Yannis Smaragdakis

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EDUCATIONAL BACKGROUND

Ph.D. in Computer Sciences, December 1999, **University of Texas at Austin**. (Advisor: Don S. Batory)

M.Sc. in Computer Sciences, May 1995, **University of Texas at Austin**.

B.Sc. in Computer Science, July 1993, **University of Crete, Heraklion**. Crete / Greece.

EMPLOYMENT HISTORY

Professor, Department of Informatics and Telecommunications, **University of Athens**, Sep. 2016-present.

Associate Professor, Department of Informatics and Telecommunications, **University of Athens**, Sep. 2010-Sep. 2016.

Associate Professor, Department of Computer Science, **University of Massachusetts, Amherst**, Sep. 2008-Aug. 2010. (+ on leave Sep. 2010-Aug. 2012).

Associate Professor, Department of Computer and Information Science, **University of Oregon**, Sep. 2006-Aug.2008.

Assistant Professor, College of Computing, **Georgia Institute of Technology**, Jan. 2000-Aug. 2006.

Research Assistant, Department of Computer Sciences, **University of Texas at Austin**, Sep. 1996-Dec. 1999.

Researcher, **Microsoft Research**, Summer 1995, Summer 1996, Summer 1997. Ph.D. research funding by Microsoft, 1995-1998.

Teaching Assistant, Department of Computer Sciences, **University of Texas at Austin**, Sep. 1994-May 1995.

Network Administrator (part-time), **FORTH** (Foundation of Research and Technology, Hellas) and **University of Crete** Computer Center, Nov. 1990-May 1992.

FIELDS OF INTEREST

Applied Programming Languages and Software Engineering.

- Program analysis (pointer analysis, automatic test generation, invariant inference, symbolic execution).
- Language mechanisms for abstraction (declarative languages, program generators, domain-specific languages, modules and components, generics/templates, meta-programming, multi-paradigm programming).
- Languages and tools for systems (programming models for concurrency, language support for distributed computing, memory management and program locality).

I. DISTINCTIONS [this section collects and summarizes items that may also appear later]

A. Paper Awards and Distinctions

Distinguished Artifact Award (1 of 2 given among 31 artifacts submitted, from a total of 53 accepted/210 submitted papers) at the *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)* conference for "Automating ad hoc Data Representation Transformations" [C.59], October 2015.

Best Paper Award (1 of 3 given among 31 papers accepted, from a total of 108 submissions) at the *International Symposium on Software Testing and Analysis* (*ISSTA 2012*) for "Residual Investigation: Predictive and Precise Bug Detection" [C.46], July 2012.

Best Paper Award (of 37 full papers accepted, from a total of 312 submissions) at the *Automated Software Engineering (ASE'07)* conference for "Scalable Automatic Test Data Generation from Modeling Diagrams" [C.33], Nov. 2007. The work also received an ACM SIGSOFT "Distinguished Paper" award.

Best Paper nomination (1 of 9 papers nominated by reviewers for audience vote of "best paper", among 42 papers accepted, from a total of 175 submissions) at the 39th IEEE/ACM *International Symposium on Microarchitecture* (*MICRO 2006*) for "Adaptive Caches: Effective Shaping of Cache Behavior to Workloads" [C.29], December 2006.

Best Paper Award (1 of 2 given among 22 papers accepted, from a total of 84 submissions) at the *International Symposium on Software Testing and Analysis* (*ISSTA 2006*) for "DSD-Crasher: A Hybrid Analysis Tool for Bug Finding" [C.27], July 2006.

Best Paper Award (of 75 submitted, 25 accepted) at the *Generative Programming and Component Engineering conference* (*GPCE'04*) for "Generating AspectJ Programs with Meta-AspectJ" [C.18], October 2004.

Outstanding Paper Award (1 of 3 awarded among 23 accepted papers, from a total of 63 submissions) at the *USENIX Annual Technical Conference*, for "The Case for Compressed Caching in Virtual Memory Systems" [C.8], June 1999.

B. Keynote Presentations

Managed Languages Symposium (ManLang), Sep. 2017;
Tools for Automatic Program Analysis (TAPAS) Workshop, Sep. 2014;
Alpine Verification Meeting, May 2014;
15th International SPIN workshop on Model Checking of Software, Aug. 2008;
Tests and Proofs conference, Feb. 2007;
joint: *Partial Evaluation and Program Manipulation (PEPM'04)*, *Principles and Practice of Declarative Programming (PPDP'04)*, *Static Analysis Symposium (SAS'04)* and *Logic-Based Program Synthesis and Transformation (LOPSTR'04)*, Aug. 2004.

C. Service Distinctions

Member, *SIGPLAN Executive Committee*, 2015-2018.

Program Chair, *Object Oriented Programming, Systems, Languages and Applications (OOPSLA)*, 2016.

Member, *ACM SIGPLAN Awards committee* (for all SIGPLAN awards: http://www.sigplan.org/Awards/), 2015.

Associate Editor, *ACM Transactions on Software Engineering and Methodologies (TOSEM)*, 2014- .

D. Other Research and Scholarship Distinctions

European Research Council (ERC) Starting/Consolidator Grant, 2012 (2013-).

Member, IFIP Working Group 2.16 (Language Design), by invitation (since 2013).

Member, IFIP Working Group 2.11 (Domain-Specific Program Generation), by invitation (since 2005).

2004 Georgia Tech College of Computing *Outstanding Junior Faculty Research Award*.

NSF CAREER award, January 2003.

MCD Fellowship, University of Texas at Austin, 1993 to 1995.

Graduation award (Drettakis fellowship) for highest GPA in graduating class of CS Department, U. Crete, 1993.

National Scholarship Foundation (IKY), Greece, annual scholarship for highest annual GPA in CS Department, University of Crete, 1990, 1991, 1992 (3 separate annual awards).

E. Teaching and Advising Distinctions

Ph.D. advisee John Altidor received the 2014 University of Massachusetts, Amherst, Computer Science *Distinguished Dissertation Award*.

Faculty award (for teaching) in Spring 2006 by the "Minorities in CS" student group at Georgia Tech.

Among six academic faculty members named by students graduating with Honors (class of 2003) as "having had the most significant impact on them during their time at Georgia Tech." Interaction with students was entirely through classroom teaching.

Student-nominated for the 2003 Georgia Tech College of Computing Outstanding Faculty Teaching Award.

II. RESEARCH AND CREATIVE SCHOLARSHIP

A. Theses/Dissertations

[T.1]   *Implementing Large-Scale Object-Oriented Components*, Ph.D. Dissertation, Department of Computer Sciences, University of Texas at Austin, 1999.

