William Randall Cook

Research Interests

Programming languages, modeling languages, feature-oriented programming, interfacing programming languages and databases, authorization security, distributed computing and web services, software engineering, type theory, web-based information systems.

Education

Languages: English (fluent), French (intermediate)

1989 Ph.D. Computer Science, Brown University
Dissertation: *A Denotational Semantics of Inheritance*
Advisor: Peter Wegner

1985 M.Sc. Computer Science, Brown University
Project: *An Embedded Graph Editor for VLSI*
Advisor: Gérard Baudet

1984 B.Sc. Computer Science, Tulane University
Honors Thesis: *Translation of a Procedural Language for Execution on a Lambda-Calculus Machine*
Advisor: Gyorgy Révész

Awards

Academic

2019 SPLASH Onward! Most Notable Paper Award.

2014 Dahl-Nygaard Senior Prize, awarded for contributions to the theory and practice of object-oriented programming

2012 Best Paper, European Conference on Object-Oriented Programming (ECOOP)

2011 Best Student Paper, ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA)

2006 Best Paper, IEEE International Conference on Web Services (ICWS)

1985 Philips Fellow, Brown University

1984 University Fellow, Brown University

1984 Magna cum Laude, Tulane University

Industrial

2001 What Works: Ten Significant CRM Implementations of 2001
Aberdeen Group
Product: Allegis eBusiness Suite

2000 What Works: Ten Significant CRM Implementations of 2000
Aberdeen Group
Product: Allegis Sales Partner

1998 Technology of the Year Award
MACWorld
Product: AppleScript

1998	A-List Award, Knowledge Management
	Crossroads Research
	Product: Net-It Central

1997	Finalist for Excellence in Software Award (the Codies)
	Software Publishers Association (SPA)
	Product: Writer's Solution

Employment

University of Texas at Austin

2010-present	*Associate Professor*
	Department of Computer Science

2003-2010	*Assistant Professor*
	Department of Computer Sciences

Allegis Corporation, San Francisco CA

2002-2003	*Chief Technical Officer*
	Responsible for technology strategy and technical communication to prospects, customers and analysts.

2001-2002	*VP Engineering*
	Focused on process improvement while managing 60 engineers in development, QA, documentation, training and tech support.

1997-2001	*Chief Architect*
	Created initial product demos, developed system architecture, wrote technical specifications, participated in implementation and code reviews.

1997	*Founder*
	Worked with CEO to define company vision and secure $60M in top-tier venture funding.

Net-It Software, Los Altos CA

1995-1997	*Chief Architect and Acting VP Engineering*
	Led development process from product requirements to implementation. Hands-on manager of a team of 10 engineers.

1995	*Founder*
	Created initial product vision, assembled team, worked with CEO to secure funding.

BAM! Software Inc, New York NY and Los Altos CA

1993-1995	*Software Architect*
	Led design and implementation. Participated in project planning, client relationships, domain analysis, and technical documentation.

Apple Computer, Cupertino CA

1992-1993	*Engineering Manager*
	Managed the group of five engineers in the AppleScript development team, with focus on creating high-quality software.

1991-1992	*Senior Software Engineer*
	Designed the AppleScript language and Open Scripting Architecture with Warren Harris. Guided implementation, market positioning, and technical documentation.

Hewlett-Packard Laboratories, Palo Alto CA

1988-1991   *Member of Technical Staff*
             Research on foundations of typed object-oriented programming.

Consulting

2017-present   Member of Kotlin Steering and Kotlin Language Committees.

2019   One-month Research Instructor for Fujen International Education / Shanghai Rongxin Division of Research Programs

2013   AltPay Corporation. Provided market guidance and development expertise to early stage startup.

2012   Parallel Networks v Abercrombie & Fitch et al, 6:10-cv-111 (E.D. Tex.) Retained by Fish & Richardson on behalf of the defendants. Provided expert declaration on non-infringement.

2011   ICON Internet Competence Network v Travelocity.com, 3:11-cv-1131 (N.D. Tex.) Retained by Fish & Richardson on behalf of Travelocity. Provided expert report and deposition testimony on invalidity and non-infringement.

2007-08   FineEye Color Corporation. Took a year leave of absence from UT to participate in a startup as developer and color scientist.

Research

Journal Publications

[J10]   S. Erdweg, T. van der Storm, M. Völter, L. Tratt, R. Bosman, W. R. Cook, A. Gerritsen, A. Hulshout, S. Kelly, A. Loh, G. Konat, P. J. Molina, M. Palatnik, R. Pohjonen, E. Schindler, K. Schindler, R. Solmi, V. Vergu, E. Visser, K. van der Vlist, G. Wachsmuth, and J. van der Woning. Evaluating and comparing language workbenches existing results and benchmarks for the future. *Computer Languages, Systems & Structures*, 44(Part A):24–47, December 2015.

[J9]   T. Van Der Storm, W. R. Cook, and A. Loh. The design and implementation of Object Grammars. *Science of Computer Programming*, 96:460 – 487, 2014.

[J8]   B. C. Oliveira, T. Schrijvers, and W. R. Cook. MRI: Modular reasoning about interference in incremental programming. *Journal of Functional Programming*, 22:797–852, 2012.

[J7]   Y.-W. Kwon, E. Tilevich, and W. R. Cook. Which middleware platform should you choose for your next remote service? *Service Oriented Computing and Applications*, 5(2):61–70, 2011.

[J6]   W. R. Cook. High-level problems in teaching undergraduate programming languages. *SIGPLAN Notices*, 43(11):55–58, 2008.

[J5]   I. Wehrman, D. Kitchin, W. R. Cook, and J. Misra. A timed semantics of Orc. *Theoretical Computer Science*, 402(2-3):234–248, August 2008.

[J4]   W. R. Cook and J. Barfield. Web services versus distributed objects: A case study of performance and interface design. *International Journal of Web Services Research (IJWSR)*, 4:49–64, 2007.

[J3]   J. Misra and W. R. Cook. Computation orchestration: A basis for wide-area computing. *Journal of Software and Systems Modeling*, 6(1):83–110, 2007.

[J2] W. R. Cook and J. Palsberg. A denotational semantics of inheritance and its correctness. *Information and Computation*, 114(2):329–350, November 1994.

[J1] W. R. Cook. A proposal for making Eiffel type-safe. *The Computer Journal*, 32(4):305–311, 1989.

Books and Theses

[B3] W. R. Cook. *Anatomy of Programming Languages.* online textbook, 2014.

[B2] W. R. Cook. *A Denotational Semantics of Inheritance.* PhD thesis, Brown University, 1989.

