

Robert Grimm

Department of Computer Science
New York University
715 Broadway, Room 711
New York, NY 10003

rgrimm@cs.nyu.edu
<http://cs.nyu.edu/rgrimm/>

Research Interests

My research focuses on how to leverage programming language technologies for making complex systems easier to build, maintain, and extend.

Education

University of Washington Seattle, WA

- *Ph.D. in Computer Science and Engineering*, December 2002. Thesis advisor: Brian Bershad. Thesis Title: “System support for pervasive applications.”
- *Master of Science in Computer Science and Engineering*, March 1998. GPA: 3.93 / 4.0. Project Advisor: Brian Bershad. Project Title: “Providing policy-neutral and transparent access control in extensible systems.”

Massachusetts Institute of Technology Cambridge, MA

- *Master of Engineering in Computer Science and Electrical Engineering*, June 1996. GPA: 5.0 / 5.0. Thesis advisors: Gregory R. Ganger and M. Frans Kaashoek. Thesis title: “Exodisk—maximizing application control over storage management.”
- *Bachelor of Science in Computer Science and Engineering*, June 1996.

Academic Experience

New York University New York, NY

- *September 2008 – present*. Associate Professor.
- *September 2002 – August 2008*. Assistant Professor.

University of Washington Seattle, WA

- *August 1996 – August 2002*. Research Assistant under the supervision of Brian Bershad and, after January 2000, also David Wetherall.

Massachusetts Institute of Technology Cambridge, MA

- *February 1994 – June 1996*. Research Assistant in the Laboratory for Computer Science’s Parallel and Distributed Operating Systems Group under the supervision of Frans Kaashoek and, after August 1995, also Gregory Ganger.
- *September 1991 – May 1993*. Research Assistant in the Media Lab’s Interactive Cinema Group under the supervision of Glorianna Davenport.

Honors

1. ACM SIGPLAN Nomination for CACM Research Highlight, Oct. 2012 [Publication 11].
2. Best Paper, DEBS '12, July 2012 [Publication 9].
3. Junior Fellow at NYU's Center for Teaching Excellence, 2005 / 2006.
4. National Science Foundation, CAREER Award, 2005.
5. Intel Foundation Graduate Fellowship, 2000–2001.
6. IBM Fellowship, 1997–2000.
7. Microsoft Endowment Award, 1996 and 1997.

Advising

PhD Students

1. Paul Gazzillo (Sept. 2010 – *present*).
2. Robert Soulé (Sept. 2006 – May 2012).
3. Anh Le (Jan. 2006 – *present*).
4. Laune Harris (Sept. 2005 – Sept. 2007).
5. Guy Lichtman (Sept. 2004 – Sept. 2006).
6. Adam Kravetz (Sept. 2004 – June 2005).
7. Nikolaos Michalakis (Jan. 2004 – Sept. 2007).

Other

PhD Committees: Maartje de Jonge (Jan. 2014), Yair Sovran (June 2012), Nguyen Tran (May 2012), Robert Soulé (May 2012), Byeongcheol Lee (July 2011), Igor Chikanian (April 2011), Cory Plock (Feb. 2008), Michael Freedman (Aug. 2007), Yusuke Shinyama (Aug. 2007), Alexander Totok (Aug. 2006), Congchun He (May 2006), Ed Osinski (Jan. 2006), Tatiana Kichkaylo (Dec. 2004), Anca Ivan (Sept. 2004).

Qualifying Exam Committees: Paul Gazzillo (Dec. 2012), Russell Power (April 2011), Nguyen Tran (June 2008), Jay Chen (May 2008), Robert Soulé (May 2008), Anh Le (July 2007), Guy Lichtman (Aug. 2006), Nikolaos Michalakis (Dec. 2005), Siddhartha Annapureddy (May 2005), Michael Freedman (July 2004), Jinyuan Li (Sept. 2003), Ziyang Wang (2003).

PhD Independent Study: Carl Bosley, Eric Hielscher, Wei Wang.

