)*, 2012, pp. 3–10.
4. Oscar Nierstrasz and Tudor Gîrba, “Lessons in Software Evolution Learned by Listening to Smalltalk,” *SOFSEM 2010*, J. van Leeuwen et al. (Ed.), LNCS, vol. 5901, Springer-Verlag, 2010, pp. 77–95.
5. Oscar Nierstrasz, “Modeling Change as a First-Class Entity,” *ASWEC '07: Proceedings of the 2007 Australian Software Engineering Conference*, IEEE Computer Society, Washington, DC, USA, 2007, pp. 3, abstract of invited talk.
6. 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 3628, 2005, pp. 1–13, Invited paper.
7. Oscar Nierstrasz, Stéphane Ducasse and Tudor Gîrba, “The Story of Moose: an Agile Reengineering Environment,” *Proceedings of the European Software Engineering Conference (ESEC/FSE'05)*, ACM Press, New York, NY, USA, September 2005, pp. 1–10, Invited paper.
8. Oscar Nierstrasz, Stéphane Ducasse and Serge Demeyer, “Object-oriented Reengineering Patterns — an Overview,” *Proceedings of Generative Programming and Component Engineering (GPCE 2005)*, Michael Lowry Robert Glück (Ed.), LNCS 3676, 2005, pp. 1–9, Invited paper.
9. Oscar Nierstrasz, Stéphane Ducasse and Serge Demeyer, “Objektorientierte Re-Engineering-Muster: ein Überblick,” *ObjektSpektrum*, vol. 2005, no. 6, 2005, pp. 46–51, German translation of “Object-oriented Reengineering Patterns — an Overview” (GPCE 05).
10. Oscar Nierstrasz, “Software Evolution as the Key to Productivity,” *Radical Innovations of Software and Systems Engineering in the Future*, A. Knapp M. Wirsing and S. Balsamo (Eds.), LNCS, vol. 2941, Springer-Verlag, 2004, pp. 274–282.
11. Oscar Nierstrasz, “Putting Change at the Center of the Software Process,” *International Symposium on Component-Based Software Engineering (CBSE) 2004*, I. Crnkovic, J.A. Stafford, H.W. Schmidt and K. Wallnau (Eds.), LNCS, vol. 3054, Springer-Verlag, 2004, pp. 1–4, Extended abstract of an invited talk.
12. Oscar Nierstrasz and Franz Achermann, “A Calculus for Modeling Software Components,” *FMCO 2002 Proceedings*, S. Graf F. S. De Boer, M. M. Bonsangue and W-P. de Roever (Eds.), LNCS, vol. 2852, Springer-Verlag, 2003, pp. 339–360.
13. Oscar Nierstrasz, “Software Evolution as the Key to Productivity,” *Proceedings Radical Innovations of Software and Systems Engineering in the Future*, Venice, Italy, October 2002, preprint.
14. Oscar Nierstrasz and Markus Lumpe, “Komponenten, Komponentenframeworks und Gluing,” *HMD — Theorie und Praxis der Wirtschaftsinformatik*, September 1997, pp. 8–23.
15. Gerti Kappel and Oscar Nierstrasz, “Prototyping in einer objektorientierten Entwicklungsumgebung,” *Handbuch der Modernen Datenverarbeitung*, vol. 145, January 1989, pp. 116–125.
16. Dennis Tsichritzis and Oscar Nierstrasz, “Fitting Round Objects into Square Databases,” *Proceedings ECOOP '88*, S. Gjessing and K. Nygaard (Eds.), LNCS, vol. 322, Springer-Verlag, Oslo, April 1988, pp. 283–299.
17. Oscar Nierstrasz, “What is the ‘Object’ in Object-oriented Programming?,” *Proceedings of the CERN School of Computing*, vol. CERN 87-04, Renesse, the Netherlands, September 1986, pp. 43–53.

## 8.2 Refereed Papers in International Journals

1. Arianna Blasi, Nataliia Stuloiva, Alessandra Gorla and Oscar Nierstrasz, “RepliComment: Identifying Clones in Code Comments,” *Journal of Systems & Software*, 2021, To appear.