[B1] W. R. Cook. Translation of a procedural language for execution on a λ-calculus machine. Honors Thesis, Tulane University Department of Computer Science, 1984.

Book Chapters

[C1] W. R. Cook, W. Hill, and P. Canning. Inheritance is not subtyping. In C. A. Gunter and J. C. Mitchell, editors, *Theoretical Aspects of Object-Oriented Programming*, pages 497–517. MIT Press, 1993.

Invited Papers

[I3] W. R. Cook and R. Lämmel. Tutorial on online partial evaluation. In *Proceedings IFIP Working Conference on Domain-Specific Languages (DSL)*, pages 168–180, 2011.

[I2] D. Kitchin, A. Quark, W. Cook, and J. Misra. The Orc programming language. In *Proceedings of the IFIP International Conference on Formal techniques for Distributed Systems (FMOODS/FORTE)*, volume 5522 of *Lecture Notes in Computer Science (LNCS)*, pages 1–25. Springer, 2009.

[I1] W. R. Cook and J. Misra. Structured interacting computations. In *Software-Intensive Systems and New Computing Paradigms*, volume 5380 of *Lecture Notes in Computer Science (LNCS)*, pages 139–145. Springer, 2008.

Refereed Conferences and Workshops

[R57] M. P. Mehta and W. R. Cook. Binary-compatible verification of filesystems with ACL2. In J. Harrison, J. O'Leary, and A. Tolmach, editors, *10th International Conference on Interactive Theorem Proving, ITP 2019, September 9-12, 2019, Portland, OR, USA.*, volume 141 of *LIPIcs*, pages 25:1–25:18. Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2019.
(47.5% accepted)

[R56] Y. Wang, I. Dillig, S. K. Lahiri, and W. R. Cook. Verifying equivalence of database-driven applications. *Proceedings of the ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL)*, pages 56:1–56:29, 2018.

[R55] J. A. Thywissen, A. M. Peters, and W. R. Cook. Implicitly distributing pervasively concurrent programs: Extended abstract. In *First Workshop on Programming Models and Languages for Distributed Computing (PMLDC)*, pages 1–1, New York, NY, USA, 2016. ACM.

[R54] A. M. Peters, D. Kitchin, J. A. Thywissen, and W. R. Cook. OrcO: a concurrency-first approach to objects. In *Proceedings of the ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA)*, pages 548–567. ACM, 2016.
(25.6% accepted)

[R53]   S. Erdweg, T. van der Storm, M. Völter, M. Boersma, R. Bosman, W. R. Cook, A. Gerritsen, A. Hulshout, S. Kelly, A. Loh, G. D. P. Konat, P. J. Molina, M. Palatnik, R. Pohjonen, E. Schindler, K. Schindler, R. Solmi, V. A. Vergu, E. Visser, K. van der Vlist, G. Wachsmuth, and J. van der Woning. The state of the art in language workbenches - conclusions from the language workbench challenge. In *International Conference on Software Language Engineering (SLE)*, volume 8225 of *Lecture Notes in Computer Science*, pages 197–217, 2013.
(30% accepted)

[R52]   B. C. d. S. Oliveira, T. van der Storm, A. Loh, and W. R. Cook. Feature-oriented programming with Object Algebras. In *Proceedings of the European Conference on Object-Oriented Programming (ECOOP)*, volume 7920 of *Lecture Notes in Computer Science*, pages 27–51. Springer, 2013.
(25% accepted)

[R51]   T. van der Storm, W. R. Cook, and A. Loh. Object Grammars: Compositional and bidirectional mapping between text and graphs. In *5th International Conference on Software Language Engineering (SLE)*, pages 4–23, 2012.
(27% accepted)

[R50]   A. Loh, T. van der Storm, and W. R. Cook. Managed Data: Modular strategies for data abstraction. In *Proceedings of the ACM international symposium on New ideas, new paradigms, and reflections on programming and software (Onward!)*, pages 179–194. ACM, 2012.

[R49]   S. Nedunuri, D. R. Smith, and W. R. Cook. Theory and techniques for synthesizing efficient breadth-first search algorithms. In *Proceedings of the International Symposium on Formal Methods (FM)*, volume 7436 of *Lecture Notes in Computer Science*, pages 308–325. Springer, 2012.

[R48]   S. Nedunuri, W. R. Cook, and D. R. Smith. Theory and techniques for synthesizing a family of graph algorithms. In *First Workshop on Synthesis (SYNT)*, 2012.

[R47]   B. C. Oliveira and W. R. Cook. Functional programming with structured graphs. In *Proceedings of the 17th ACM SIGPLAN International Conference on Functional programming (ICFP)*, pages 77–88. ACM, 2012.
(36% accepted)

[R46]   B. C. d. S. Oliveira and W. R. Cook. Extensibility for the masses: Practical extensibility with Object Algebras. In *Proceedings of the European Conference on Object-Oriented Programming (ECOOP)*, pages 2–27. Springer, 2012.
Best Paper. (21% accepted)

[R45]   S. Nedunuri, W. R. Cook, and D. R. Smith. Cost-based learning for planning. In *3rd Workshop on Learning and Planning (PAL) at ICAPS*, 2011.

[R43]   A. Shali and W. R. Cook. Hybrid partial evaluation. In *Proceedings of the ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA)*, pages 375–390. ACM, 2011.
Best Student Paper. (37% accepted)

[R42]   B. Delaware, W. R. Cook, and D. Batory. Product lines of theorems. In *Proceedings of the ACM SIGPLAN Conference on Object Oriented Programming, Systems, Languages and Applications (OOPSLA)*, pages 595–608. ACM, 2011.
(37% accepted)

[R41]   B. Wiedermann and W. R. Cook. Remote Batch Invocation for SQL databases. In *The 13th International Symposium on Database Programming Languages (DBPL)*, 2011.

[R40]   B. C. d. S. Oliveira, T. Schrijvers, and W. R. Cook. EffectiveAdvice: disciplined advice with explicit effects. In *Proceedings of the 9th International Conference on Aspect-Oriented Software Development (AOSD)*, pages 109–120. ACM, 2010. (29% accepted)

[R39]   Y.-W. Kwon, E. Tilevich, and W. R. Cook. An assessment of middleware platforms for accessing remote services. In *IEEE International Conference on Services Computing (SCC)*, pages 482–489, 2010.

[R38]   S. Nedunuri, D. R. Smith, and W. R. Cook. A class of greedy algorithms and its relation to greedoids. In *International Colloquium Theoretical Aspects of Computing (ICTAC)*, pages 352–366, 2010.