Master's Independent Study: Gaurav Arora, Muhammad Abid Abbas Chadhry, Amos Elliston, Paul Gazzillo, Bilal Sarwar Malik, Jonathan Miller, Joe Pamer, Sang Park, Sajid Raza, Robert Soulé.

Undergraduate Independent Study: Jake Aviles, Erik Froese, Chris Harrison, Stacey Kuznetsov, Danny Lee, Igor Lev, Dmitriy Mindich.

Grants

Completed

Kathryn S. McKinley and Robert Grimm. SHF:Small:Collaborative Research: Languages and Tools for Multilingual Systems. National Science Foundation, CCF-1017849, Sep. 2010 – Aug. 2014. \$299,974 out of \$499,970.

Robert Grimm. SHF:Medium:A Common Stream Processing Platform. National Science Foundation, CCF-1162444, June 2012 – May 2014, \$850,000.

Adina Kalet. A Randomized Trial of Educational Outcomes of Web Initiative in Surgical Education. National Library of Medicine, R01LM009538, Sept. 2008 – Aug. 2011. Role: Co-investigator. \$304,039 out of \$2,417,110.

Robert Grimm. CAREER: Better Systems with Extensible C. National Science Foundation, CNS-0448349, Feb. 2005 – Jan. 2011. \$399,945.

Marc Fiuczynski, Robert Grimm, and David Walker. CSR-PDOS: Managing OS Extensibility via Aspect-Oriented Programming Technology. National Science Foundation, CNS-0615129, Sept. 2006 – Aug. 2010. \$301,451 out of \$617,706.

Robert Grimm and Adina Kalet. ALT: Exploiting the Edge: A Web-Based Content Management and Delivery System to Enable Rigorous Assessment of the Impact of a Rich Media Educational Intervention on Clinical Competence. National Science Foundation, IIS-0537252, Sept. 2005 – Aug. 2008. \$242,769 out of \$462,036.

Robert Grimm. Securing active content distribution networks. New York Software Industry Association (NYSIA), Aug. 2004 – July 2005. \$35,000.

Program Committees

1. **OOPSLA '14**: 29th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications, Portland, OR, Oct. 2014.
2. **PLOS '13**: 7th ACM SIGOPS Workshop on Programming Languages and Operating Systems, Farmington, PA, Nov. 2013.
3. **ACT '13**: USENIX Annual Technical Conference, San Jose, CA, June 2013.
4. **PLDI '13**: External Review Committee for the ACM SIGPLAN Conference on Programming Language Design and Implementation, Seattle, WA, June 2013.
5. **POPL '13**: External Review Committee for the ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages, Rome, Italy, January 2013.
6. **PLDI '12**: External Review Committee for the ACM SIGPLAN Conference on Programming Language Design and Implementation, Beijing, China, June 2012.
7. **VEE '12**: ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments, London, UK, March 2012.
8. **OOPSLA '11**: External Review Committee for the 26th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications, Portland, OR, Oct. 2011.
9. **PLOS '11**: 6th ACM SIGOPS Workshop on Programming Languages and Operating Systems, Cascais, Portugal, Oct. 2011.
10. **EuroSys '11**: the European Systems Conference, Salzburg, Austria, April 2011.