B. Publications

B.1. Refereed Journal Articles

[J. 21]   Neville Grech, Yannis Smaragdakis, "P/Taint: unified points-to and taint analysis", *Proceedings of the ACM, Programming Languages (PACMPL)*, 1(OOPSLA): 102:1-102:28, 2017.

[J. 20]   Neville Grech, George Fourtounis, Adrian Francalanza, and Yannis Smaragdakis, "Heaps don't lie: countering unsoundness with heap snapshots", *Proceedings of the ACM, Programming Languages (PACMPL)*, 1(OOPSLA): 68:1-68:27, 2017.

[J. 19]   Yannis Smaragdakis and George Balatsouras, "Pointer Analysis", *Foundations and Trends in Programming Languages*, 2(1), 1-69, Apr. 2015.

[J. 18]   Benjamin Livshits, Manu Sridharan, Yannis Smaragdakis, Ondrej Lhotak, J. Nelson Amaral, Bor-Yuh Evan Chang, Samuel Guyer, Uday P. Khedker, Anders Moller, Dimitrios Vardoulakis, "In Defense of Soundness: A Manifesto", *Communications of the ACM*, 58(2), Feb. 2015.

[J. 17]   Kaituo Li, Christoph Reichenbach, Christoph Csallner and Yannis Smaragdakis, "Residual Investigation: Predictive and Precise Bug Detection", *ACM Transactions on Software Engineering and Methodologies,* 24(2): 1-32, Dec. 2014.

[J. 16]   Kostas Saidis, Yannis Smaragdakis, Alex Delis, "DOLAR: Virtualizing Heterogeneous Information Spaces to Support their Expansion", *Software: Practice & Experience*, 41(11): 1349-1383, 2011.

[J. 15]   Shan Shan Huang and Yannis Smaragdakis, "Morphing: Structurally Shaping a Class by Reflecting on Others", *ACM Transactions on Programming Languages and Systems*, 33(2): 1-44, February 2011.

[J. 14]   Takayuki Usui, Reimer Behrends, Jacob Evans, and Yannis Smaragdakis, "Adaptive Locks: Combining Transactions and Locks for Efficient Concurrency", *Journal of Parallel and Distributed Computing*, 70(10): 1009-1023, October 2010.

[J.13]   Yannis Smaragdakis, Christoph Csallner, and Ranjith Subramanian, "Scalable Satisfiability Checking and Test Data Generation from Modeling Diagrams", *Journal of Automated Software Engineering*, 16(1): 73-99, March 2009.

[J.12]   Shan Shan Huang, David Zook, and Yannis Smaragdakis, "Statically Safe Program Generation with SafeGen", *Science of Computer Programming,* 76(5) 376-391 (2011).

[J.11]   Eli Tilevich and Yannis Smaragdakis, "J-Orchestra: Enhancing Java Programs with Distribution Capabilities", *ACM Transactions on Software Engineering and Methodologies*, 19(1): 1-40, August 2009.

[J.10]   Shan Shan Huang, David Zook, and Yannis Smaragdakis, "Domain-Specific Languages and Program Generation with Meta-AspectJ", *ACM Transactions on Software Engineering and Methodologies*, 18(2): 1-32, Nov. 2008.

[J.9]   Christoph Csallner, Yannis Smaragdakis, and Tao Xie, "DSD-Crasher: A Hybrid Analysis Tool for Bug Finding", *ACM Transactions on Software Engineering and Methodologies*, 17(2): 1-37, April 2008.

[J.8]   Eli Tilevich and Yannis Smaragdakis, "NRMI: Natural and Efficient Middleware", *IEEE Transactions on Parallel and Distributed Systems*, 19(2): 174-187, February 2008.

[J.7]   Nikitas Liogkas, Blair MacIntyre, Elizabeth Mynatt, Yannis Smaragdakis, Eli Tilevich, and Stephen Voida, "Automatic Partitioning: A Promising Approach to Prototyping Ubiquitous Computing Applications", *IEEE Pervasive Computing,* 3(3): 40-47, July-September 2004.

[J.6]   Christoph Csallner and Yannis Smaragdakis, "JCrasher: An Automatic Robustness Tester for Java", *Software: Practice & Experience*, 34(11): 1025-1050, September 2004.

[J.5]   Scott Kaplan, Yannis Smaragdakis, and Paul Wilson, "Flexible Reference Trace Reduction for VM Simulations", *ACM Transactions on Modeling and Computer Simulation*, 13(1): 1-38, January 2003.

[J.4]   Yannis Smaragdakis, Scott Kaplan, and Paul Wilson, "The EELRU Adaptive Replacement Algorithm", *Performance Evaluation*, 53(2): 93-123, July 2003.

[J.3]   Brian McNamara and Yannis Smaragdakis, "Functional Programming with the FC++ Library", *Journal of Functional Programming (JFP)*, 14(4): 429-472, July 2004, Cambridge University Press.

[J.2]   Yannis Smaragdakis and Brian McNamara, "FC++: Functional Tools for Object-Oriented Tasks", *Software: Practice & Experience*, 32(10): 1015-1033, August 2002.

[J.1]   Yannis Smaragdakis and Don Batory, "Mixin Layers: An Object-Oriented Implementation Technique for Refinements and Collaboration-Based Designs", *ACM Transactions on Software Engineering and Methodologies*, 11(2): 215-255, April 2002.

B.2. Invited Journal Articles (editor-reviewed but not refereed)

[JnR.2] Yannis Smaragdakis, "High-level data structures: technical perspective", *Communications of the ACM*, 55(12): 90, December 2012.

[JnR.1] Brian McNamara and Yannis Smaragdakis, "Functional Programming in C++ Using the FC++ Library", *ACM SIGPLAN Notices*, 36(4): 25-30, April 2001.

B.3. Refereed Conference Papers [with acceptance rates]

[C.63]   George Kastrinis, George Balatsouras, Kostas Ferles, Nefeli Prokopaki-Kostopoulou, and Yannis Smaragdakis, "An Efficient Data Structure for Must-Alias Analysis", *Compiler Construction (CC)*, 2018. (accepted) [**35%**]

[no #]   OOPSLA conference paper, published as [J.21]. [**30%**]

[no #]   OOPSLA conference paper, published as [J.20]. [**30%**]

[C.62]   Oleg Kiselyov, Aggelos Biboudis, Nick Palladinos, Yannis Smaragdakis, "Stream Fusion, to Completeness", *Principles of Programming Languages (POPL)*, 2017. [**23%**]

[C.61]   George Balatsouras and Yannis Smaragdakis, "Structure-Sensitive Points-To Analysis for C and C++", *Static Analysis Symposium (SAS)*, 2016, p. 84-104. [**38%**]