[R37]   S. Apel, J. Liebig, C. Lengauer, C. Kästner, and W. R. Cook. Semistructured merge in revision control systems. In *Fourth International Workshop on Variability Modelling of Software-Intensive Systems*, pages 13–19, 2010.

[R36]   S. Nedunuri, D. R. Smith, and W. R. Cook. Synthesis of greedy algorithms from dominance relations. In *Second NASA Formal Methods Symposium (NFM)*, pages 97–108, 2010.

[R35]   A. Ibrahim, M. Fisher, II, W. R. Cook, and E. Tilevich. Remote Batch Invocation for web services: Document-oriented web services with object-oriented interfaces. In *Proceedings of the European Conference on Web Services (ECOWS)*, pages 190–199, 2009. (40% accepted)

[R34]   S. Nedunuri, D. R. Smith, and W. R. Cook. Tactical synthesis of efficient global search algorithms. In *First NASA Formal Methods Symposium (NFM)*, pages 171–175, 2009.

[R33]   W. R. Cook. On understanding data abstraction, revisited. In *Proceedings of the Onward! Conference — Essays*, pages 557–572, 2009.

[R32]   S. Nedunuri and W. R. Cook. Synthesis of fast programs for maximum segment sum problems. In *Proceedings of the International Conference on Generative Programming and Component Engineering (GPCE)*, pages 117–126, 2009. (29% accepted)

[R31]   B. Delaware, D. Batory, and W. R. Cook. Fitting the pieces together: A machine-checked model of safe composition. In *Proceedings of the Joint European Software Engineering Conference and Foundations of Software Engineering (ESEC/FSE)*, pages 243–252, 2009. (15% accepted)

[R30]   D. Brown and W. R. Cook. Function inheritance: Monadic memoization mixins. In *Proceedings of the Brazilian Programming Language Symposium (SBLP)*, 2009.

[R29]   L. E. Olson, C. A. Gunter, W. R. Cook, and M. Winslett. Implementing reflective access control in SQL. In *Proceedings of the IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec)*, pages 17–32, 2009. (38% accepted)

[R28]   A. Ibrahim, Y. Jiao, E. Tilevich, and W. R. Cook. Remote Batch Invocation for compositional object services. In *Proceedings of the European Conference on Object-Oriented Programming (ECOOP)*, pages 595–617. Springer, 2009. (22% accepted)

[R27]   E. Tilevich, W. R. Cook, and Y. Jiao. Explicit batching for distributed objects. In *Proceedings of the IEEE International Conference on Distributed Computing Systems*

(ICDCS), pages 543–552, 2009.
(16% accepted)

[R26]   B. Delaware, D. Batory, and W. Cook. A machine-checked model of safe composition. In *Proceedings of the Workshop on Foundations of Aspect-Oriented Languages (FOAL)*, 2009.
(50% accepted)

[R25]   J. Falcon and W. R. Cook. Gel: A generic extensible language. In *Proceedings of the IFIP Working Conference on Domain Specific Languages (WCDSL)*, pages 58–77, 2009.
(38% accepted)

[R24]   S. Nedunuri, D. Smith, and W. R. Cook. Handling uncertainty in job-shop scheduling. In *Proceedings of the International Workshop on Living with Uncertainties (IWLU)*, 2007

[R23]   B. Wiedermann, A. Ibrahim, and W. R. Cook. Interprocedural query extraction for transparent persistence. In *Proceedings of the ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA)*, pages 19–36. ACM, 2008.
(28% accepted)

[R22]   S. Thaker, D. Batory, D. Kitchin, and W. R. Cook. Safe composition of product lines. In *Proceedings of the International Conference on Generative Programming and Component Engineering (GPCE)*, pages 95–104. ACM, 2007.
(31% accepted)

[R21]   W. R. Cook. AppleScript. In *Proceedings of the ACM SIGPLAN Conference on History of Programming Languages (HOPL III)*, pages 1–21, 2007.

[R20]   S. Rosario, D. Kitchin, A. Benveniste, W. R. Cook, S. Haar, and C. Jard. Event structure semantics of Orc. In *Proceedings of the International Workshop on Web Services and Formal Methods (WS-FM)*, 2007.

[R19]   B. A. Wiedermann and W. R. Cook. Extracting queries by static analysis of transparent persistence. In *Proceedings of the ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL)*, pages 199–210, 2007.
(18% accepted)

[R18]   W. R. Cook and J. Barfield. Web services versus distributed objects: A case study of performance and interface design. In *Proceedings of the IEEE International Conference on Web Services (ICWS)*, pages 419–426, 2006.
Best Paper. (16% accepted)

[R17]   S. Swords and W. R. Cook. Soundness of the simply typed λ-calculus in ACL2. In *Proceedings of the International Workshop on the ACL2 Theorem Prover and Its Applications (ACL2)*, pages 35–39, 2006.

[R16]   W. R. Cook, S. Patwardhan, and J. Misra. Workflow patterns in Orc. In *Proceedings of the International Conference on Coordination Models and Languages (COORDINATION)*, volume 4038 of *Lecture Notes in Computer Science (LNCS)*, pages 82–96. Springer, 2006.
(36% accepted)

[R15]   D. Kitchin, W. R. Cook, and J. Misra. A language for task orchestration and its semantic properties. In *Proceedings of the International Conference on Concurrency Theory (CONCUR)*, pages 477–491, 2006.

[R14]   A. Ibrahim and W. R. Cook. Automatic prefetching by traversal profiling in object

persistence architectures. In *Proceedings of the European Conference on Object-Oriented Programming (ECOOP)*, pages 50–73. Springer, 2006.
(13% accepted, program committee paper)

[R13]   E. Ernst, K. Ostermann, and W. R. Cook. A virtual class calculus. In *Proceedings of the ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL)*, pages 270–282, 2006.
(18% accepted)

[R12]   R. Herrejon, D. Batory, and W. R. Cook. Evaluating support for features in advanced modularization technologies. In *Proceedings of the European Conference on Object-Oriented Programming (ECOOP)*, pages 169–194. Springer, 2005.
(14% accepted, program committee paper)

[R11]   W. R. Cook and S. Rai. Safe Query Objects: statically typed objects as remotely executable queries. In *Proceedings of the IEEE International Conference on Software Engineering (ICSE)*, pages 97–106. ACM Press, 2005.
(14% accepted)

[R10]   S. Nedunuri and W. R. Cook. Transforming declarative models using patterns in mda. In *Proceedings of the Workshop on Best Practices for Model Driven Software Development*, 2004

[R9]   S. Nedunuri and W. R. Cook. Specializing and optimizing declarative domain models. In *Proceedings of the OOPSLA Workshop on Domain-Specific Modeling*, 2004

[R8]   W. R. Cook. Interfaces and specifications for the Smalltalk collection classes. In *Proceedings of the ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA)*, pages 1–15. ACM, 1992.
(12% accepted, program committee paper)

[R7]   W. R. Cook, W. Hill, and P. Canning. Inheritance is not subtyping. In *Proceedings of the ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL)*, pages 125–135, 1990.
(16% accepted)

[R6]   G. Bracha and W. R. Cook. Mixin-based inheritance. In *Proceedings of the ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA)*, pages 303–311. ACM, 1990.
(15% accepted)

[R5]   W. R. Cook. Object-oriented programming versus abstract data types. In *Proceedings of the REX Workshop/School on the Foundations of Object-Oriented Languages (FOOL)*, volume 489 of *Lecture Notes in Computer Science (LNCS)*, pages 151–178. Springer, 1990.