11. **EuroSec '11**: the European Workshop on System Security, Salzburg, Austria, April 2011.
12. **PMMPs '10**: International Workshop on Programming Methods for Mobile and Pervasive Systems, Helsinki, Finland, May 2010.
13. **PLDI '10**: ACM SIGPLAN Conference on Programming Language Design and Implementation, Toronto, CA, June 2010.
14. **EuroSys '10**: the European Systems Conference, Paris, France, April 2010.
15. **VEE '10**: ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments, Pittsburgh, PA, March 2010.
16. **PLOS '09**: 5th ACM SIGOPS Workshop on Programming Languages and Operating Systems, Big Sky, MT, Oct. 2009.
17. **DSL WC '09**: IFIP Working Conference on Domain Specific Languages, Oxford, UK, July 2009.
18. **ACT '09**: USENIX Annual Technical Conference, San Diego, CA, June 2009.
19. **LDTA '09**: 9th Workshop on Language Descriptions, Tools, and Applications, York, UK, March 2009.
20. **DSPD '08**: 2nd International Workshop on Domain-Specific Program Development, Nashville, TN, Oct. 2008.
21. **USE '08**: 2nd UbiComp Workshop on Ubiquitous Systems Evaluation, Seoul, South Korea, Sep. 2008.
22. **ACP4IS '08**: 7th Workshop on Aspects, Components, and Patterns for Infrastructure Software, Brussels, Belgium, March 2008.
23. **PLOS '07**: 4th ACM SIGOPS Workshop on Programming Languages and Operating Systems, Skamania Lodge, WA, Oct. 2007. Also workshop co-organizer.
24. **RSPSI '07**: 2nd UbiComp Workshop on Requirements and Solutions for Pervasive Software Infrastructures, Innsbruck, Austria, Sep. 2007. Also workshop co-organizer.
25. **USE '07**: 1st UbiComp Workshop on Ubiquitous Systems Evaluation, Innsbruck, Austria, Sep. 2007.
26. **PerSec '07**: 4th IEEE International Workshop on Pervasive Computing and Communication Security, New York, NY, March 2007.
27. **PLOS '06**: ASPLOS Workshop on Linguistic Support for Modern Operating Systems, San Jose, CA, Oct. 2006. Also workshop co-organizer.
28. **PerSec '06**: 3rd IEEE International Workshop on Pervasive Computing and Communication Security, Pisa, Italy, March 2006.
29. **HotOS X**: 10th USENIX Workshop on Hot Topics in Operating Systems, Santa Fe, NM, June 2005.
30. **PerSec '05**: 2nd IEEE International Workshop on Pervasive Computing and Communication Security, Kauai Island, HI, March 2005.
31. **PerSec '04**: 1st IEEE International Workshop on Pervasive Computing and Communication Security, Orlando, FL, March 2004.

32. **SACMAT '01**: 6th ACM Symposium on Access Control Models and Technologies, Chantilly, VA, May 2001.

Journal Articles

1. Byeongcheol Lee, Martin Hirzel, Robert Grimm, and Kathryn S. McKinley. Debugging Mixed-Environment Programs with Blink. *Software: Practice and Experience (SP&E)*, accepted for publication, 2014.
2. Martin Hirzel, Robert Soulé, Scott Schneider, Buğra Gedik, and Robert Grimm. A Catalog of Stream Processing Optimizations. *ACM Computing Surveys (CSUR)*, 46(4), Article 46, March 2014.
3. Robert Grimm, Janet Davis, Eric Lemar, Adam MacBeth, Steven Swanson, Thomas Anderson, Brian Bershad, Gaetano Borriello, Steven Gribble, and David Wetherall. System support for pervasive applications. *ACM Transactions on Computer Systems (TOCS)*, 22(4):421–486, November 2004.
4. Robert Grimm. *One.world*: Experiences with a pervasive computing architecture. *IEEE Pervasive Computing*, 3(3):10–18, July 2004.
5. Robert Grimm and Brian N. Bershad. Separating access control policy, enforcement, and functionality in extensible systems. *ACM Transactions on Computer Systems (TOCS)*, 19(1):36–70, February 2001.

Book Chapters

6. Robert Grimm and Brian Bershad. System support for pervasive applications. In A. Schiper, A. A. Shvartsman, H. Weatherspoon, and B. Y. Zhao, editors, *Future Directions in Distributed Computing*, pp. 212–217, vol. 2584 of *Lecture Notes in Computer Science*, Springer, April 2003.
7. Robert Grimm and Brian N. Bershad. Providing policy-neutral and transparent access control in extensible systems. In J. Vitek and C. Jensen, editors, *Secure Internet Programming: Security Issues for Distributed and Mobile Objects*, pp. 317–338, vol. 1603 of *Lecture Notes in Computer Science*, Springer, June 1999.

