

LEA WITTIE

Computer Science Department
Bucknell University
Lewisburg, PA 17837

Education

Computer Science, Ph.D. June 2004. Dartmouth College, Hanover New Hampshire
Area of Specialty: Programming Languages

Computer Science, B.A. 1998. Grinnell College, Grinnell Iowa

Experience

Assistant Professor: 2004-2011

Associate Professor: 2011-present

Dept. of Computer Science, Bucknell University

Graduate Intern: Symbol Technologies Summer 2001

Operating Systems Programmer and Quality of Service Analyst

Research and Development Department

Publications

Peer Reviewed Journal Articles

[3] *Type-safe Concurrent Resource Sharing*. Lea Wittie and Jonathan Lockhart (Bucknell undergraduate). *Concurrency and Computation: Practice & Experience*. [39 pages, Vol 23, Issue 8, start page 767, May 2 2011]

Peer Reviewed Conference and Workshop Papers

[4] *Generating a Statically-Checkable Device Driver I/O Interface*. Lea Wittie, Chris Hawblitzel, and Derrin Pierret. *Automatic Program Generation for Embedded Systems (APGES 2007)*, October 4, 2007, Salzburg, Austria. Presentation by Lea Wittie. [8 pages]

[5] *A Garbage-Collecting Typed Assembly Language*. Chris Hawblitzel, Heng Huang, Lea Wittie, and Juan Chen. *Types in Language Design and Implementation (TLDI 2007)*, January 16, 2007, Nice, France. Presentation by Chris Hawblitzel. [12 pages]

[6] *Low-Level Linear Memory Management*. Chris Hawblitzel, Edward Wei, Heng Huang, Erik Krupski, and Lea Wittie. *Semantics, Program Analysis, and Computing Environments for Memory Management (SPACE 2004)*, January 12, 2004, Venice, Italy. Presentation by Chris Hawblitzel. [17 pages]

Technical Reports

[7] *Laddie: Language for Automated Device Drivers*. Lea Wittie. Bucknell Technical Report #08-2 2008. <http://www.bucknell.edu/x15812.xml>

[8] *Clay User's Guide*. Lea Wittie. Bucknell Technical Report #08-1 2008. <http://www.bucknell.edu/x15812.xml>

[9] *A Garbage-Collecting Typed Assembly Language*. Chris Hawblitzel, Heng Huang, Lea Wittie, and Juan Chen. Microsoft Technical Report MSR-TR-2006-169 2006. <ftp://ftp.research.microsoft.com/pub/tr/TR-2006-169.pdf>

[10] *Type-Safe Operating System Abstractions*, Ph.D. Thesis. Lea Wittie. Dartmouth Technical Report TR2004-526 2004. <http://www.cs.dartmouth.edu/reports/abstracts/TR2004-526/>

[11] *Composing a well-typed region*. Chris Hawblitzel, Heng Huang, and Lea Wittie. Dartmouth Technical Report TR2004-521 2004. <http://www.cs.dartmouth.edu/reports/abstracts/TR2004-521/>

[12] *Formal Properties of Linear Memory Types*. Heng Huang, Lea Wittie, and Chris Hawblitzel. Dartmouth Technical Report TR2003-468 2003. <http://www.cs.dartmouth.edu/reports/abstracts/TR2003-468/>

Presentations

[13] *Enforcing Specifications for Hardware Interaction in Operating Systems Code*. Invited talk. Computer Science Department, Bloomsburg University, Bloomsburg PA, November 2009.

[14] *Generating a Statically-Checkable Device Driver I/O Interface*, at Automatic Program Generation for Embedded Systems (APGES) 2007.

[15] *Laddie: Language for Automated Device Drivers*, Programming Languages Seminar, Harvard University, May 2007.

[16] *Laddie: Language for Automated Device Drivers*, Poster at Computing Research Association - Women (CRA-W), Programming Languages workshop, Austin TX, May 2007.