[R4]   P. Canning, W. R. Cook, W. Hill, J. Mitchell, and W. Olthoff. F-bounded polymorphism for object-oriented programming. In *Proceedings of the International Conference on Functional Programming Languages and Computer Architecture (FPCA)*, pages 273–280, 1989.
(26% accepted)

[R3]   P. Canning, W. R. Cook, W. Hill, and W. Olthoff. Interfaces for strongly-typed object-oriented programming. In *Proceedings of the ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA)*, pages 457–467. ACM, 1989.
(25% accepted)

[R2]   W. R. Cook. A proposal for making Eiffel type-safe. In *Proceedings of the European Conference on Object-Oriented Programming (ECOOP)*, pages 57–70. British Com-

puting Society Workshop Series, 1989.
(23% accepted)

[R1]   W. R. Cook and J. Palsberg. A denotational semantics of inheritance and its correctness. In *Proceedings of the ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA)*, pages 433–444. ACM, 1989.
(25% accepted)

Editor

[E2]   S. Apel, W. R. Cook, K. Czarnecki, and O. Nierstrasz. Feature-oriented software development (FOSD). Technical report, Dagstuhl Seminar 11021, 2011.

[E1]   W. R. Cook, S. Clarke, and M. C. Rinard, editors. *Proceedings of the 25th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications, OOPSLA 2010, October 17-21, 2010, Reno/Tahoe, Nevada, USA.* ACM, 2010.

Technical Reports

[T8]   W. R. Cook, B. Delaware, T. Finsterbusch, A. Ibrahim, and B. Wiedermann. Model transformation by partial evaluation of model interpreters. Technical Report TR-09-09, UT Austin, Department of Computer Sciences, February 2009.

[T7]   I. Wehrman, D. Kitchin, W. R. Cook, and J. Misra. Properties of the timed operational and denotational semantics of Orc. Technical Report TR-07-65, UT Austin, Department of Computer Sciences, December 2007.

[T6]   K. Morton, D. Kitchin, and W. R. Cook. Orc-X: Combining orchestrations and XQuery. Technical Report TR-07-63, UT Austin, Department of Computer Sciences, December 2007.

[T5]   W. R. Cook and A. H. Ibrahim. Programming languages and databases: What's the problem? Technical Report TR-07-10, UT Austin, Department of Computer Sciences, February 2007.

[T4]   D. Brown and W. R. Cook. Monadic memoization mixins. Technical Report TR-07-11, UT Austin, Department of Computer Sciences, February 2007.

[T3]   D. Kitchin, W. R. Cook, and J. Misra. Semantic properties of asynchronous Orc. Technical Report TR-06-32, UT Austin, Department of Computer Sciences, January 2007.

[T2]   W. R. Cook and S. Rai. Safe Query Objects: Statically typed objects as remotely executable queries. Technical Report TR-04-17, UT Austin, Department of Computer Sciences, May 2004.

[T1]   W. R. Cook and B. Dalio. The design of a memory management unit: A SLAP/Lucifer case study. Technical Report CS-85-03, Brown University, 1985.

Patents

[P3]   W. R. Cook and C. Lopes. "Searching for virtual world objects" USPTO 8,041,704. Filed October 10, 2008; Issued October 18, 2011.

[P2]   W. R. Cook and M. Gannholm. "Rule based database security system and method". USPTO 6,820,082. Filed April 3, 2000; Issued November 16, 2004.

[P1]   W. R. Cook and M. Gannholm. "Method and apparatus for creating interactive web page objects". USPTO 6,178,432. Filed September 1996; Issued January 2001.

Articles

[A6]   W. R. Cook and C. Rosenberger. "Native Queries for Persistent Objects, A Design White Paper" Dr. Dobb's Journal (DDJ), February 2006.

[A5]   W. R. Cook. "Allegis Enterprise Platform". Allegis Whitepaper 2002.

[A4]   W. R. Cook. "Selecting an Effective PRM Package". eBizQ, 2001.

[A3]   "Allegis Delivers Web Services for Partner Relationship Management (PRM) Using Microsoft .NET Enterprise Servers" February 2001.

[A2]   W. R. Cook. "Allegis Service Architecture". Allegis Whitepaper 2000.

[A1]   "Allegis Pioneers Partner Relationship Management with Microsoft Windows DNA" June 2000.

Talks

"Stencils: Graphical User Interfaces in Ensō" Invited presentation at SPLASH-I, 2016.

"Structured Concurrent Programming in Orc" Invited presentation at MisraFest, UT Austin, 2016.

"Object Algebras: Extensibility for the Masses" Keynote at Workshop on Foundations of Object-Oriented Languages (FOOL), October 2014.

"A View of the Past and Future of Objects" Dahl-Nygaard Senior Prize lecture at European Conference on Object-Oriented Programming (ECOOP), 2014.

"Ensō" presented at IFIP Working Group 2.16, May 2014.

"Ensō" presented at Lang.NEXT, May 2014.

"Ensō" presented at IFIP Working Group 2.3, May 2014.

"Ensō: Composing DSL Interpreters, Languages and Aspects" presented at Strange Loop, September 2013.

"Inter-Language Inter-Action or Whither Paradigms?" presented at Language Interaction Design Workshop, August 2013.

"Composition and Interpretation of Domain-Specific Specification Languages" presented at Domain Specific Languages Design and Implementation (DSLDI), July 1st, 2013.

"Feature-Oriented Programming with Object Algebras" paper presented at European Conference on Object-Oriented Programming (ECOOP), 2013.

"Hybrid Partial Evaluation" presented at JVM Java Language Summit, July 2013.

"A Science of Programming Language Design?" presented at IFIP Working Group 2.16, January 2013.