2. Pooja Rani, Sebastiano Panichella, Manuel Leuenberger, Mohammad Ghafari and Oscar Nierstrasz, “What do class comments tell us? An investigation of comment evolution and practices in Pharo Smalltalk,” *Empirical Software Engineering*, vol. 26, no. 6, 2021, pp. 1–49.
3. Pooja Rani, Sebastiano Panichella, Manuel Leuenberger, Andrea Di Sorbo and Oscar Nierstrasz, “How to Identify Class Comment Types? A Multi-language Approach for Class Comment Classification,” *Journal of Systems and Software*, vol. 181, 2021, pp. 111047.
4. Pascal Gadiet, Mohammad Ghafari, Patrick Frischknecht and Oscar Nierstrasz, “Security Code Smells in Android ICC,” *Empirical Software Engineering*, vol. 24, 2019, pp. 3046–3076.
5. Jan Kurš, Jan Vraný, Mohammad Ghafari, Mircea Lungu and Oscar Nierstrasz, “Efficient parsing with parser combinators,” *Science of Computer Programming*, vol. 161, September 2018, pp. 57.88.
6. Max Leske, Andrei Chiş and Oscar Nierstrasz, “Improving live debugging of concurrent threads through thread histories,” *Science of Computer Programming*, vol. 161, 2018, pp. 122-148.
7. Leonel Merino, Mohammad Ghafari, Craig Anslow and Oscar Nierstrasz, “A Systematic Literature Review of Software Visualization Evaluation,” *Journal of Systems and Software*, vol. 144, October 2018, pp. 165-180.
8. Nevena Milojković, Clément Béra, Mohammad Ghafari and Oscar Nierstrasz, “Mining Inline Cache Data to Order Inferred Types in Dynamic Languages,” *Science of Computer Programming, Elsevier, Special Issue on Adv. Dynamic Languages*, vol. 161, 2018, pp. 105-121.
9. Leonel Merino, Mohammad Ghafari and Oscar Nierstrasz, “Towards Actionable Visualization for Software Developers,” *Journal of Software: Evolution and Process*, vol. 30, no. 2, 2017, pp. e1923–n/a.
10. Andrei Chiş, Marcus Denker, Tudor Gîrba and Oscar Nierstrasz, “Practical domain-specific debuggers using the Moldable Debugger framework,” *Computer Languages, Systems & Structures*, vol. 44, Part A, 2015, pp. 89–113, Special issue on the 6th and 7th International Conference on Software Language Engineering (SLE 2013 and SLE 2014).
11. Jan Kurš, Mircea Lungu, Rathesan Iyadurai and Oscar Nierstrasz, “Bounded seas,” *Computer Languages, Systems & Structures*, vol. 44, Part A, 2015, pp. 114 - 140, Special issue on the 6th and 7th International Conference on Software Language Engineering (SLE 2013 and SLE 2014).
12. Oscar Nierstrasz and Jan Kurš, “Parsing for agile modeling,” *Science of Computer Programming*, vol. 97, Part 1, 2015, pp. 150–156.
13. Camille Teruel, Erwann Wernli, Stéphane Ducasse and Oscar Nierstrasz, “Propagation of Behavioral Variations with Delegation Proxies,” *Transactions on Aspect-Oriented Software Development XII*, vol. 8989, 2015, pp. 63-95.
14. Amir Aryani, Fabrizio Perin, Mircea Lungu, Abdun Naser Mahmood and Oscar Nierstrasz, “Predicting dependencies using domain-based coupling,” *Journal of Software: Evolution and Process*, vol. 26, no. 1, 2014, pp. 50–76.
15. Mircea Lungu, Michele Lanza and Oscar Nierstrasz, “Evolutionary and Collaborative Software Architecture Recovery with Softwarentaut,” *Science of Computer Programming*, vol. 79, 2014, pp. 204 - 223.
16. Erwann Wernli, Mircea Lungu and Oscar Nierstrasz, “Incremental Dynamic Updates with First-class Contexts,” *Journal of Object Technology*, vol. 12, no. 3, August 2013, pp. 1:1-27.