[17] *Laddie: Language for Automated Device Drivers*, at New England Programming Languages and Systems (NE-PLS) Symposium Series, Tufts University, April 2007.

[18] *Type-Safe Operating System Abstractions*. Thesis Defense, Dartmouth College, Hanover NH, June 2004.

[19] *Aspirin for the Debugging Headache*. Invited talk. Computer Science Department, Grinnell College, Grinnell IA, March 2001.

Teaching

Courses Taught

- ENGR 100: Intro to Engineering, Computer Science Seminar
- CSCI 203: Intro to Computer Science using Java and Python
- CSCI 204: Intro to Computer Science using C++, Java and Python
- CSCI 208: Programming Language Design using Bash, C++, Smalltalk, Haskell, and Prolog
- CSCI 331: Compiler Optimization using Bash, C, C++, and Java

Undergraduate research projects advised

- Lianne Laimore, *Hoisting C Structures into Clay in Device Drivers*, Spring 2012, Fall 2012, Spring 2013
- Teget Aydin, *Exploring Device Drivers and Buses*, Fall 2012
- Chris Bassett, *Programing Language Translation: C to Clay*, Summer 2009
- Robert Walker, *Translating C structs to Clay*, Fall 2008, Spring 2009
- Jon Lockhart, *Timing tests in Linux kernel applications*, Spring 2008, Fall 2008, Spring 2009, Fall 2009, Spring 2010
- Andrew Caniff, *Translating C structs to Clay*, Spring 2008
- Derrin Pierret, *Generating a Statically-Checkable Device Driver I/O Interface*, Summer 2006
- Giang Hoang, *Translating NesC to DML and C++*, Summer 2005

Service

Bucknell University

- Academic Advisor to the class of 2019 B.S. and B.A. CS majors, class of 2015 B.S. and B.A. CS majors, class of 2011 B.S. CS & Engineering majors, class of 2007 B.S. and B.A. CS majors.
- Faculty Advisor to the Bucknell ACM Chapter Fall 2004, Spring 2005, Fall 2006, Fall 2007, Spring 2008.
- Ran the Bucknell University Spring Undergraduate Programming Contest, 2006, 2008-2014.
- Computer Science Faculty Search Committee, Fall 2006.
- Computer Science Library Representative, 2008-2009.
- Engineering Curriculum Committee, 2005-2006, 2009-2011, 2012-2013.
- Engineering Instructional Facilities Committee, Fall 2006, 2008-2009.
- Engineering College Computing Committee, 2007-2008.
- Academic Responsibility Board of Review, 2005-2012, 2015. (hearing chair 2009-2012, committee co-chair Fall 2010-2012)
- Computer Science ABET Fall 2011 - Spring 2012, Fall 2013 - Spring 2014. (Ran Dept ABET 2013-2014)
- Computer Science DRC Fall 2013 - Spring 2014
- Computer Science Hiring Committee - Spring 2012, Spring 2013, Summer 2013, Spring 2014 (twice).
- Computer Science Department Meeting Minutes, 2005-2006
- Computer Science Department ABET Meeting Minutes, Fall 2006

Academic Community

- Reviewer for the Software Engineering Constituent Committee of ASEE (SwECC) for the 2011 ASEE Annual Conference & Exposition.
- Reviewer for NSF Innovative Technology Experiences for Students and Teachers (ITEST) 2009.
- Reviewer for Grinnell College, Computer Science Department, External Curriculum Review 2008.
- Reviewer for International Conference on Functional Programming (ICFP) 2007.

Membership in Professional Societies

- Member of the Association for Computing Machinery (ACM).

Professional Development Workshops Attended

- Engineering Engineering Education (E3) Catalyst Workshop, Bucknell University, July 2010.
- CRA-Women in Programming Languages Conference, Austin TX, May 2007.
- Spring Faculty Learning Series, Bucknell University. 2005-2006, 2008-2010.
- Workshop on the Teaching of Writing, Bucknell University. August 2004.