"Science of Programming Language Design? Confessions of a PL Polytheist, with Practical Applications" Workshop on Evaluation and Usability of Programming Languages and Tools (PLATEAU), 2012.

"Batches: A Unified Approach to SQL, RPC, and Web Services" presented at JavaOne, September 2012.

"Ensō" presented at CWI, August 2012.

"Batches: A Unified Approach to SQL, RPC, and Web Services" presented at JVM Java Language Summit, July 2012.

"Ensō" presented at Microsoft Research, Redmond, July 2012.

"A Scripting Language for Remote Communication" presented at Dagstuhl Seminar 12011, Foundations for Scripting Languages, January 2012.

"Ensō" presented at Viewpoints Research, December 2011.

"Batches: Unifying Remote Data, Remote Procedure, and Service Clients" presented at Summer School of the European Conference on Object-Oriented Programming (ECOOP), 2011.

"Ensō" presented at IFIP Program Committee Workshop, 2011.

"On Understanding Data Abstraction ... Revisited" presented at Microsoft Research Cambridge, 2011.

"Hybrid Partial Evaluation" presented at CWI, September 2011.

"Remote Batch Execution for SQL" presented at Workshop on Database Programming Languages, August 2011.

"Batches" presented at Working Group on Language Design, May 2011.

"The Missing Link: Unifying Remote Data and Services" Keynote at Programming Language Approaches to Concurrency and Communication-Centric Software (PLACES), March 2010.

"Unifying Remote Data, Remote Procedures and Web Services." Keynote at International Conference on Objects and Databases (ICOODB), September 2010.

"Unifying Remote Data, Remote Procedures, and Services" Dagstuhl Seminar: Relationships, Objects, Roles, and Queries in Modern Programming Languages, April 2010.

"Unifying Remote Procedures, Remote Services, and Database Access" RADICAL Workshop, May 2010. `http://research.microsoft.com/en-us/um/people/adg/radical2010/movies/mp4_day1/8WilliamCook.mp4`

"Model Interpretation and Compilation by Partial Evaluation" École polytechnique fédérale de Lausanne (EPFL), April 2010.

"Unifying Remote Data, Remote Procedure, and Service Clients" École polytechnique fédérale de Lausanne (EPFL), April 2010.

"Breaking Through to Remote Data and Services" Keynote at India Software Engineering Conference (ISEC), Mysore, February 2010.

"Partition and Reforest for DistributedServices and Data Access" PUC Rio, Brazil, August 2009.

"Language Design for Distributed Objects" Workshop on Distributed Objects for the 21st Century (DO21), July 2009.

"Slice, Partition and Reforest for Data Access and Distribution IFIP Working Group 2.3, Boston, MA, June 2009.

"Function Inheritance: Monadic Memoization Mixins", Brazilian Programming Language Symposium (SBLP), 2009.

"Slice, Partition and Reforest for Data Access and Distribution" IFIP Working Group 2.11, Mountain View, California, April 2009.

"Strategic Programming by Model Interpretation and Partial Evaluation" MIT CSAIL and Brown University, January 2009

"Remote Batching for Object Services" Universidade Federal de Campina Grande (UFCG), Brazil, January 2009.

"Strategic Programming by Model Interpretation and Partial Evaluation" ACL2 Seminar, UT Austin, October 2008.

"Strategic Programming by Model Interpretation" Middle Earth Programming Language Seminar (MEPLS), Abilene, TX, September 2008.

"Future of Programming" INTERLINK Workshop, Nice, France, November 2008.

"Strategic Programming" Kestrel Institute, Stanford, CA, July 2008.

"Strategic Programming" IFIP Working Group 2.3, Cambridge, England, July 2008.

"Integrating Programming Languages and Databases" Microsoft Research, Cambridge UK, June 2008.

"Strategic Programming by Model Interpretation" IFIP Working Group 2.11, Passau, DE, June 2008.

"Partial Evaluation of Model Interpreters" ECOOP Program Committee Workshop, London, UK, March 2008.

"Models for Application Programming" IFIP Working Group 2.3, Santa Fe, NM, October 2007

"AppleScript", The Third Conference on History of Programming Languages (HOPL III), San Diego, CA, June 2007.

"A Readable Bicameral Syntax". Compiler Construction Program Committee Seminar, Lausanne, Switzerland, December 2006.

"Web services versus distributed objects: A case study of performance and interface design", IEEE International Conference on Web Services (ICWS), Chicago, IL, September 2006.

"Workow patterns in Orc", Coordination Models and Languages (COORDINATION), Bologna, Italy, June 2006.

"Academic writing". CRA-W/CDC Programming Languages Summer School, UT Austin, May 2007.

"Getting started in PL design research." CRA-W/CDC Programming Languages Summer School, UT Austin, May 2007.

"AppleScript, Latency, Databases & Web Services". Lang.NET Symposium, Redmond, CA, August 2006.

Lightning talk on "Native Queries". OOPSLA 2005, October 2005.

"Using ACL2 for Programming Language Metatheory" ACL2 Seminar, UT Austin, September 2005.

"Safe Query Objects: statically typed objects as remotely executable queries" International Conference on Software engineering (ICSE), Saint Louis, MO, May 2005.

"PL/DB: What's the problem?", Microsoft Research, Redmond, WA, October 2004.

"Interfacing programming languages & databases", Brown University, July 2004.

"Industry & Academia", UTCS Industry vs. Academia Perspective seminar, December 2004.

"How to be secure in a state of flux". UT Austin IForum, March 2004.

"Policy-based authorization" at Brown, WPI, Northeastern, UT Austin, UC Irvine, UC Santa Cruz, OGI, UIUC, Penn State, and University of Washington, Spring 2003.

W. R. Cook and W. Harris. "Design of a modern scripting language" (Video) Distinguished Lecture Series VI. University Video Communications, Stanford, CA. 1993.

"Interfaces and specications for the Smalltalk collection classes" Object-Oriented Programming, Systems, Languages and Applications (OOPSLA), Vancouver, Canada, October 1992.

"Inheritance is not subtyping" Principles of Programming Languages (POPL), San Francisco, CA, January 1990.

"Object-oriented programming versus abstract data types" REX Workshop/School on the Foundations of Object-Oriented Languages (FOOL), Noordwijkerhout, The Netherlands, May 1990.

"A denotational semantics of inheritance and its correctness", Object-Oriented Programming, Systems, Languages and Applications (OOPSLA), New Orleans, LA, October 1989.

"F-bounded polymorphism for object-oriented programming" Functional Programming Languages and Computer Architecture (FPCA), London, England, September 1989.

"A proposal for making Eiffel type-safe", European Conference on Object-Oriented Programming (ECOOP), Nottingham, UK, July 1989.