17. Adrian Lienhard, Tudor Gîrba and Oscar Nierstrasz, “Specifying Dynamic Analyses by Extending Language Semantics,” *Transactions on Software Engineering*, vol. 38, no. 3, 2012, pp. 694–706.
18. Jorge Ressia, Alexandre Bergel, Oscar Nierstrasz and Lukas Renggli, “Modeling Domain-Specific Profilers,” *Journal of Object Technology*, vol. 11, no. 1, April 2012, pp. 1-21.
19. Jorge Ressia, Tudor Gîrba, Oscar Nierstrasz, Fabrizio Perin and Lukas Renggli, “Talents: an environment for dynamically composing units of reuse,” *Software: Practice and Experience*, 2012.
20. Niko Schwarz, Mircea Lungu and Oscar Nierstrasz, “Seuss: Decoupling responsibilities from static methods for fine-grained configurability,” *Journal of Object Technology*, vol. 11, no. 1, 2012.

21. David Röthlisberger, Marcel Härry, Alex Villazón, Danilo Ansaloni, Walter Binder, Oscar Nierstrasz and Philippe Moret, “Exploiting Dynamic Information in IDEs Improves Speed and Correctness of Software Maintenance Tasks,” *Transactions on Software Engineering*, 2011.
22. Adrian Kuhn, David Erni, Peter Loretan and Oscar Nierstrasz, “Software Cartography: Thematic Software Visualization with Consistent Layout,” *Journal of Software Maintenance and Evolution (JSME)*, vol. 22, no. 3, April 2010, pp. 191–210.
23. Gisèle Doua, Haydar Talib, Oscar Nierstrasz and Frank Langlotz, “CompAS: A new approach to commonality and variability analysis with applications in computer assisted orthopaedic surgery,” *Information and Software Technology*, vol. 51, no. 2, 2009, pp. 448–459.
24. Niklaus Haldimann, Marcus Denker and Oscar Nierstrasz, “Practical, Pluggable Types for a Dynamic Language,” *Journal of Computer Languages, Systems and Structures*, vol. 35, no. 1, April 2009, pp. 48–64.
25. Lukas Renggli and Oscar Nierstrasz, “Transactional Memory in a Dynamic Language,” *Journal of Computer Languages, Systems and Structures*, vol. 35, no. 1, April 2009, pp. 21–30.
26. Alexandre Bergel, Stéphane Ducasse, Oscar Nierstrasz and Roel Wuyts, “Stateful Traits and their Formalization,” *Journal of Computer Languages, Systems and Structures*, vol. 34, no. 2-3, 2008, pp. 83–108.
27. Mariangiola Dezani-Ciancaglini, Paola Giannini and Oscar Nierstrasz, “A Calculus of Evolving Objects,” *Scientific Annals of Computer Science*, vol. XVIII, 2008, pp. 63–98.
28. Robert Hirschfeld, Pascal Costanza and Oscar Nierstrasz, “Context-Oriented Programming,” *Journal of Object Technology*, vol. 7, no. 3, March 2008.
29. Stéphane Ducasse, Oscar Nierstrasz, Nathanael Schärli, Roel Wuyts and Andrew P. Black, “Traits: A Mechanism for fine-grained Reuse,” *TOPLAS: ACM Transactions on Programming Languages and Systems*, vol. 28, no. 2, March 2006, pp. 331–388.
30. Stéphane Ducasse, Oscar Nierstrasz and Matthias Rieger, “On the Effectiveness of Clone Detection by String Matching,” *Journal of Software Maintenance and Evolution: Research and Practice (JSME)*, vol. 18, no. 1, January 2006, pp. 37–58.
31. Oscar Nierstrasz, Stéphane Ducasse and Nathanael Schärli, “Flattening Traits,” *Journal of Object Technology*, vol. 5, no. 4, May 2006, pp. 129–148.