[C.60]   Yannis Smaragdakis, George Balatsouras, George Kastrinis, Martin Bravenboer, "More Sound Static Handling of Java Reflection", *Asian Conference on Programming Languages and Systems (APLAS)*, 2015, p. 485-503. [**33%**]

[C.59]   Vlad Ureche, Aggelos Biboudis, Yannis Smaragdakis, Martin Odersky, "Automating ad hoc Data Representation Transformations", *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, 2015, p. 801-820. [**Distinguished Artifact Award. 25%**]

[C.58]   Aggelos Biboudis, Nick Palladinos, George Fourtounis, and Yannis Smaragdakis, "Streams a la carte: Extensible Pipelines with Object Algebras", *European Conference on Object-Oriented Programming (ECOOP)*, 2015, p. 591-613. [**23%**]

[C.57]   Hilmar Ackermann, Christoph Reichenbach, Christian Mueller, and Yannis Smaragdakis, "A Backend Extension Mechanism for PQL/Java with Free Run-Time Optimisation", *Compiler Construction (CC)*, 2015, p. 111-130. [**32%**]

[C.56]   John Altidor and Yannis Smaragdakis, "Refactoring Java generics by inferring wildcards, in practice", *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, 2014, p. 271-290. [**28%**]

[C.55]   Yannis Smaragdakis, George Kastrinis, George Balatsouras, "Introspective analysis: context-sensitivity, across the board", *Programming Language Design and Implementation (PLDI)*, 2014, p. 50-61. [**18%**]

[C.54]   Kaituo Li, Christoph Reichenbach, Yannis Smaragdakis, Yanlei Diao, Christoph Csallner, "SEDGE: Symbolic Example Data Generation for Dataflow Programs", *Automated Software Engineering (ASE)*, 2013. [**23%**]

[C.53]   Prodromos Gerakios, Aggelos Biboudis, and Yannis Smaragdakis, "Forsaking inheritance: supercharged delegation in DelphJ", *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, 2013, p. 233-252. [**26%**]

[C.52]   Yannis Smaragdakis, George Balatsouras, and George Kastrinis, "Set-Based Pre-Processing for Points-To Analysis", *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, 2013, p. 253-270. [**26%**]

[C.51]   George Balatsouras and Yannis Smaragdakis, "Class hierarchy complementation: soundly completing a partial type graph", *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, 2013, p. 515-532. [**26%**]

[C.50] Prodromos Gerakios, Aggelos Biboudis, and Yannis Smaragdakis, "Reified type parameters using Java annotations", *Generative Programming: Concepts and Experiences (GPCE)* Conference, 2013, p. 61-64. **[35%]**

[C.49] Kaituo Li, Christoph Reichenbach, Yannis Smaragdakis, and Michal Young, "Second-order constraints in dynamic invariant inference", *European Software Engineering Conference/SIGSOFT Foundations of Software Engineering (ESEC/FSE)*, 2013, p. 103-113. **[20%]**

[C.48] George Kastrinis and Yannis Smaragdakis, "Hybrid Context Sensitivity for Points-To Analysis", *Programming Language Design and Implementation (PLDI)*, 2013, p. 423-434. **[17%]**

[C.47] George Kastrinis and Yannis Smaragdakis, "Efficient and Effective Handling of Exceptions in Java Points-To Analysis", *Compiler Construction (CC)*, 2013, p. 41-60. **[24%]**

[C.46] Kaituo Li, Christoph Reichenbach, Christoph Csallner and Yannis Smaragdakis, "Residual Investigation: Predictive and Precise Bug Detection", *International Symposium on Software Testing and Analysis (ISSTA)*, 2012, p. 298-308. **[Distinguished Paper Award. 29%]**

[C.45] Christoph Reichenbach, Yannis Smaragdakis, and Neil Immerman, "PQL: A Purely-Declarative Java Extension for Parallel Programming", *European Conference on Object-Oriented Programming (ECOOP)*, 2012, p. 53-78. **[21%]**

[C.44] John Altidor, Christoph Reichenbach, and Yannis Smaragdakis, "Java Wildcards Meet Definition-Site Variance", *European Conference on Object-Oriented Programming (ECOOP)*, 2012, p. 509-534. **[21%]**

[C.43] Yannis Smaragdakis, Jacob Evans, Caitlin Sadowski, Jaeheon Yi, and Cormac Flanagan, "Sound Predictive Race Detection in Polynomial Time", *Principles of Programming Languages (POPL)*, 2012, p. 387-400. **[21%]**

[C.42] John Altidor, Shan Shan Huang, and Yannis Smaragdakis, "Taming the Wildcards: Combining Definition- and Use-Site Variance", *Programming Language Design and Implementation (PLDI)*, 2011, p. 602-613. **[23%]**

[C.41] Yannis Smaragdakis, Martin Bravenboer, and Ondrej Lhotak, "Pick Your Contexts Well: Understanding Object-Sensitivity (The Making of a Precise and Scalable Pointer Analysis)", *Principles of Programming Languages (POPL)*, 2011, p. 17-30. **[23%]**

[C.40] Christoph Reichenbach, Neil Immerman, Yannis Smaragdakis, Edward E. Aftandilian, and Samuel Z. Guyer, "What Can the GC Compute Efficiently? A Language for Heap Assertions at GC Time", *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, 2010, p. 256-269. **[27%]**

[C.39] Matthew Might, Yannis Smaragdakis, and David Van Horn, "Resolving and Exploiting the k-CFA Paradox: Illuminating Functional vs. Object-Oriented Program Analysis", *Programming Language Design and Implementation (PLDI)*, 2010, p. 305-315. **[20%]**

[C.38] Martin Bravenboer and Yannis Smaragdakis, "Strictly Declarative Specification of Sophisticated Points-to Analyses", *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, 2009, p. 243-262. **[17%]**

[C.37] Takayuki Usui, Reimer Behrends, Jacob Evans, and Yannis Smaragdakis, "Adaptive Locks: Combining Transactions and Locks for Efficient Concurrency", *Parallel Architectures and Compilation Techniques (PACT)*, 2009, p. 3-14. **[19%]**

[C.36] Martin Bravenboer and Yannis Smaragdakis, "Exception Analysis and Points-To Analysis: Better Together", *International Symposium on Software Testing and Analysis (ISSTA)*, 2009, p.1-12. **[27%]**

[C.35] Shan Shan Huang and Yannis Smaragdakis, "Expressive and Safe Static Reflection", *Programming Language Design and Implementation (PLDI)*, 2008, p. 79-89. **[18%]**

[C.34] Christoph Csallner, Nikolai Tillmann, and Yannis Smaragdakis, "DySy: Dynamic Symbolic Execution for Invariant Inference", *International Conference on Software Engineering (ICSE)*, 2008, p. 281-290. **[15%]**