"A Semantics of Inheritance". Workshop on Encapsulation, Modularity, and Reusability. University of Texas at Austin, 1987.

Panels

"Peak Objects". Summing up the Past and Trying to Outline the Future, at European Conference on Object-Oriented Programming (ECOOP), July 2006.

G. Cohen, W. R. Cook, R. Filman, L. Tesler. "Onward! Panel: New Programming Constructs Beyond Inheritance, Patterns, and Notation: What's left?", Object-Oriented Programming Systems, Languages, and Applications (OOPSLA), 2002.

G. Jones, W. R. Cook, D. Straus. "Demonstrating the Advantages of Open Architecture Software", Partner Relationship Management 2002. San Francisco, April 2002.

O. Nierstrasz, A. Snyder, A. S. Williams, W. R. Cook. "Open distributed processing" Addendum to the Proceedings on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA), 1994, pp 67-71.

Y. Shan, T. A. Cargill, B. Cox, W. R. Cook, M. E. S. Loomis, A. Snyder: "Is Multiple Inheritance Essential to OOP?" Addendum to the Proceedings on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA) 1993, pp. 360-363.

R. E. Johnson, K. Beck, G. Booch, W. R. Cook, R. P. Gabriel, Rebecca Wirfs-Brock: "How to Get a Paper Accepted at OOPSLA" Addendum to the Proceedings on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA) 1993: pp. 429-436.

W. R. Cook. "BOF on inheritance". Addendum to the Proceedings on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA), ACM SIGPLAN Notices, 23(5):41-42, May 1987.

Unpublished Manuscripts

W. R. Cook. "Policy-Based Authorization". Unpublished manuscript, 2004.

W. R. Cook and W. Harris. "The Open Scripting Architecture: Automating, Integrating, and Customizing Applications." Unpublished manuscript, 1993.

W. R. Cook. "A self-ish model of inheritance". Unpublished manuscript, 1987.

Professional Activities

Grants

2006-present	Computer Sciences Endowed Faculty Fellowship
9/2015	Chair's Leave. University of Texas at Austin Computer Science.
6/2011	Principal Investigator. Batches for Java. $50,000. Oracle Corporation.
12/2008	Co-Principal Investigator with Jayadev Misra. High Assurance Workflow. $800,000.
6/2008	Co-Principal Investigator with Jayadev Misra. Structured Wide-area Programming. NSF #CCF-6752487, $513,000.
10/2007	Co-Principal Investigator with Don Batory. Science of Design: Architectural Metaprogramming. NSF #CCF-0724979, $800,000.
12/2005	2006 Summer Research Assignment Grant, UT Austin.
9/2005	Principal Investigator. db4objects, Incorporated. Unrestricted research grant.
3/2005	Principal Investigator. Integrating Programming Languages and Databases. NSF CAREER # CCF-0448128, $400,000 over five years.

Service

2018-2019	Undergraduate Studies Committee, UTCS
2017-2018	Undergraduate Studies Committee, UTCS
2017-2018	Faculty Evaluation Committee, UTCS
2016-2017	Undergraduate Studies Committee, UTCS
2016-2017	Faculty Evaluation Committee, UTCS
2015-2016	Masters Admissions Committee, UTCS
2014-2015	Undergraduate Honors Thesis Committee, UTCS
2014-2015	Faculty Evaluation Committee, UTCS
2013-2014	Promotion Committee, UTCS
2008-2013	Undergraduate Advisor, UTCS
2006-2008	Graduate PhD Admission Committee, UTCS
2004-2006	Undergraduate Studies Committee, UTCS

Workshop & Conference Organization

2013	Co-organized Lorentz Workshop, Netherlands. *Language Interaction Design* (LIXD). With Tijs van der Storm and Eelco Visser.
2010-2013	Steering Committee Chair ACM Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)

2010-2014	Steering Committee ACM Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
2012	Treasurer ACM Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
2011	Treasurer ACM Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
2010	General Chair ACM Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
2009	General Organizer 2nd Middle-Earth Programming Language Seminar (MEPLS)
2008-2012	Steering Committee, International Conference on Object-Oriented Databases
2006	Research Program Committee Chair ACM Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
2006	Co-organizer and program committee chair First Dynamic Languages Symposium
2007	Panel organizer Objects and Databases: State of the Union 2006 at OOPSLA
2005	Co-organizer Workshop on Best Practices for Model Driven Software Development (BPMDSD).
2004	Co-chair, Industrial Practice Track 13th WWW Conference, 2004.
1994	Workshop on Writing, with Richard Gabriel ACM Conference on Object-Oriented Programming Systems, Languages, and Applications

Program Committees

2019	Partial Evaluation and Program Manipulation (PEPM)
2018	Principles of Programming Languages (POPL)
2018	Partial Evaluation and Program Manipulation (PEPM)
2015	Workshop on New Object-Oriented Languages (NOOL)
2015	Dynamic Languages Symposium (DLS)
2015	Domain Specific Languages Design and Implementation (DSLDI)
2014	Programming Language Design and Implementation (PLDI)
2013	Onward! Research Papers
2013	International Workshop on Advanced/Academic Software Development Tools and Techniques (WASDeTT)
2013	International Conference on Software Engineering and Formal Methods (SEFM)
2013	International Symposium on Database Programming Languages (DBPL)

2013	Workshop on Generic Programming (WGP)
2012	Programming Language Design and Implementation ERC (PLDI)
2012	Dynamic Languages Symposium (DLS)
2012	Mathematics of Program Construction (MPC)
2012	Workshop on Cross-Model Language Design and Implementation (XLDI)
2012	Foundations of Object-Oriented Languages (FOOL)
2011	Model Driven Engineering Languages and Systems (MODELS)
2011	Onward! Essays
2011	Dynamic Languages Symposium (DLS)
2011	Tools Europe (TOOLS)
2010	The First Scala Workshop
2010	International Conference on Objects and Databases (ICOODB)
2009	European Conference on Object-Oriented Programming (ECOOP)
2009	Coordination Models and Languages (COORDINATION)
2009	Workshop on XML and Object-Oriented Database Technologies (XOODB)
2009	Workshop on Fundamental Aspects of DSL Interoperability (KISS-FADI)
2009	Feature Oriented Software Development (FOSD)
2008	OOPSLA Doctoral Symposium
2008	Generative Programming and Component Engineering (GPCE)
2008	European Conference on Object-Oriented Programming (ECOOP)
2008	Coordination Models and Languages (COORDINATION)
2008	Dynamic Languages Symposium (DLS)
2007	Object-Oriented Programming Systems, Languages, and Applications (OOPSLA) Research and Essays committees
2007	Compiler Construction (CC)
2007	Coordination Models and Languages (COORDINATION)
2007	Dynamic Languages Symposium (DLS)
2006	European Conference on Object-Oriented Programming (ECOOP)
2005	Principles of Programming Languages (POPL)
2005	Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
2005	European Conference on Object-Oriented Programming (ECOOP)
2004	Onward! at Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
2004	Workshop on Foundations of Aspect-Oriented Languages (FAOL) at the 2nd International Conference on Aspect-Oriented Software Development (AOSD)
2004	Workshop in Software Model Engineering (WiSME) at the UML Conference
2003	Domain Driven Development track at Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)

