

# Curriculum Vitae

Jack W. Davidson  
Department of Computer Science  
85 Engineer's Way  
P.O. Box 400740  
Charlottesville, VA 22904-4740

## Education

B.A.S. (Computer Science)	Southern Methodist University, 1975
M.S. (Computer Science)	Southern Methodist University, 1977
Ph.D. (Computer Science)	University of Arizona, 1981

## Employment History

1998–present Professor of Computer Science, University of Virginia, Charlottesville, VA.  
2000–2001 Visiting Researcher, Microsoft Research, Redmond, WA.  
1993–1998 Associate Professor of Computer Science, University of Virginia, Charlottesville, VA.  
1992–1993 Visiting Associate Professor of Computer Science, Princeton University, Princeton, NJ.  
1988–1992 Associate Professor of Computer Science, University of Virginia, Charlottesville, VA.  
1982–1988 Assistant Professor of Computer Science, University of Virginia, Charlottesville, VA.  
1973–1977 Programmer Analyst III, The University of Texas Health Science Center, Dallas, TX.

## Professional Activities

ACM Publications Board, 2008–2011. (Publications Board Co-chair 2010–present.)  
ACM Executive Council and Council, 2010—present.  
CGO Steering Committee, 2012–2014.  
Treasurer and Founding Member, Digital Asset Protection Association, 2011–present.  
Associate Editor, *Transactions on Architecture and Code Optimization*, 2005–2014.  
ACM SGB Council Representative, 2008–2010.  
ACM SIG Governing Board Member-at-large, 2006–2008.  
Chair, ACM Special Interest Group on Programming Languages (SIGPLAN), 2005–2007.

### Program Committees, Awards Committees and Other External Activities (2015)

Program Committee Member, 2015 Program Protection and Reverse Engineering Workshop (PPREW-5), Los Angeles, California.  
Program Committee Member, 2015 International Symposium on Code Generation and Optimization (CGO 2015), San Francisco, California.  
Organizer, 6th International Summer School on Information Security and Protection (ISSISP 2015), July 2015, São Paulo, Brazil.

### Program Committees, Awards Committees and Other External Activities (2014)

Organized 2014 Army Research Office Workshop on Continuously Upgradeable Software Security and Protection, November 2014, co-located with CCS 2014 in Scottsdale, Arizona (obtained grant from ARO to fund

travel for workshop participants).

Organizer, 5th International Summer School on Information Security and Protection (ISSISP 2014), August 2014, Verona, Italy.

Selection Committee, 2014 IEEE Taylor L. Booth Education Award.

Judge, 2014 Grand Finals of the ACM Student Research Competition.

Judge, 2014 ACM Best Chapter Award.

Organized Invited Workshop on Continuously Upgradeable Software Security and Protection. Held in conjunction with Computer and Communications Security (CCS 2014), November 2014, Scottsdale, Arizona.

Program Committee Member, 2014 International Symposium on Code Generation and Optimization (CGO 2014), Orlando, Florida.

Program Committee Member, 2014 ACM Workshop on Reproducible Research Methodologies and New Publication Models in Computer Engineering (TRUST 2014), June 2014, Edinburgh, UK.

Program Committee Member, 2014 Program Protection and Reverse Engineering Workshop (PPREW-4), December 2014, New Orleans, Louisiana.

Invited panelist, The Coming Publication Models, 2014 CRA Snowbird Conference, July 2014.

#### **Program Committees, Awards Committees and Other External Activities (2013)**

Organizer, 4th International Summer School on Information Security and Protection (ISSISP 2013), August 2013, Xi'an, China.

Selection Committee, 2013 IEEE Taylor L. Booth Education Award.

Judge, 2013 Grand Finals of the ACM Student Research Competition.

Judge, 2013 ACM Best Chapter Award.

Judge, 2013 Parallel Architectures and Compilation Technique (PACT) Student Research Competition.

Co-General Chair, 2013 International Symposium on Code Generation and Optimization, Shenzhen, China.

Program Committee Member, 2013 International Workshop on Program Protection and Reverse Engineering, San Diego, California.

#### **Program Committees, Awards Committees and Other External Activities (2012)**

Organizer, 3rd International Summer School on Information Security and Protection (ISSISP 2012), Tucson, Arizona, July 2012.

#### **Program Committees, Awards Committees and Other External Activities (2011)**

Organizer, 2nd International Summer School on Information Security and Protection (ISSISP 2011), July 2011, Ghent, Belgium.