[C.33] Yannis Smaragdakis, Christoph Csallner, and Ranjith Subramanian, "Scalable Automatic Test Data Generation from Modeling Diagrams", *Automated Software Engineering (ASE)*, 2007, p. 4-13. **[Best paper award. 12%]**

[C.32] Yannis Smaragdakis, Tony Kay, Reimer Behrends, Michal Young, "Transactions with Isolation and Cooperation", *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, 2007, p. 191-210. **[21%]**

[C.31]   Shan Shan Huang, David Zook, and Yannis Smaragdakis, "Morphing: Safely Shaping a Class in the Image of Others", *21st European Conference on Object-Oriented Programming (ECOOP)*, 2007, p. 399-424.
[**18.5%**]

[C.30]   Shan Shan Huang, David Zook, and Yannis Smaragdakis, "cJ: Enhancing Java with Safe Type Conditions", *Aspect-Oriented Software Development conference (AOSD)*, 2007, p.185-198.   [**18%**]

[C.29]   Ranjith Subramanian, Yannis Smaragdakis and Gabriel Loh, "Adaptive Caches: Effective Shaping of Cache Behavior to Workloads", *39th IEEE/ACM International Symposium on Microarchitecture (MICRO 2006)*, p.385-396.   [**24**%. **Best paper nominee (9 nominees of 42 total accepted papers)**]

[C.28]   Eli Tilevich and Yannis Smaragdakis, "Transparent Program Transformations in the Presence of Opaque Code", *Generative Programming and Component Engineering conference (GPCE)*, 2006, p.89-94. [**34%**]

[C.27]   Christoph Csallner and Yannis Smaragdakis, "DSD-Crasher: A Hybrid Analysis Tool for Bug Finding", *International Symposium on Software Testing and Analysis (ISSTA)*, 2006, p.245-254.
[**Best paper award**. **26%**]

[C.26]   Shan Shan Huang and Yannis Smaragdakis, "Easy Language Extension with Meta-AspectJ", *2006 International Conference on Software Engineering (ICSE 2006), Emerging Results track*, p.865-868.   [**33%**]

[C.25]   Christoph Csallner and Yannis Smaragdakis, "Dynamically Discovering Likely Interface Invariants", *2006 International Conference on Software Engineering (ICSE 2006), Emerging Results track*, p.861-864.
[**33%**]

[C.24]   Eli Tilevich, Yannis Smaragdakis, and Marcus Handte, "Appletizing: Running Legacy Java Code Remotely From a Web Browser", *2005 International Conference on Software Maintenance (ICSM)*, 2005, p.91-100.
[**29%**]

[C.23]   Shan Shan Huang, David Zook and Yannis Smaragdakis, "Statically Safe Program Generation with Safegen", *Generative Programming and Component Engineering (GPCE)* Conference, 2005, p. 309-326.
[**29%**]

[C.22]   Christoph Csallner and Yannis Smaragdakis, "Check 'n Crash: Combining Static Checking and Testing", *2005 International Conference on Software Engineering (ICSE)*, 2005, p. 422-431.   [**14%**]

[C.21]   Eli Tilevich and Yannis Smaragdakis, "Binary Refactoring: Improving Code Behind the Scenes", *2005 International Conference on Software Engineering (ICSE)*, 2005, p. 264-273.   [**14%**]

[C.20]   Yannis Smaragdakis, "General Adaptive Replacement Policies", *2004 International Symposium on Memory Management (ISMM)*, 2004, p. 108-119.   [**34%**]

[C.19]   Eli Tilevich and Yannis Smaragdakis, "Portable and Efficient Distributed Threads for Java", *ACM Middleware* Conference, 2004, p. 478-492.   [**14%**]

[C.18]   David Zook, Shan Shan Huang, and Yannis Smaragdakis, "Generating AspectJ Programs with Meta-AspectJ", *Generative Programming and Component Engineering (GPCE)* Conference, 2004, p. 1-18.
[**Best Paper Award. 33% (25 accepted/75 submissions)**]

[C.17]   Eli Tilevich, Stephan Urbanski, Yannis Smaragdakis and Marc Fleury, "Aspectizing Server-Side Distribution", *Automated Software Engineering conference (ASE)*, 2003, p. 130-141.   [**13%**]

[C.16]   Eli Tilevich and Yannis Smaragdakis, "NRMI: Natural and Efficient Middleware", *International Conference on Distributed Computer Systems (ICDCS)*, 2003, p. 252-261.   [**17.5%**]

[C.15]   Eli Tilevich and Yannis Smaragdakis, "J-Orchestra: Automatic Java Application Partitioning", *16th European Conference on Object-Oriented Programming (ECOOP)*, 2002, in Lecture Notes in Computer Science (LNCS) 2374, Springer-Verlag, p. 178-204.   [**25%**]

[C.14]   Yannis Smaragdakis, "Layered Development with (Unix) Dynamic Libraries", *7th International Conference on Software Reuse (ICSR)*, 2002. In Lecture Notes in Computer Science (LNCS) 2319, Springer-Verlag, p. 33-45.   [**33%**]

[C.13]   Yannis Smaragdakis and Don Batory, "Mixin-Based Programming in C++", in the *Generative and Component-Based Software Engineering Symposium (GCSE)*, 2000. In Lecture Notes in Computer Science (LNCS) 2177, Springer-Verlag, p. 163-177.   [**40%**]

[C.12]   Brian McNamara and Yannis Smaragdakis, "Functional Programming in C++", *International Conference on Functional Programming (ICFP),* 2000, Montreal, Canada, September 2000, p.118-129.   [**22%**]

[C.11]   Yannis Smaragdakis, and Paul Wilson, "Performing Replacement in Modem Pools", *USENIX Annual Technical Conference (USENIX)*, 2000, p.277-292.   [**30%**]

[C.10]   Don Batory, Richard Cardone, and Yannis Smaragdakis, "Object-Oriented Frameworks and Product Lines", *1st Software Product-Lines Conference (SPLC1)*, 2000. [**46.5%**]

[C.9]   Yannis Smaragdakis and Don Batory, "Scoping Constructs for Program Generators", *First Symposium on Generative and Component-Based Software Engineering (GCSE)*, 1999. In Lecture Notes in Computer Science (LNCS) 1799, Springer-Verlag, p. 65-78. [**38%**]

[C.8]   Paul Wilson, Scott Kaplan, and Yannis Smaragdakis, "The Case for Compressed Caching in Virtual Memory Systems", *USENIX Annual Technical Conference (USENIX)*, 1999, p.101-116.
[**36.5%. 1 of 3 "Outstanding Papers"**]

[C.7]   Scott Kaplan, Yannis Smaragdakis, and Paul Wilson, "Trace Reduction for Virtual Memory Simulations", *ACM SIGMETRICS Annual Conference (SIGMETRICS*), 1999, p. 47-58. [**19.5%**]