2003	Onward! at Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
2003	Workshop on Foundations of Aspect-Oriented Languages (FAOL) at the 2nd International Conference on Aspect-Oriented Software Development (AOSD)
1996	Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
1994	Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
1993	Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
1992	Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)
1991	Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)

Professional Organizations

2010-present	Founding Member, IFIP Working Group on Language Design (WG 2.16)
2008-present	Invited Member, IFIP Working Group on Program Generation (WG 2.11)
2008-2009	Scalazine Advisory Board
2007-present	Invited Member, IFIP Working Group on Programming Methodology (WG 2.3)
2005-present	Member of Java Community Process (JCP)
2000-2003	Representative to World Wide Web Consortium (W3C)
2002-present	Member of IEEE and IEEE Computing Society
1984-present	Member of Association for Computing Machinery

Teaching

Department of Computer Sciences, University of Texas at Austin

Spring 2018	**Programming Languages**. Undergraduate CS 345 Instructor: 3.8/5.0, Course: 3.7/5.0, Enrollment: 49
Spring 2018	**Programming Languages**. Graduate CS 386L Instructor: 2.8/5.0, Course: 3.0/5.0, Enrollment: 34
Fall 2017	**Research/Teaching in Computer Science**. Graduate CS 398T co-taught with Allison Norman
Spring 2017	**Programming Languages**. Undergraduate CS 345 Instructor: 3.8/5.0, Course: 3.5/5.0, Enrollment: 35
Fall 2016	**Programming Languages**. Graduate CS 386L Instructor: 3.8/5.0, Course: 3.8/5.0, Enrollment: 17
Spring 2016	**Programming Languages**. Undergraduate CS 345 Instructor: 3.7/5.0, Course: 3.4/5.0, Enrollment: 60
Summer 2015	**Programming Languages**. Undergraduate CS 345 Instructor: 4.3/5.0, Course: 4.2/5.0, Enrollment: 47
Spring 2015	**Programming Languages**. Graduate CS 386L Instructor: 4.3/5.0, Course: 4.0/5.0, Enrollment: 19
Spring 2015	**Programming Languages**. Undergraduate CS 345 Instructor: 3.7/5.0, Course: 3.5/5.0, Enrollment: 50

Spring 2014   **Programming Languages**. Graduate CS 386L
Instructor: 3.9/5.0, Course: 4.0/5.0, Enrollment: 15

Spring 2014   **Programming Languages**. Undergraduate CS 345
Instructor: 3.7/5.0, Course: 3.3/5.0, Enrollment: 56

Spring 2013   **Programming Languages**. Undergraduate CS 345
Instructor: 4.0/5.0, Course: 3.6/5.0, Enrollment: 44

Spring 2012   **Software Development**. Undergraduate CS 378
Instructor: 4.2/5.0, Course: 3.6/5.0, Enrollment: 34

Fall 2012   **Programming Languages**. Graduate CS 386L
Instructor: 4.2/5.0, Course: 3.9/5.0, Enrollment: 34

Spring 2011   **Programming Languages**. Graduate CS 386L
Instructor: 4.6/5.0, Course: 4.4/5.0, Enrollment: 14

Spring 2011   **Honors Programming Languages**. Undergraduate CS 345H
Instructor: 4.6/5.0, Course: 4.4/5.0, Enrollment: 26

Fall 2011   **Honors Programming Languages**. Undergraduate CS 345H
Instructor: 4.7/5.0, Course: 4.3/5.0, Enrollment: 27

Fall 2009   **Honors Programming Languages**. Undergraduate CS 345H
Instructor: 3.9/5.0, Course: 3.7/5.0, Enrollment: 47

Fall 2009   **Programming Languages**. Graduate CS 386L
Instructor: 4.6/5.0, Course: 4.2/5.0, Enrollment: 5

Spring 2009   **Programming Languages**. Graduate CS 386L
Instructor: 4.1/5.0, Course: 3.8/5.0, Enrollment: 23

Fall 2008   **Model-Driven Software Development**. Undergraduate CS 371S
co-taught with James C. Browne
Instructor: 4.0/5.0, Course: 3.4/5.0, Enrollment: 26

Fall 2008   **Research/Teaching in Computer Science**. Graduate CS 398T
co-taught with J Moore

Fall 2007   **Honors Programming Languages**. Undergraduate CS 345H
Instructor: 3.0/5.0, Course: 2.8/5.0, Enrollment: 37

Spring 2007   **Programming Languages**. Undergraduate CS 345
Instructor: 3.9/5.0, Course: 3.5/5.0, Enrollment: 48

Spring 2007   **Programming Languages**. Graduate CS 386L
Instructor: 4.3/5.0, Course: 4.1/5.0, Enrollment: 22

Spring 2006   **Programming Languages**. Graduate CS 386L
Instructor: 3.9/5.0, Course: 3.6/5.0, Enrollment: 16

Fall 2005   **Honors Programming Languages**. Undergraduate CS 345H
Instructor: 4.0/5.0, Course: 3.6/5.0, Enrollment: 31

Spring 2005   **Programming Languages**. Undergraduate CS 345
Instructor: 4.5/5.0, Course: 4.2/5.0, Enrollment: 43

Fall 2004   **Programming Languages**. Graduate CS 386L
Instructor: 4.5/5.0, Course: 4.4/5.0, Enrollment: 11

Spring 2004   **Programming Languages**. Undergraduate CS 345
Instructor: 4.4/5.0, Course: 4.1/5.0, Enrollment: 47

Fall 2003　**Integrating Programming Languages and Databases**. Graduate Seminar CS
397T
Instructor: 4.3/5.0, Course: 4.1/5.0, Enrollment: 9

Department of Computer Engineering, Santa Clara University

1990-1991　**Programming Language Concepts** (graduate level)

Department of Computer Science, Brown University

1986　　　**Teaching Assistant: Advanced Database Concepts**

Department of Computer Science, Tulane University

1982　　　**Data Structures and Algorithms** (CS 118)
Taught regular computer science course in summer school