32. Franz Achermann and Oscar Nierstrasz, “A Calculus for Reasoning about Software Components,” *Theoretical Computer Science*, vol. 331, no. 2-3, 2005, pp. 367–396.
33. Alexandre Bergel, Stéphane Ducasse, Oscar Nierstrasz and Roel Wuyts, “Classboxes: Controlling Visibility of Class Extensions,” *Journal of Computer Languages, Systems and Structures*, vol. 31, no. 3-4, December 2005, pp. 107–126.
34. Alexandre Bergel, Stéphane Ducasse and Oscar Nierstrasz, “Analyzing Module Diversity,” *Journal of Universal Computer Science*, vol. 11, no. 10, November 2005, pp. 1613–1644.
35. Roel Wuyts, Stéphane Ducasse and Oscar Nierstrasz, “A Data-centric Approach to Composing Embedded, Real-time Software Components,” *Journal of Systems and Software — Special Issue on Automated Component-Based Software Engineering*, vol. 74, no. 1, 2005, pp. 25–34.
36. Serge Demeyer, Theo Dirk Meijler, Oscar Nierstrasz and Patrick Steyaert, “Design Guidelines for Tailorable Frameworks,” *Communications of the ACM*, vol. 40, no. 10, October 1997, pp. 60–64.
37. Simon Moser and Oscar Nierstrasz, “The Effect of Object-Oriented Frameworks on Developer Productivity,” *IEEE Computer*, September 1996, pp. 45–51.
38. Oscar Nierstrasz and Theo Dirk Meijler, “Research Directions in Software Composition,” *ACM Computing Surveys*, vol. 27, no. 2, June 1995, pp. 262–264.
39. Mariagrazia Fugini, Oscar Nierstrasz and Barbara Pernici, “Application Development Through Reuse: The ITHACA Tools Environment,” *SIGOIS Bulletin*, vol. 13, no. 2, August 1992, pp. 38–47.
40. Oscar Nierstrasz, Simon Gibbs and Dennis Tsichritzis, “Component-Oriented Software Development,” *Communications of the ACM*, vol. 35, no. 9, September 1992, pp. 160–165.
41. Dennis Tsichritzis, Oscar Nierstrasz and Simon Gibbs, “Beyond Objects: Objects,” *IJICIS (International Journal of Intelligent & Cooperative Information Systems)*, vol. 1, no. 1, 1992, pp. 43–60.



42. Simon Gibbs, Dennis Tsichritzis, Eduardo Casais, Oscar Nierstrasz and Xavier Pintado, “Class Management for Software Communities,” *Communications of the ACM*, vol. 33, no. 9, September 1990, pp. 90–103.
43. Gerti Kappel, Jan Vitek, Oscar Nierstrasz, Betty Junod and Marc Stadelmann, “Scripting Applications in the Public Administration Domain,” *SIGOIS Bulletin*, vol. 10, no. 4, December 1989, pp. 21–32.
44. Dennis Tsichritzis, Eugene Fiume, Simon Gibbs and Oscar Nierstrasz, “KNOs: KNowledge Acquisition, Dissemination and Manipulation Objects,” *ACM TOOIS (Transactions on Office Information Systems)*, vol. 5, no. 1, January 1987, pp. 96–112.
45. Oscar Nierstrasz, “Hybrid: A Unified Object-Oriented System,” *IEEE Database Engineering*, vol. 8, no. 4, December 1985, pp. 49–57.
46. Dennis Tsichritzis and Oscar Nierstrasz, “End User Objects,” *Büroautomation '85 (German Chapter of the ACM, Berichte 25)*, October 1985, pp. 215–232.
47. Dennis Tsichritzis, Fausto Rabitti, Simon Gibbs, Oscar Nierstrasz and John Hogg, “A System for Managing Structured Messages,” *IEEE Transactions on Communications*, vol. 30, no. 1, January 1982, pp. 66–73.
48. C.B. Collins, Ian P. Goulden, David M. Jackson and Oscar Nierstrasz, “A Combinatorial Application of Matrix Riccati Equations and their q-analogue,” *Discrete Mathematics*, vol. 36, 1981.