[C.6]   Yannis Smaragdakis, Scott Kaplan, and Paul Wilson, "EELRU: Simple and Effective Adaptive Page Replacement", *ACM SIGMETRICS Annual Conference (SIGMETRICS)*, 1999, p. 122-133. [**19.5%**]

[C.5]   Don Batory, Yannis Smaragdakis, and Lou Coglianese, "Architectural Styles As Adaptors", *First Working Conference on Software Architecture*, 1999. [**30%**]

[C.4]   Yannis Smaragdakis and Don Batory, "Implementing Layered Designs with Mixin Layers", *12th European Conference on Object-Oriented Programming (ECOOP)*, 1998. In Lecture Notes in Computer Science (LNCS) 1445, Springer-Verlag, p. 550-570. [**19%**]

[C.3]   Yannis Smaragdakis and Don Batory, "Implementing Reusable Object-Oriented Components", *5th International Conference on Software Reuse (ICSR)*, 1998, p. 36-45. [**32%**]

[C.2]   Don Batory, Bernie Lofaso, and Yannis Smaragdakis, "JTS: Tools for Implementing Domain-Specific Languages", *5th International Conference on Software Reuse (ICSR)*, 1998, p.143-155. [**32%**]

[C.1]   Yannis Smaragdakis and Don Batory, "DiSTiL: a Transformation Library for Data Structures", *Conference on Domain-Specific Languages (DSL)*, 1997, p. 257-270. [**42%**]

B.4.   Invited Conference Papers

[CnR.2]   Yannis Smaragdakis and Christoph Csallner, "Combining Static and Dynamic Reasoning for Bug Finding", invited paper in the *Tests and Proofs* conference (2007).

[CnR.1]   Yannis Smaragdakis, Shan Shan Huang, and David Zook, "Program Generators and the Tools to Make Them", invited paper in the 2004 ACM symposium on *Partial Evaluation and Program Manipulation (PEPM'04)*.

B.5.   Books and Parts of Books

[B.5]   Yannis Smaragdakis and Martin Bravenboer, "Using Datalog for Fast and Easy Program Analysis", in *Springer State-of-the-Art-Survey (Proc. Of Datalog 2.0 Workshop)*, 2011.

[B.4]   Yannis Smaragdakis and Scott Kaplan, "Adaptive Replacement Algorithm Templates and EELRU", in *The Handbook of Research on Advanced Operating Systems and Kernel Applications: Techniques and Technologies*, 2009.

[B.3]   Yannis Smaragdakis and Shan Shan Huang, "Application Generators", survey article, in *Encyclopedia of Electrical and Electronics Engineering*, John Wiley and Sons, 2007. (Updated version of [B.1].)

[B.2]   Yannis Smaragdakis, "A Personal Outlook on Generator Research", in C. Lengauer, D. Batory, C. Consel, and M. Odersky (eds.), *Domain-Specific Program Generation*, Lecture Notes in Computer Science (LNCS) 3016, Springer-Verlag, 2004.

[B.1]   Yannis Smaragdakis and Don Batory, "Application Generators", survey article, in J.G. Webster (ed.), *Encyclopedia of Electrical and Electronics Engineering*, John Wiley and Sons, 2000.

B.6.   Refereed Workshop or Special Track Papers (with proceedings)

[W.13]   Prodromos Gerakios, George Fourtounis, Yannis Smaragdakis, "Foo: a minimal modern OO calculus", *Workshop on Formal Techniques for Java-like Programs (FTfJP@ECOOP)*, 2015.

[W.12]   Sven Koehler, Bertram Ludaescher, and Yannis Smaragdakis, "Declarative Datalog Debugging for Mere Mortals", *Datalog 2.0 Workshop*, 2012.

[W.11]   Christoph Reichenbach and Yannis Smaragdakis, "A New Java Runtime for a Parallel World", *Programming Language Design and Implementation (PLDI)*, *Fun Ideas and Thoughts (FIT)* session, 2010.

[W.10]   Takayuki Usui, Yannis Smaragdakis, and Reimer Behrends, "Adaptive Locks: Combining Transactions

and Locks for Efficient Concurrency", 4th ACM SIGPLAN Workshop on *Transactional Computing (TRANSACT)*, 2009.

[W.9]   Yannis Smaragdakis, Tony Kay, Reimer Behrends, and Michal Young, "General and Efficient Locking without Blocking", ACM SIGPLAN workshop on *Memory Systems Performance and Correctness (MSPC)*, 2008.

[W.8]   Shan Shan Huang and Yannis Smaragdakis, "Morphing Software for Easier Evolution", *Reflection, AOP and Meta-Data for Software Evolution (RAM-SE)* workshop, 2007.

[W.7]   Shan Shan Huang and Yannis Smaragdakis, "Building Scalable Libraries with cJ", *2007 International Conference on Software Engineering (ICSE 2007), Companion Proceedings—Demo track.*

[W.6]   Brian McNamara and Yannis Smaragdakis, "Syntax Sugar for FC++: lambda, infix, monads, and more", *Declarative Programming in the Context of OO Languages (DPCOOL'03)* at PLI'03.

[W.5]   Eli Tilevich and Yannis Smaragdakis, "Automatic Application Partitioning: The J-Orchestra Approach", *ECOOP 2002 Workshop on Mobile Object Systems*.

[W.4]   Brian McNamara and Yannis Smaragdakis, "Functional Programming with the FC++ Library", *2001 Workshop on C++ Template Programming*.

[W.3]   Yannis Smaragdakis, "Interfaces for Nested Classes", 8th *Foundations of Object-Oriented Languages* workshop, London, England, January 2001.

[W.2]   Brian McNamara and Yannis Smaragdakis, "Static Interfaces in C++", in the *C++ Template Programming Workshop*, Erfurt, Germany, October 2000.

[W.1]   Yannis Smaragdakis and Don Batory, "Building Product-Lines with Mixin-Layers", *ECOOP '99 Workshop on Product-Line Architectures*.

B.7. Non-Refereed Books and Parts of Books

[BnR.3]   Ondrej Lhotak, Yannis Smaragdakis, and Manu Sridharan, "Pointer Analysis (Dagstuhl Seminar 13162)", *Dagstuhl Reports* 3(4), p. 91-113 (2013).

[BnR.2]   Kei Davis, Yannis Smaragdakis, and Joerg Striegnitz, "Multiparadigm Programming in Object-Oriented Languages", in *ECOOP 2002 workshop reader*, Lecture Notes in Computer Science (LNCS) 2548, Springer-Verlag, p. 154-159.