Conference Publications

8. Robert Soulé, Michael I. Gordon, Saman Amarasinghe, Robert Grimm, and Martin Hirzel. Dynamic Expressivity with Static Optimization for Streaming Languages. In *Proceedings of the 7th ACM International Conference on Distributed Event-Based Systems (DEBS '13)*, pp. 159–170, June 2013. Acceptance rate: 28% (16/58).
9. Robert Soulé, Martin Hirzel, Buğra Gedik, and Robert Grimm. From a calculus to an execution environment for stream processing. In *Proceedings of the 6th ACM International Conference on Distributed Event-Based Systems (DEBS '12)*, pp. 20–31, July 2012. **Best Paper**. Acceptance rate: 22% (17/79).
10. Byeongcheol Lee, Robert Grimm, Martin Hirzel, and Kathryn S. McKinley. Marco: Safe, Expressive Macros for any Language. In *Proceedings of the 26th European Conference on Object-Oriented Programming (ECOOP '12)*, pp. 589–613, vol. 7313 of *Lecture Notes in Computer Science*, Springer, June 2012. Acceptance rate: 21% (30/140).
11. Paul Gazzillo and Robert Grimm. SuperC: Parsing All of C by Taming the Preprocessor. In *Proceedings of the ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI '12)*, pp. 323–334, June 2012. Acceptance rate: 19% (48/255).

12. Byeongcheol Lee, Ben Wiedermann, Martin Hirzel, Robert Grimm, and Kathryn S. McKinley. Jinn: Synthesizing Dynamic Bug Detectors for Foreign Language Interfaces. In *Proceedings of the ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI '10)*, pp. 36–49, June 2010. Acceptance rate: 20% (41 / 204).
13. Robert Soulé, Martin Hirzel, Robert Grimm, Buğra Gedik, Henrique Andrade, Vibhore Kumar, and Kun-Lung Wu. A Universal Calculus for Stream Processing Languages. In *Proceedings of the 19th European Symposium on Programming (ESOP '10)*, pp. 507–528, vol. 6012 of *Lecture Notes in Computer Science*, Springer, March 2010. Acceptance rate: 25% (30 / 121).
14. Byeongcheol Lee, Martin Hirzel, Robert Grimm, and Kathryn S. McKinley. Debug All Your Code: Portable Mixed-Environment Debugging. In *Proceedings of the 24th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA '09)*, pp. 207–226, October 2009. Acceptance rate: 17% (25 / 144).
15. Nalini Belaramani, Jiandan Zheng, Amol Nayate, Robert Soulé, Mike Dahlin, and Robert Grimm. PADS: A Policy Architecture for Distributed Storage Systems. In *Proceedings of the 6th USENIX Symposium on Networked Systems Design and Implementation (NSDI '09)*, pp. 59–73, April 2009. Acceptance rate: 20% (32 / 163).
16. Martin Hirzel and Robert Grimm. Jeannie: Granting Java native interface developers their wishes. In *Proceedings of the 22nd ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA '07)*, pp. 19–38, October 2007. Acceptance rate: 21% (33 / 156).
17. Nikolaos Michalakis, Robert Soulé, and Robert Grimm. Ensuring content integrity for untrusted peer-to-peer content distribution networks. In *Proceedings of the 4th USENIX Symposium on Networked Systems Design and Implementation (NSDI '07)*, pp. 145–158, April 2007. Acceptance rate: 24% (27 / 113).
18. Robert Grimm. Better extensibility through modular syntax. In *Proceedings of the ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI '06)*, pp. 38–51, June 2006. Acceptance rate: 21% (36 / 174).
19. Robert Grimm, Guy Lichtman, Nikolaos Michalakis, Amos Elliston, Adam Kravetz, Jonathan Miller, and Sajid Raza. *Na Kika*: Secure service execution and composition in an open edge-side computing network. In *Proceedings of the 3rd USENIX Symposium on Networked Systems Design and Implementation (NSDI '06)*, pp. 169–182, May 2006. Acceptance rate: 25% (28 / 110).
20. Larry Arnstein, Robert Grimm, Chia-Yang Hung, Jong Hee Kang, Anthony LaMarca, Gary Look, Stefan B. Sigurdsson, Jing Su, and Gaetano Borriello. System support for ubiquitous computing: A case study of two implementations of Labscape. In *Proceedings of the 2002 International Conference on Pervasive Computing (Pervasive '02)*, pp. 30–44, August 2002. Acceptance rate: 13% (21 / 162).
21. Emin Gün Sirer, Robert Grimm, Arthur J. Gregory, and Brian N. Bershad. Design and implementation of a distributed virtual machine for networked computers. In *Proceedings of the 17th ACM Symposium on Operating Systems Principles (SOSP '99)*, pp. 202–216, December 1999. Acceptance rate: 21% (19 / 90).
22. M. Frans Kaashoek, Dawson R. Engler, Gregory R. Ganger, Héctor Briceño, Russell Hunt, David Mazières, Thomas Pinckney, Robert Grimm, John Jannotti, and Kenneth Mackenzie. Application performance and flexibility on exokernel systems. In *Proceedings of the 16th ACM Symposium on Operating Systems Principles (SOSP '97)*, pp. 52–65, October 1997.