1981　　　**PDP-11 Assembly Language** (CS 201)
Taught regular computer science course in summer school

1981-1984　**Teaching Assistant**
Introduction to Computer Science, Data Structures.
Led discussion sections for eight semesters, Head TA

Advising

Graduated Doctoral Students

2013　　　Benjamin Delaware: *Feature Modularity in Mechanized Reasoning.* (Co-advised with
Don Batory)
Purdue Computer Science Assistant Professor

2013　　　David Kitchin: *Orchestration and Atomicity.* (Co-advised with Jayadev Misra)
Google

2012　　　Srinivas Nedunuri: *Theory and Techniques for Synthesizing Efficient Breadth-First
Search Algorithms*
Postdoctoral Researcher, Department of Computer Science, Rice University

2009　　　Ali Hussein Ibrahim: *Practical Transparent Persistence*
Google

2009　　　Benjamin Alan Wiedermann: *Integrating Programming Languages and Databases
via Program Analysis and Programming Language Design*
Harvey Mudd College Computer Science Associate Professor

Graduated Masters Students

2010　　　Scott Lasater Kilpatrick: *Ad Hoc: Overloading and Language Design*

Current Doctoral Students

Mihir P. Mehta: *Code Proofs with a Verified Filesystem Model*

Doctoral Committees

2018　　　Xuan Bi. *Disjoint Intersection Types: Theory and Practice.* THE UNIVERSITY
OF HONG KONG. Supervised by Bruno C. d. S. Oliveira.

2015   Juan Federico Sequeda. *A View Approach to Ontology-Based Data Access.* Supervised by Daniel Miranker.

2015   Dimitrios Prountzos. *Elixir: Synthesis of Parallel Irregular Algorithms.* Supervised by Keshav Pingali.

2014   Aibo Tian. *Automatic Data Integration with Generalized Mapping Definitions.* Supervised by Daniel Miranker.

2013   Josu Martinez. *Behavioral Semantics as a Basis for Self-healing.* IT University of Copenhagen, Denmark

2013   Chang Hwan Peter Kim. *Systematic Techniques for Efficiently Checking Software Product Lines.* Supervised by Don Batory.

2012   Zef Hemel. *Methods and Techniques for the Design and Implementation of Domain-Specific Languages.* Delft University of Technology. Supervised by Eelco Visser.

2009   Benjamin Charles Hardekopf. *Pointer analysis: building a foundation for effective program analysis.* Supervised by Calvin Lin.

2007   Jia Liu. *Algebraic Manipulations of Software Designs and Feature Oriented Programming.* Supervised by Don Batory.

2006   Hanbing Liu. *Formal Specification and Verification of a JVM and its bytecode verifier.* Supervised by J Moore.

2006   Mark Grechanik. *Design and Analysis of Interoperating Components.* Supervised by Don Batory and Dewayne E. Perry.

2006   Roberto E. Lopez-Herrejon. *Understanding Feature Modularity.* Supervised by Don Batory.

2005   Rui Mao. *A Metric-Space Database Storage Manager and Its Applications in Bioinformatics.* Supervised by Daniel Miranker.

Undergraduate Independent Study

2020   Aditya Tewari: *Reading Group for Homotopy Type Theory.*

2020   Gahwon Lee: *Elevator controller design.*

2017   Dhruv Rajan: *Probabilistic Haskell.*

2017   William Yager: *Free Monads for Free Programs.*

2016   Matthew Allen: *Parametric Polymorphism in the Go Programming Language.*

2013   Brian Bales: *Asynchronous Batching in ECMAScript.*

2013   August Shi: *Performance of Remote Batched Services in Dynamic Languages.*

2010   David Federman: *Applying Formal Concept Analysis to Cascading Style Sheets.*

2010   Stuart Montgomery: *Model-Driven Development.*

2009   Shaon Barman and Colin Wragg: *Automatic Abstract Syntax.*

2008   Jose Falcon: *Generic Extensible Languages.*

2005   Daniel Brown: *In search of type functions.*

2005   Janel Barfield: *Interface design and performance of web services.*

2004   Christina Wang: *Course proposal – Software Development Studio.*

2004   Aniket Shah: *Review of the Extensibility Problem.*

2004   Chihou Ng: *Design and implementation of a College Student Application Suite for mobile devices.*

Products

Primary Architect

1998-2003   **Allegis Sales Partner / Allegis eBusiness Suite**
Allegis Corporation
Chief Architect, VP Engineering
Introduced at Demo 99, Allegis Sales Partner is a Partner Relationship Management solution for large enterprises to manage and optimize indirect sales channels. Venture funded by Benchmark Capital (lead), Amerindo Investment Advisors, Deutsche Bank Alex Brown, Focus Ventures, Integral Capital Partners, Rembrandt Venture Partners, Seligman Technology Group, Brinson Partners, Hambrecht & Quist, Palantir Partners, Pivotal Asset Management. Customers included HP, Microsoft, Charles Schwab, Dow Corning, Bell South and ViewSonic. Acquired in 2003 by Click Commerce.

1997-1998   **Net-It Central**
Net-It Software
Chief Architect, Engineering Manager
Creates complete, searchable intranet sites from folders of documents. Acquired by Informative Graphics.

1996-1997   **Net-It Now!**
Net-It Software
Chief Architect, Engineering Manager
Net-It Now! captures the printed output of any Windows document and converts it into interactive, java-rendered web pages.

1995   **Writer's Solution**
BAM! Software for Prentice Hall/Computer Curriculum Corp.
Software Architect
Developed multimedia production tools for creating an 8 CD highly interactive multimedia curriculum for middle school writing and grammar instruction.

1993   **AppleScript**
Apple Computer
Co-Architect with Warren Harris, *Engineering Manager*
AppleScript is a user-level dynamic language for integration, customization, and automation of applications on the Macintosh.

1983   **SLAW**, Tulane University
Implementor
SLAW is a tool for creating *structure charts*, a program design notation. SLAW was used by students in introductory CS courses to document designs and to create the diagrams for the book *ANSI Fortran 77: An Introduction to Structured Software Design* by V. Law.

1981   **Z**, Tulane University
Co-implementor with Chris Warth
This variant of Z, the 95% program editor, was the primary text editor in the Tulane Computer Science department from 1981 until the mid 1990's.

Influence on Commercial Products

2005   **db4o** version 5.0
db4objects, Inc.
Native Queries are the key feature of version 5.0 of the db4objects database

2005   **Plain Old Java Queries (POJQ)**
java.net open source project
An open source implementation of Safe Query Objects

December 19, 2019