[BnR.1]   Kei Davis, Yannis Smaragdakis, and Joerg Striegnitz, "Multiparadigm Programming in Object-Oriented Languages", in *ECOOP 2001 workshop reader*, Lecture Notes in Computer Science (LNCS) 2323, Springer-Verlag, p. 131-134.

C. Invited Keynote addresses

[K.5]   Yannis Smaragdakis, "Declarative Program Analysis", keynote presentation at the *Tools for Automatic Program Analysis (TAPAS) Workshop*, Munich, Sep. 2014.

[K.4]   Yannis Smaragdakis, "Declarative Program Analysis", keynote presentation at the *Alpine Verification Meeting*, Frejus, Cote d'Azur, May 2014.

[K.3]   Yannis Smaragdakis, "Combining Static and Dynamic Analysis for Program Understanding", invited presentation at the *15th International SPIN workshop on Model Checking of Software*, Aug. 2008.

[K.2]   Yannis Smaragdakis, "Combining Static and Dynamic Reasoning for Bug Detection", keynote presentation at the *Tests and Proofs (TAP)* conference, February 2007, Zurich.

[K.1]   Yannis Smaragdakis, "Program Generators and the Tools to Make Them", invited (keynote) presentation for the 2004 ACM symposium on *Partial Evaluation and Program Manipulation (PEPM'04)*, the 2004 international conference on the *Principles and Practice of Declarative Programming (PPDP'04)*, the 2004 *Static Analysis Symposium (SAS'04)* and the 2004 international symposium on *Logic-Based Program Synthesis and Transformation (LOPSTR'04)*.

D. Edited Proceedings

[E.4]   Yannis Smaragdakis and Jeremy G. Siek (eds.), *Generative Programming and Component Engineering*, proceedings of GPCE'08, ACM 2008, ISBN 978-1-60558-267-2.

[E.3]   Frank Pfenning and Yannis Smaragdakis (eds.), *Generative Programming and Component Engineering*, proceedings of GPCE'03, Lecture Notes in Computer Science (LNCS) 2830, Springer-Verlag.

[62 submissions, 21 selected: **34%**]

[E.2]   Joerg Striegnitz, Kei Davis, and Yannis Smaragdakis (eds.), *Multiparadigm Programming with Object-Oriented Languages (MPOOL)*, John Von Neumann Institute for Computing (NIC), 2002. ISBN 3-00-009099-1.

[E.1]   Kei Davis, Yannis Smaragdakis, and Joerg Striegnitz (eds.), *Multiparadigm Programming with Object-Oriented Languages (MPOOL)*, John Von Neumann Institute for Computing (NIC), 2001. ISBN 3-00-007968-8.

E. Patents

(Granted to Microsoft) "Extensible Compiler Architecture." (With co-inventors Paul Kwiatkowski, David Richter, William Aitken, Brian Dickens, Charles Simonyi, M. Paramasivam, and Steve Eisner.)

F. Panels and Lectures

Lecturer, Grand and Timely Topics in Software Engineering (GTTSE) summer school, Ralf Laemmel (organizer), Braga, Portugal, August 2015.

Lecturer, Software Engineering and Verification summer school, Tony Hoare and Ben Livshits (organizers), Moscow, Russia, July 2011.

NSF Proposal Panelist Invitations: 3 accepted (2002, 2003, 2008), 3 declined (2006, 2007, 2008).

Panelist, "Beyond AspectJ: AOP languages in 2017", main conference panel at *AOSD* 2007.

Lecturer at ACM SIGPLAN Programming Languages Summer School, 2007 ("Programming Languages in the External World").

G. Research Proposals and Grants (as Principal Investigator)

21. Reflection Analysis for Android
    Yannis Smaragdakis
    Facebook Inc.
    Amount awarded: $30K.

20. Static Analysis with the Souffle engine
    Yannis Smaragdakis
    Oracle Inc.
    Amount awarded: $35K.

19. Sophisticated Program Analysis, Declaratively
    Yannis Smaragdakis
    European Research Council (ERC) Starting/Consolidator Grant
    Amount awarded: 1,042M euro, Jan. 2013-Dec. 2017.
    Also: Greek General Secretariat of Research and Technology (GSRT) add-on grant of 72.8K euro.

18. Advanced Programming Languages with Class Morphing
    Yannis Smaragdakis
    Aristeia (Excellence) grant, General Secretariat of Research and Technology (GSRT), Greece
    Amount awarded: 342K euro, Aug. 2012-July 2015.

17. Advanced Program Analysis Using Declarative Languages
    Yannis Smaragdakis
    FP7-PEOPLE Marie Curie International Reintegration Grant
    Amount awarded: 100K euro, Dec. 2010-Dec. 2014.

16. Dynamic Invariant Inference, Enhanced
    Yannis Smaragdakis (PI), collaborative research with Michal Young (PI)
    National Science Foundation
    Amount awarded $334K, for two years, Sep. 2009. (UMass portion: $167K.)

15. Program Analysis with Declarative Recursive Specifications (continuation of grant #10 at the University of Massachusetts)
    Yannis Smaragdakis
    LogicBlox Inc.
    Amount awarded: $58K as unrestricted gift, Jul.'09.

14. Summer School: Theory and Practice of Language Implementation
    Yannis Smaragdakis and Matthew Fluet
    NSF, ACM SIGPLAN, Microsoft
    Amount awarded: $22K ($15K NSF + $5K ACM SIGPLAN + $2K Microsoft), Spring 2009.

13. Concurrent Computing
    Yannis Smaragdakis
    Sun Equipment Grant
    Sun Enterprise T5120 machine donated, est. value $25K, Oct. 2009

12. Programming Models for Transactional Memory
    Yannis Smaragdakis (PI), Michal Young (co-PI)
    National Science Foundation
    Amount awarded: $330K, for three years, beginning August 2008. (UMass portion: $234K.)

11. Summer School: Logic and Theorem Proving in Programming Languages
    Yannis Smaragdakis and Matthew Fluet
    NSF, ACM SIGPLAN, Microsoft
    Amount awarded: $23K ($12K NSF + $5K ACM SIGPLAN + $6K Microsoft), Spring 2008.

10. Program Analysis with Declarative Recursive Specifications
    Yannis Smaragdakis
    LogicBlox Inc.
    Amount awarded: $85K as unrestricted gift, Dec.'07.

9. Memory Management in Logic Programming Languages
   Yannis Smaragdakis
   LogicBlox Inc.
   Amount awarded: $110K as unrestricted gift, Sep.'06.

8. Parallelism in a Logic Programming Language
   Yannis Smaragdakis
   Optimi Co.
   Amount awarded: $40K as unrestricted gift, Jan.'05, Aug.'05.

7. J-Orchestra: an Automatic Distribution System for Java Applications (continuation grant)
   Yannis Smaragdakis
   Georgia Electronic Design Center
   Amount awarded: $35K. November 2003.