23. Robert Grimm, Wilson C. Hsieh, Wiebren de Jonge, and M. Frans Kaashoek. Atomic recovery units: Failure atomicity for logical disks. In *Proceedings of the 16th IEEE International Conference on Distributed Computing Systems (ICDCS '96)*, pp. 26–36, May 1996. Acceptance rate: 29% (86/295).

Workshop Publications

24. Laurent Burgy, Marc Fiuczynski, Marco Yuen, and Robert Grimm. On reconciling patches and aspects. In *Proceedings of the 8th Workshop on Aspects, Components, and Patterns for Infrastructure Software (ACP4IS '09)*, pp. 1–6, March 2009.
25. Alison Reynolds, Marc E. Fiuczynski, and Robert Grimm. On the feasibility of an AOSD approach to Linux kernel extensions. In *Proceedings of the 7th Workshop on Aspects, Components, and Patterns for Infrastructure Software (ACP4IS '08)*, 6 pages, March 2008.
26. Christian W. Probst, Andreas Gal, Robert Grimm, and Olaf Spinczyk. Linguistic support for modern operating systems. In *Proceedings of the 3rd Workshop on Programming Languages and Operating Systems (PLOS '06)*, 3 pages, Oct. 2006.
27. Marco Yuen, Marc Fiuczynski, Robert Grimm, Yvonne Coady, and David Walker. Making extensibility of system software practical with the C4 toolkit. In the *2006 AOSD Workshop on Software Engineering Properties of Languages and Aspect Technologies (SPLAT! '06)*, 6 pages, March 2006.
28. Robert Grimm. Systems need languages need systems! In the *2nd ECOOP Workshop on Programming Languages and Operating Systems (PLOS '05)*, 5 pages, July 2005.
29. Chris Matthews, Owen Stampfle, Yvonne Coady, Jonathan Appavoo, Marc Fiuczynski, and Robert Grimm. HEY... You got your paradigm in my operating system! In the *2nd ECOOP Workshop on Programming Languages and Operating Systems (PLOS '05)*, 4 pages, July 2005.
30. Marc Fiuczynski, Robert Grimm, Yvonne Coady, and David Walker. `patch (1)` considered harmful. In *Proceedings of the 10th USENIX Workshop on Hot Topics in Operating Systems (HotOS '05)*, pp. 91–96, June 2005. Acceptance rate: 20% (24/123).
31. Robert Grimm and Brian Bershad. Future directions: System support for pervasive applications. In *Proceedings of the International Workshop on Future Directions in Distributed Computing (FuDiCo '02)*, pp. 56–59, June 2002. Acceptance rate: 64% (29/45).
32. Robert Grimm, Janet Davis, Eric Lemar, Adam MacBeth, Steven Swanson, Steven Gribble, Tom Anderson, Brian Bershad, Gaetano Borriello, and David Wetherall. System-level programming abstractions for ubiquitous computing. In *Workshop on Application Models and Programming Tools for Ubiquitous Computing (UbiTools '01)*, 4 pages, September 2001.
33. Robert Grimm, Janet Davis, Ben Hendrickson, Eric Lemar, Adam MacBeth, Steven Swanson, Tom Anderson, Brian Bershad, Gaetano Borriello, Steven Gribble, and David Wetherall. Systems directions for pervasive computing. In *Proceedings of the 8th IEEE Workshop on Hot Topics in Operating Systems (HotOS '01)*, pp. 147–151, May 2001. Acceptance rate: 24% (24/99).
34. Robert Grimm, Tom Anderson, Brian Bershad, and David Wetherall. A system architecture for pervasive computing. In *Proceedings of the 9th ACM SIGOPS European Workshop (EW '00)*, pp. 177–182, September 2000.