### 8.3 Refereed Papers in International Conferences

1. Pascal Gadiant, Marc-Andrea Tarnutzer, Oscar Nierstrasz and Mohammad Ghafari, “Security Smells Pervade Mobile App Servers,” *ACM / IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM)*, October 2021.
2. Mohammadreza Hazhirpasand, Arash Ale Ebrahim and Oscar Nierstrasz, “Stopping DNS Rebinding Attacks in the Browser,” *Proceedings of the 7th International Conference on Information Systems Security and Privacy - ICISPP*, 2021.
3. Pascal Gadiant, Mohammad Ghafari, Marc-Andrea Tarnutzer and Oscar Nierstrasz, “Web APIs in Android through the Lens of Security,” *27th edition of the IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER)*, March 2020.
4. Mohammadreza Hazhirpasand, Mohammad Ghafari and Oscar Nierstrasz, “CryptoExplorer: An Interactive Web Platform Supporting Secure Use of Cryptography APIs,” *27th edition of the IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER)*, March 2020, pp. 632–636.
5. Mohammadreza Hazhirpasand, Mohammad Ghafari and Oscar Nierstrasz, “Java Cryptography Uses in the Wild,” *Proceedings of the 14th ACM / IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM)*, 2020.
6. M. Ghafari, M. Eggiman and O. Nierstrasz, “Testability First!,” *2019 ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM)*, September 2019, pp. 1-6.
7. M. Hazhirpasand, M. Ghafari, S. Krüger, E. Bodden and O. Nierstrasz, “The Impact of Developer Experience in Using Java Cryptography,” *2019 ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM)*, September 2019, pp. 1-6.
8. Leonel Merino, Mario Hess, Alexandre Bergel, Oscar Nierstrasz and Daniel Weiskopf, “PerfVis: Pervasive Visualization in Immersive Augmented Reality for Performance Awareness,” *Companion of the 2019 ACM/SPEC International Conference on Performance Engineering, ICPE '19*, ACM, New York, NY, USA, 2019, pp. 13–16.
9. Leonel Merino, Ekaterina Kozlova, Oscar Nierstrasz and Daniel Weiskopf, “VISON: An Ontology-Based Approach for Software Visualization Tool Discoverability,” *VISSOFT'19: Proceedings of the 7th IEEE Working Conference on Software Visualization*, IEEE, 2019.
10. Nitish Patkar, Pascal Gadiant, Mohammad Ghafari and Oscar Nierstrasz, “Towards a Catalogue of Mobile Elicitation Techniques,” *25th International Conference on Requirements Engineering: Foundation for Software Quality (REFSQ)*, 2019.

11. Claudio Corrodi, Timo Spring, Mohammad Ghafari and Oscar Nierstrasz, “Idea: Benchmarking Android Data Leak Detection Tools,” *Engineering Secure Software and Systems*, Mathias Payer, Awais Rashid and Jose M. Such (Eds.), Springer International Publishing, Cham, 2018, pp. 116–123.
12. Leonel Merino, Alexandre Bergel and Oscar Nierstrasz, “Overcoming Issues of 3D Software Visualization through Immersive Augmented Reality,” *VISSOFT’18: Proceedings of the 6th IEEE Working Conference on Software Visualization*, IEEE, 2018, pp. 54–64.
13. Yuriy Tymchuk, Mohammad Ghafari and Oscar Nierstrasz, “JIT Feedback — what Experienced Developers like about Static Analysis,” *26th IEEE International Conference on Program Comprehension (ICPC 2018)*, 2018, pp. 64–73.
14. Mohammad Ghafari, Pascal Gadiet and Oscar Nierstrasz, “Security Smells in Android,” *17th IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM)*, September 2017, pp. 121-130.
15. Manuel Leuenberger, Haidar Osman, Mohammad Ghafari and Oscar Nierstrasz, “Harvesting the Wisdom of the Crowd to Infer Method Nullness in Java,” *Proceedings of the 17th International Working Conference on Source Code Analysis and Manipulation*, SCAM 2017, IEEE, 2017.
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