6. CAREER: Infrastructure for Software Generators and Components
   Yannis Smaragdakis
   National Science Foundation
   Amount awarded: $400K for five years, beginning August 2003.

5. ITR: Application Partitioning without Programming
   Yannis Smaragdakis
   National Science Foundation
   Amount awarded: $300K for three years, beginning October 2002.

4. J-Orchestra: an Automatic Distribution System for Java Applications (continuation grant)
   Yannis Smaragdakis
   Yamacraw Foundation / Georgia Electronic Design Center
   Amount awarded: $80K. July 2002.

3. Automatic Partitioning of Java Applications
   Yannis Smaragdakis and Ken Mackenzie
   Sun AEG (Academic Equipment Grant)
   Value of equipment awarded: $40K. April 2002.

2. J-Orchestra: an Automatic Distribution System for Java Applications
    Yannis Smaragdakis
    Yamacraw Foundation Grant
    Amount awarded: $80K. July 2001.

1. Language Tools for Exploratory Programming of Highly Interactive Distributed Applications
    Blair McIntyre and Yannis Smaragdakis.
    Raytheon Faculty Fellowship
    Amount awarded: $20K for one year, beginning September 2000.

H. Research Proposals and Grants (Contributor)

1. I/O Intensive Embedded Systems: the Infopipe Approach
    Calton Pu (PI), Karsten Schwan, Ling Liu, Jonathan Walpole (co-PIs), Mustaque Ahamad, Yannis Smaragdakis,
    Charles Consel (contributors).
    DARPA grant (BAA 00-23: Program Composition for Embedded Systems)
    Amount awarded: ~$2M over four years, beginning September 2000.

III. TEACHING

A. US Courses Taught

Term, Year	Course	# Students	Effectiveness[1]
Spring 2000	CS 4210 *Advanced Operating Systems*	28	4.8 / 5
Fall 2000	CS 8803 *Memory Management and Program Locality*	6	4.8 / 5
Spring 2001	CS 4210 *Advanced Operating Systems*	36	4.7 / 5
Fall 2001	CS 8803 *Object-Oriented Systems and Languages*	13	4.9 / 5
Spring 2002	CS 4210 *Advanced Operating Systems*	45	4.8 / 5
Fall 2002	CS 8803 *Object-Oriented Systems and Languages*	23	4.9 / 5
Spring 2003	CS 4210 *Advanced Operating Systems*	39	4.8 / 5
Fall 2003	CS 6246 *Object-Oriented Systems and Languages*	40	4.6 / 5
Spring 2004	CS 4210 *Advanced Operating Systems*	37	4.7 / 5
Fall 2004	CS 6246 *Object-Oriented Systems and Languages*	37	4.7 / 5
Spring 2005	CS 1322 *Object-Oriented Programming*	256 (60 CS)	3.5 / 5
Fall 2005	CS 1322 *Object-Oriented Programming*	166 (17 CS)	3.5 / 5
Fall 2005	CS 6246 *Object-Oriented Systems and Languages*	30	5.0 / 5
Fall 2006	CIS 630 *Distributed Systems*	8	N/A[2]
Spring 2007	CIS 410/510 *Object-Oriented Languages*	13	9.3 / 10
Fall 2007	CIS 630 *Distributed Systems*	15	9.1 / 10
Spring 2008	CIS 423 *Software Methodologies II*	5	4.25 / 5
Spring 2008	CIS 410/510 *Object-Oriented Languages*	8	4.8 / 5
Spring 2009	CS 320 *Software Engineering*	35	4.0 / 5
Spring 2009	CS 591OO *Object-Oriented Languages*	18	4.4 / 5
Fall 2009	CS 491OO/691OO *Object-Oriented Languages*	22	4.7 / 5
Spring 2010	CS 320 *Software Engineering*	37	4.1 / 5

[1.] Score for main single instructor metric in respective institutions. For Georgia Tech courses, reported score on question 10, "Instructor was an effective teacher", on student evaluations. For UOregon courses prior to Spring'08, reported score on question 21 ("In comparison to other UO courses this size and level, how do you evaluate this instructor?"). For UOregon courses in Spring'08 (online evaluation), reported score on "What was the quality of the instructor's teaching?" For UMass courses, reported score on "Overall rating of this instructor's teaching".

[2.] Before Spring 2008, UO had only hand-written (no numeric range) evaluations for classes with size <10.

B. Individual Guidance

B.1. *Postdoctoral Associates Supervised*

Georgios Fourtounis, Oct. 2014-present. Work has resulted in publications [C.58][W.13][J.20].

Kostas Saidis, June 2014-present, part-time.

Prodromos Gerakios, Jan. 2013-Mar. 2014. Work has resulted in publications [C.50][C.53][W.13].

Christoph Reichenbach, Dec. 2009-Aug. 2011. Work has resulted in publications [C.40][C.44][C.45][C.46][C.49][C.54][C.57][J.17][W.11].

Martin Bravenboer, Mar. 2008-July 2009. Work has resulted in publications [C.36][C.38][C.41][C.60][B.5].

Reimer Behrends, Jan. 2007-July 2008. Work has resulted in publications [C.32][W.9][W.10][J.14][C.37].

B.2. Ph.D. Students Supervised

Anastasis Antoniadis, since Fall 2016.

George Kastrinis, since Fall 2012. Work has resulted in publications [C.47][C.48][C.52][C.55][C.60][C.63].

George Balatsouras, since Fal; 2012, **graduated** Apr. 2017. Work has resulted in publications [C.51][C.52][C.55][C.60][C.61][J.19][C.63].

Aggelos Biboudis, since Summer 2012, **graduated** Mar. 2017. Work has resulted in publications [C.50][C.53][C.58][C.59][C.61].

Kaituo Li, since Fall 2009, **graduated** Aug. 2016, now at Amazon Inc. Work has resulted in publications [C.46][C.49][C.54][J.17].

John Altidor, since Fall 2009, **graduated** Sep. 2014, now at Charles Stark Draper Laboratory. Work has resulted in publications [C.42][C.44][C.56]. Received the *2014 UMass Amherst Computer Science **Distinguished Dissertation Award***.

Jacob Evans, Fall 2010-Fall 2011, previously MSc. Independent Study. Work resulted in publications [C.37][C.43][J.14].

Shan Shan Huang, since Fall 2003, **graduated** Aug. 2009, joined LogicBlox Inc. Working on application generators. Recipient of the Intel fellowship and the NSF graduate fellowship. Work has resulted in publications [C.18][CnR.1][C.23][C.26][C.30][C.31][W.7][W.8][J.10] [J.12][J.15].