35. Emin Gün Sirer, Robert Grimm, Brian N. Bershad, Arthur J. Gregory, and Sean McDirmid. Distributed virtual machines: A system architecture for network computing. In *Proceedings of the 8th ACM SIGOPS European Workshop (EW '98)*, pp. 13–16, September 1998.
36. Robert Grimm and Brian N. Bershad. Security for extensible systems. In *Proceedings of the 6th IEEE Workshop on Hot Topics in Operating Systems (HotOS '97)*, pp. 62–66, May 1997. Acceptance rate: 28% (23 / 81).

Refereed Posters and Presentations

37. Robert Soulé, Martin Hirzel, Robert Grimm, and Buğra Gedik. Distributed CQL Made Easy. Extended abstract and presentation at the *New England Database Summit (NEDB '11)*, January 2011. Acceptance rate: 50% (11 / 22).
38. Robert Soulé, Robert Grimm, and Petros Maniatis. Auto-Parallelization for Declarative Network Monitoring. Poster at the *21st ACM Symposium on Operating Systems Principles (SOSP '07)*, October 2007.
39. Robert Grimm, Laune Harris, Anh Le. Typical: Taking the Tedium Out of Typing. Presentation at the *IBM Programming Languages Day*, May 2007.
40. Nikolaos Michalakis, Robert Soulé, and Robert Grimm. Taking the trust out of global-scale web services. Work-in-progress presentation at the *7th USENIX Symposium on Operating Systems Design and Implementation (OSDI '06)*, November 2006.
41. Robert Grimm, Janet Davis, Eric Lemar, Adam MacBeth, Steven Swanson, Daniel Cheah, Tom Anderson, Brian Bershad, Gaetano Borriello, Steven Gribble, and David Wetherall. *one.world*—Programming for pervasive computing environments. Poster at the *18th ACM Symposium on Operating Systems Principles (SOSP '01)*, October 2001.
42. Robert Grimm, Janet Davis, Ben Hendrickson, Eric Lemar, Tom Anderson, Brian Bershad, Gaetano Borriello, and David Wetherall. *one.world*—Towards a system architecture for pervasive computing. Poster at the *4th USENIX Symposium on Operating Systems Design and Implementation (OSDI '00)*, October 2000.

Select Other Publications

43. Martin Hirzel, Robert Soulé, Scott Schneider, Buğra Gedik, and Robert Grimm. A catalog of stream processing optimizations. IBM Research Report RC25215, 30 pages, September 2011.
44. Robert Grimm. Declarative syntax tree engineering (or, one grammar to rule them all). Technical Report TR2007-905, Dept. of Computer Science, New York University, 17 pages, November 2007.
45. Robert Grimm, Laune Harris, and Anh Le. Typical: Taking the tedium out of typing. Technical Report TR2007-904, Dept. of Computer Science, New York University, 11 pages, November 2007.
46. Robert Grimm, Michael M. Swift, and Henry M. Levy. Revisiting structured storage: A transactional record store. Technical Report UW-CSE-00-04-01, Dept. of Computer Science and Engineering, University of Washington, 13 pages, April 2000.

47. Robert Grimm and Eva Weber. Die Dinge beim Namen nennen (To call things by their name—an interview with Niklaus Wirth). In *Proceedings of the First European Software Festival*, pp. 60-64, 1991.
48. Reinald Rudolphi, Renate Müller, and Robert Grimm. Numerische Methoden zur Bestimmung des Wärmeflusses (Numerical methods to determine thermal transmittance). *Glaswelt*, 42(6):76–86, June 1989.