Program Committee Member, 2011 International Conference on Languages, Compilers, Tools and Theory for Embedded Systems (LCTES 2011), Chicago, Illinois.

Program Committee Member, 2011 International Symposium on Code Generation and Optimization (CGO 2011), Chamonix France.

#### **Program Committees, Awards Committees and Other External Activities (2010)**

Organizer, 2010 International Summer School on Software Security, July 2010, Beijing, China.

Judge, Grand Finals of the ACM Student Research Competition.

Judge, ACM Best Chapter Award.

Program Committee Member, 2010 International Symposium on Code Generation and Optimization (CGO

2010), Toronto Canada.

Program Committee Member, 2010 International Conference on High-Performance and Embedded Architectures and Compilers (HiPEAC 2010), Pisa Italy.

Program Committee Member, International Conference on Compiler Construction (CC 2010), Paphos, Cyprus.

**Program Committees, Awards Committees and Other External Activities (2009)**

Program Committee Member, 2009 International Conference on Parallel Architectures and Compilation Techniques (PACT 2009), Raleigh, NC.

Judge, Grand Finals of the ACM Student Research Competition.

Judge, ACM Best Chapter Award.

**Program Committees, Awards Committees and Other External Activities (upto 2009)**

Invited Lecturer, Indo US Engineering Faculty Leadership Institute, June 2008, Mysore, India.

Program Committee Member, 2008 International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES 2008), October 2008, Atlanta, GA.

Program Committee Member, 2008 International Conference on High-Performance and Embedded Architectures and Compilers (HiPEAC 2008), January 2008, Göteborg, Sweden.

Invited lecturer, Lecturer, Third International Summer School on Advanced Architecture and Compilation for Embedded Systems (ACACES 2007), July 2007, L'Aquila, Italy.

Program Committee Member, 2007 ACM SIGPLAN/SIGBED Conference on Languages, Compilers, and Tools for Embedded Systems (LCTES 2007), June 2007, San Diego, California.

Program Committee Member, 2007 International ACM SIGPLAN/SIGOPS Conference on Virtual Execution Environments (VEE 2007), June 2007, San Diego, California.

Program Committee Member, 2007 International Symposium on Code Generation and Optimization (CGO 2007), March 2007, San Jose, California.

Program Committee, 2007 International Conference on High Performance Embedded Architectures and Compilers (HiPEAC 2007), January 2007, Ghent, Belgium.

Invited talk, Air Force Office of Scientific Research Workshop on Homogeneity, October 2007, Washington, D.C.

Invited presentation, Air Force Scientific Advisory Board, March 2007, Rosslyn, Virginia.

Program Committee Member, 2006 International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES 2006), October 2006, Seoul, South Korea.

Program Committee Member, 2006 ACM SIGPLAN 2006 Conference on Programming Language Design and Implementation (PLDI 2006), June 2006, Ottawa, Canada.

Program Committee Member, 2006 ACM SIGPLAN/SIGBED Conference on Languages, Compilers, and Tools for Embedded Systems (LCTES 2006), June 2006, Ottawa, Canada.

Program Committee Member, 2006 International Symposium on Code Generation and Optimization (CGO 2006), March 2006, Manhattan, New York.

Program Committee Member of CASES 2005

Program Committee Member, 2005 Conference on Parallel Architectures and Compilation Techniques (PACT 2005), September 2005, St. Louis, Missouri.

Program Committee Member, 2005 Conference on Programming Language Design and Implementation (PLDI 2005), June 2005, Chicago, IL.

Keynote speaker at the 2nd Annual Workshop on Memory System Performance in Washington, D.C held in June 2005.

Program Committee Member, 2005 International Conference on Languages, Tools and Compilers for Embedded Systems (LCTES 2005), June 2005, Chicago, IL.

Program Committee Member, 2005 International Conference on Autonomic Computing (ICAC 2005), June 2005, Seattle, Washington.

Program Committee Member, 2005 International Conference on Code Generation and Optimization (CGO 2005), March 2005, San Jose, California.

Program Committee Member, 2005 EMSOFT Conference (EMSOFT 2005), Jersey City, New Jersey.

Program Committee Member, 9th International Workshop on Software and Compilers for Embedded Systems (SCOPE5 2005), Dallas, TX.

Finance Vice-Chair, 2004 International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES 2004), September 2004, Washington, DC.

Program Committee Member, 2004 International Conference on Code Generation and Optimization (CGO 2004), San Jose, CA.

Program Committee Member, 2003 International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES 2003), San Jose, CA.