Christoph Csallner, since Fall 2003, **graduated** Aug. 2008, joined UTexas Arlington as Assistant Professor, now a tenured Associate Professor. Working on automatic testing. Work has resulted in publications [J.6][J.9][C.22][C.25][C.27][C.33][C.34][J.13].

Dave Zook, January 2002-2007. Worked on domain-specific languages and language syntax tools. Work has resulted in publications [C.18][CnR.1][C.23][C.30][C.31][J.10][J.12].

Brian McNamara, since April 2000, **graduated** Aug. 2004, joined Microsoft. Thesis title: "Multi-paradigm programming: novel devices for implementing functional and logic programming constructs in C++". Work has resulted in publications [C.12][JnR.1][W.2][W.4][J.2][J.3][W.6].

Eli Tilevich, since September 2000, **graduated** Dec. 2005, joined Virginia Tech as Assistant Professor, now a tenured Associate Professor. Working on language support for distributed computing. Thesis title: "Software Tools for Separating Distribution Concerns". Work has resulted in publications [C.15][W.5][C.16][C.17][J.7][C.19][C.21][C.24][C.28][J.8][J.11].

B.3. M.S. Thesis/Project students.

Marcus Handte (Summer 2002—work has resulted in publication [C.24]); Christoph Csallner (Summer 2002); Nikitas Liogkas (Spring 2003—work has resulted in publication [J.7]); Stephan Urbanski (Summer 2003—work has resulted in publication [C.17]); Ranjith Subramanian (Spring 2006—work has resulted in publications [C.29][C.33][J.13]); Takayuki Usui (Winter-Spring 2008—work has resulted in publications [W.10][C.37][J.14]), Divya Krishnan (Summer 2009—M.Sc. thesis second reader); George Balatsouras (Spring 2012—continued as Ph.D. student); George Kastrinis (Spring 2012—continued as Ph.D. student); George Kollias (Spring 2013—continued as Ph.D. student); Kostas Ferles (Spring 2015); Anastasis Antoniadis (Fall 2016); Efthymios Hadjimichael (Fall 2016).

B.4. Undergraduate Thesis students (in Greece).

Kostas Ferles (Fall 2012); Anastasios Kalogeropoulos (Fall 2013); Eirini Psallida (Fall 2013); Anastasios Antoniadis (Fall 2013); Nikos Filippakis (Fall 2016); Dimitris Mouris (Fall 2016); Kostas Triantafyllou (Fall 2016); Nefeli Prokopaki-Kostopoulou (Fall 2016); Christos Vrachas (Spring 2017)

B.5. Undergraduate Independent Study students (in the US).

Austin Chau (Spring, Summer, Fall 2001); Kane See (Spring, Summer, Fall 2001); Hailemelekot Seifu (Summer, Fall 2001); Zach Haehn (Summer 2002); Shakti Chauhan (Fall 2005); Muhammad Ahsan Hussain (Spring 2006); Eli Gottlieb (Fall 2008, Spring 2009).

IV. SERVICE

A. Conference Committee service

A.1. Program Chair / Organizer / Steering Committee Service

Program Chair, *Object-Oriented Programming, Systems, Languages and Applications (OOPSLA),* 2016. [205 submissions, 52 accepted]

Track Chair, *ICSE'09 Research Demonstrations.*

General Chair, *Generative Programming and Component Engineering (GPCE) conference*, 2008.

Organizer, *Oregon Programming Languages Summer School* (sponsored by the NSF and ACM SIGPLAN: a long-running event, probably the best known PL summer school in the US), 2008, 2009.

Steering Committee member, *Generative Programming and Component Engineering (GPCE)*, 2003-2008.

Program co-Chair (with Frank Pfenning of CMU), *Generative Programming and Component Engineering (GPCE) conference*, 2003. [62 submissions, 21 accepted]

Organizer, *Multiparadigm Programming in OO Languages Workshop* in ECOOP 2002.

Organizer, *Multiparadigm Programming in OO Languages Workshop* in ECOOP 2001.

Program Chair, *C++ Template Programming Workshop*, 2001.

A.2. Program Committee Member (selection) **[also Expert Review Committee memberships, designated "ERC"]**

History of Programming Languages (HOPL), **2020**.

Programming Language Design and Implementation (PLDI), **2018, 2016, 2015(ERC), 2014(ERC), 2013, 2009**.

Principles of Programming Languages (POPL), **2018, 2016(ERC), 2013, 2012(ERC), 2008**.

Object-Oriented Programming, Systems, Languages and Applications (OOPSLA), **2018, 2015, 2014(ERC), 2013(ERC), 2011(ERC), 2008**, **2007**.

International Symposium on Software Testing and Analysis (ISSTA), **2018, 2013, 2008**.

Summit on Advances in Programming Languages (SNAPL), **2017**, **2015**.

European Conference on Object-Oriented Programming (ECOOP), **2017, 2014, 2012.**

Modularity, Aspect-Oriented Software Development conference (AOSD), **2016, 2006**.

International Conference on Software Engineering (ICSE), **2015, 2010**.

Generative Programming and Component Engineering (GPCE) conference, **2015, 2013, 2006**, **2005**, **2002**.

SIGSOFT Foundations of Software Engineering (FSE), **2014, 2011, 2010, 2008, 2006**.

European Symposium on Programming (ESOP), **2013.**

Automated Software Engineering (ASE), **2011(ERC), 2010, 2009**.

Tests and Proofs (TAP), **2010**, **2007**.

Compiler Construction (CC), **2009**, **2007**.

International Symposium on Memory Management (ISMM), **2009(ERC), 2006**.

B. Editorial and Reviewer Work for Technical Journals

Associate Editor, ACM Transactions on Software Engineering and Methodologies (TOSEM), 2014-.

Associate Editor, Journal of Object Technology (JOT), 2015-.

C. Professional Activities

Member, *SIGPLAN Executive Committee*, 2015-2018 (elected to 3-yr term)

Member, *ACM SIGPLAN Awards committee* (for all SIGPLAN awards: http://www.sigplan.org/Awards/), 2015

Member, IFIP Working Group 2.16 (Language Design), by invitation

Senior Member, IEEE

Member, IFIP Working Group 2.11 (Domain-Specific Program Generation), by invitation

D. Consulting

Curriculum consultant for Software Engineering B.S. degree, State University of New York, Oswego, August 2006.

LogicBlox Inc., June '06-present (language design and implementation consulting, continuing engagement in various capacities).

E. Invited Presentations

A large number of invited presentations at several institutions worldwide including:
Brown University, Dagstuhl seminar center, Harvard University, Microsoft Research (Redmond+Cambridge), MIT, New York University, Northeastern University, Ohio State University, Oxford University, University of California/ Berkeley, University of California/Davis, University of California/Santa Barbara, University of Chicago, University of Crete, University of Pittsburgh.