Software

1. **xtc**. A toolkit for building extensible source-to-source transformers. It includes:
 - *Rats!*, a parser generator featuring modular and easily extensible syntax.
 - SuperC, a tool for preprocessing and parsing C across all configurations.
 - Jeannie, a language composing Java and C at the expression and statement level.
 - Jinn, a dynamic bug detector for the Java Native Interface.
 - Grammars and type checkers for C, Java, and significant extensions to the two languages.
2. **Na Kika**. A peer-to-peer content distribution network for static *and* dynamic content. Deployed on Planet-Lab. Also deployed across medical schools to support the Wise-MD web-based educational environment.
3. **Munin**. A modular, event-driven web server. It provided the basis for student projects in NYU G22.3033-008, Web Services and Applications.
4. **one.world**. A system architecture for pervasive computing.

Patents

1. Paul Gazzillo and Robert Grimm. Configuration-preserving preprocessor and configuration-preserving parser. United States Patent 8,806,456. August 12, 2014.
2. Henrique Andrade, Jim Challenger, Buğra Gedik, Robert Grimm, Martin J. Hirzel, Vibhore Kumar, Robert Soulé, Kun-Lung Wu. Virtual execution environment for streaming languages. United States Patent 8,499,292. July 30, 2013.
3. Robert Grimm and Brian N. Bershad. Process for transparently enforcing protection domains and access control as well as auditing operations in software components. United States Patent 6,317,868. November 13, 2001.

Teaching Experience

1. NYU CSCI-GA.3033-011, Building Responsive Websites.
Spring 2013. Enrollment: 18; rating of instructor: 4.4/5.0; rating of course: 4.2/5.0.
2. NYU CSCI-UA.0470.1, Object-Oriented Programming.
Fall 2012. Enrollment: 28; rating of instructor: 3.7/5.0; rating of course: 3.3/5.0.
Fall 2011. Enrollment: 29; rating of instructor: 4.1/5.0; rating of course: 3.9/5.0.
Fall 2010. Enrollment: 18; rating of instructor: 4.7/5.0; rating of course: 4.5/5.0.
Fall 2009. Enrollment: 24; rating of instructor: 4.4/5.0; rating of course: 4.3/5.0.

Fall 2007. Enrollment: 12; rating of instructor: 2.4/5.0; rating of course: 2.8/5.0.

Fall 2006. Enrollment: 22; rating of instructor: 4.1/5.0; rating of course: 3.9/5.0.

Fall 2005. Enrollment: 32; rating of instructor: 4.0/5.0; rating of course: 4.0/5.0.

3. NYU CSCI-GA.3033-014, Object-Oriented Programming.

Spring 2012. Co-instructor: Benjamin Goldberg; enrollment: 48; rating of instructors: 4.6/5.0; rating of course: 4.5/5.0.

4. NYU G22.3250-001, Honors Operating Systems.

Spring 2011. Enrollment: 4; rating of instructor: 5.0/5.0; rating of course: 4.8/5.0.

Spring 2008. Enrollment: 7; rating of instructor: 4.5/5.0; rating of course: 4.5/5.0.

Spring 2007. Enrollment: 6; rating of instructor: 4.8/5.0; rating of course: 4.8/5.0.

Spring 2005. Enrollment: 9; rating of instructor: 4.5/5.0; rating of course: 4.4/5.0.

Spring 2004. Enrollment: 4; rating of instructor: 4.8/5.0; rating of course: 4.8/5.0.

5. NYU G22.2110-001, Programming Languages.

Spring 2010. Enrollment: 35; rating of instructor: 3.8/5.0; rating of course: 3.7/5.0.

6. NYU G22.3033-008, Web Services and Applications.

Fall 2003. Enrollment: 18; rating of instructor: 4.7/5.0; rating of course: 4.6/5.0.

Spring 2003. Enrollment: 21; rating of instructor: 4.1/5.0; rating of course: 4.0/5.0.

7. UW CSE 490dp, Building Distributed and Pervasive Applications. Winter 2001.

Invited Talks

1. “Parsing All of C by Taming the Preprocessor”:

University of Massachusetts, Amherst, MA, April 2013.