Steering Committee, Conference on Parallel Architectures and Compilation Techniques (PACT), 2002–2005.

SIGPLAN Member-at-Large, 1999–2001, 2003–2005.

Program Committee Member, 2003 Conference on Parallel Architectures and Compilation Techniques (PACT 2003), New Orleans, LA.

Organizing Committee Member, 2003 ACM Federated Computing Research Conference (FCRC 2003), San Diego, CA.

Member of editorial board for *20 Years of the ACM/SIGPLAN Conference on Programming Language Design and Implementation(1979–1999): A Selection 2003*.

Program Committee Member, 2003 Conference on Principles of Programming Languages (POPL 2003), New Orleans, LA.

Co-general Chair, 2002 Conference on Parallel Architectures and Compilation Techniques (PACT 2002), September 2002, Charlottesville, VA.

Publications Vice-Chair, 2002 International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES 2002), Grenoble, France.

Publications Vice-Chair, 2001 International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES 2001), Atlanta, GA.

Steering Committee Chair, Languages, Compilers, and Tools for Embedded Systems (LCTES), 2001–2003.

Panels Vice-Chair, International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES 2000), October 2000, San Jose, CA.

Program Committee Member, 2000 Conference on Parallel Architectures and Compilation Techniques (PACT 2000), October 2000, Philadelphia, Pennsylvania.

Program Co-Chair, 2000 Workshop on Languages, Compilers, and Tools for Embedded and Real-time Systems (LCTES 2000), June 2000, Vancouver, Canada.

General Chair, 1998 SIGPLAN Design and Implementation of Programming Languages Conference (PLDI 1998), Montreal, Canada.

Program Committee Member, 1997 SIGPLAN Design and Implementation of Programming Languages Conference (PLDI 1997), Las Vegas, Nevada.

Associate Editor, *Transactions on Programming Languages and Systems*, 1994–2000.

## Awards and Honors

Fellow of the ACM

IEEE Senior Member

2010 ACM SIGPLAN Distinguished Service Award

2008 IEEE Computer Society Taylor L. Booth Education Award

ACM Undergraduate Teaching Award, School of Engineering and Applied Science, 2000.

Faculty Innovation Award, National Cash Register, Inc., 1989.

## Publications

### a) Books and Book Chapters

J. P. Cohoon and J. W. Davidson. *Java Program Design*, McGraw-Hill, Boston, MA, 2004.

J. P. Cohoon and J. W. Davidson. *C++ Program Design: An Introduction to Programming and Object-Oriented Design, 3rd Edition*, McGraw-Hill, Boston, MA, 2002.

J. P. Cohoon and J. W. Davidson. *Lab Manual for use with C++ Program Design: An Introduction to Programming and Object-Oriented Design, 3rd Edition*, McGraw-Hill, Boston, MA, 2002.

J. P. Cohoon and J. W. Davidson. *Lab Manual to accompany C++ Program Design: An Introduction to Programming and Object-Oriented Design, 2nd Edition*, McGraw-Hill, Boston, 1999.

J. P. Cohoon and J. W. Davidson. *C++ Program Design: An Introduction to Programming and Object-Oriented Design, 2nd Edition*, McGraw-Hill, Boston, 1999.

J. P. Cohoon and J. W. Davidson. *Lab Manual to Accompany C++ Program Design: An Introduction to Programming and Object-Oriented Design*, Irwin, Burr Ridge, IL, 1997.

J. P. Cohoon and J. W. Davidson. *C++ Program Design: An Introduction to Programming and Object-Oriented Design*, Irwin, Burr Ridge, IL, 1997. (In 1998, the text was the best selling introductory programming textbook. It had been adopted by over 130 schools).

J. W. Davidson and R. A. Vaughan. The Effect of Instruction Set Complexity on Program Size and Memory Performance. *Reduced Instruction Set Computers*, William Stallings (editor), IEEE Computer Society Press, 1990.

J. W. Davidson. Fast Interpretation of Instruction Sets: Implementation and Applications. *Computer Hardware Description Languages and Their Applications*, C. J. Koomen and T. Moto-oka (editors), North Holland, Amsterdam, 1985, pp. 179–191.

### b) Journal Articles

T. Dey, W. Wang, J. W. Davidson, M. L. Soffa. ReSense: Mapping Dynamic Workloads of Colocated Multi-threaded Applications Using Resource Sensitivity. *ACM Transactions on Architecture and Code Optimization*, 10(4), December 2013, Article No. 41.

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