École Polytechnique Fédérale de Lausanne, Switzerland, Feb. 2013.

IBM Research, Yorktown Heights, NY, Oct. 2012.

Cornell University, Ithaca, NY, May 2012.

University of New South Wales, Sydney, Australia, August 2011.

University of Texas, Austin, TX, July 2011.

2. “Adventures in Extensibility: Of Languages and Compilers”:

New York University, New York, NY, Feb. 2008.

University of Washington, Seattle, WA, Jan. 2008.

Princeton University, Princeton, NJ, Dec. 2007.

IBM Research, Hawthorne, NY, Nov. 2007.

University of California, San Diego, CA, Nov. 2007.

Cornell University, Ithaca, NY, Nov. 2007.

3. “Better extensibility through modular syntax”:

PLDI '06, Ottawa, Canada, June 2006.

University of San Francisco, San Francisco, CA, May 2006.

4. “*Na Kika*: Secure service execution and composition in an open edge-side computing network”:

- Stanford University, Stanford, CA, May 2006.
 Cambridge Systems Colloquium, Cambridge, UK, Oct. 2005.
 PORTIA Workshop on Sensitive Data, Stanford, CA, July 2004.
5. “Do we work within existing frameworks or start from scratch?” HotOS ’05, Santa Fe, NM, June 2005.
 6. “xtc: Towards extensible C”:
 Distinguished lecture, IBM Research, Hawthorne, NY, July 2005.
 University of California, Berkeley, CA, Apr. 2005.
 New Jersey Programming Languages and Systems Seminar, Princeton, NJ, Oct. 2004.
 Workshop on Domain-Specific Languages for Numerical Optimization, Argonne, IL, Aug. 2004.
 7. “*one.world*: System support for pervasive applications”:
 Cornell University, Ithaca, NY, Nov. 2003.
 University of Maryland, College Park, MD, Apr. 2002.
 Harvard University, Cambridge, MA, Apr. 2002.
 Rice University, Houston, TX, Apr. 2002.
 University of Texas, Austin, TX, Apr. 2002.
 Microsoft Research, Mountain View, CA, Mar. 2002.
 Microsoft Research, Redmond, WA, Mar. 2002.
 University of California, Berkeley, CA, Mar. 2002.
 Princeton University, Princeton, NJ, Mar. 2002.
 New York University, New York, NY, Mar. 2002.
 University of California, Los Angeles, CA, Feb. 2002.
 Intel Corporation, Hillsboro, OR, Sep. 2001.
 HotOS ’01, Elmau, Germany, May 2001.
 Duke University, Durham, NC, May 2001.
 SIGOPS European Workshop ’00, Kolding, Denmark, Sep. 2000.
 IBM Research, Hawthorne, NY, Aug. 2000.
 8. “OS extensibility: SPIN and exokernels,” University of Washington, Seattle, WA, Apr. 2000.
 9. “Security for extensible systems”:
 go2net, Seattle, WA, Mar. 2000.
 IBM Research, Hawthorne, NY, Mar. 1998.
 Workshop on Security and Languages, Palo Alto, CA, Oct. 1997.
 DARPA OS Security Workshop, Washington DC, July 1997.
 IEEE Symposium on Security and Privacy, Oakland, CA, May 1997.
 HotOS ’97 (Cape Cod, MA), May 1997.
 10. “Atomic recovery units: Failure atomicity for logical disks,” ICDCS ’96, Hong Kong, May 1996.

Professional Affiliations and Activities

Reviewer for ACM ASPLOS, POPL, SACMAT, SOSP, TOCS, and TOPLAS; the Computer Journal; ICALP; IEEE PerSec, Pervasive Computing, and TPDS; Journal of Functional Programming; PLOS; Science of Computer Programming; Software Practice and Experience; UbiComp; USENIX HotOS, NSDI, OSDI, and USITS.

Panel member for the National Science Foundation’s CISE directorate, 2011, 2008, and twice in 2006.

Local organizer for the New Jersey Programming Languages and Systems Seminar, New York, NY, December 2004.

Member of ACM and USENIX.