

**Robert L. Constable**  
Curriculum Vitae

March 24, 2016

**PERSONAL DETAILS**

- Citizenship United States
- Contacting Address Computer Science Department  
Cornell University  
320 Gates Hall  
Ithaca, New York 14853  
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**EDUCATION**

- 1964 A.B., Princeton University, Mathematics
- 1965 M.A., University of Wisconsin, Mathematics
- 1968 Ph.D., University of Wisconsin, Mathematics  
Thesis Supervisor: Stephen Cole Kleene

**ACADEMIC POSITIONS**

- 1999–2009 Founding Dean, Faculty of Computing and Information Science, Cornell University
- 1993–1999 Chair, Department of Computer Science, Cornell University
- 1978– Professor, Department of Computer Science, Cornell University
- 1972–1978 Associate Professor, Department of Computer Science, Cornell University
- 1968–1972 Assistant Professor, Department of Computer Science, Cornell University
- 1968–1968 Instructor, Department of Computer Science, University of Wisconsin

**PROFESSIONAL ACTIVITIES**

- Editorships
  - Logical Methods in Computer Science
  - The Computer Journal, Oxford University Press
  - Journal of Logic and Computation, Oxford University Press
  - Formal Methods in System Design, Kluwer Academic Publishers

- Directorships
  - Oregon Programming Languages Summer School (OPLSS) (2012 continuing)
  - NATO Summer School at Marktoberdorf (1985 - 2009)
  - PRL Research Group (1980 - present)
- Advisory Committees
  - Council of Higher Education (CHE) Israel, review committee for computer science departments (2013)
  - Johns Hopkins University, Department of Computer Science (2008 continuing)
  - University of Michigan, School of Information (2008-2012)
  - Microsoft Faculty Fellows selection committee (2005-2009)
  - Princeton University Advisory Council for Computer Science (1990-1995)
- Memberships
  - CRA IT Deans Group (formally IT Deans) (2000-2009)
  - Computing Research Association Board (CRA Board) (2004-2007) elected
  - Association for Symbolic Logic, member of ASL Council (1995-1998) elected
  - General Chair, Logic in Computer Science (LICS) (1991-1994) elected
  - ACM, SIGACT, SIGART, and SIGPLAN
- Awards
  - Herbrand Award, 2014. *“In recognition of his pioneering research in automated reasoning, including his seminal contributions to the foundations of computational type theory; the creation of Nuprl, the first constructive type theory based theorem prover; the development of the correct-by-construction programming paradigm; and their applications to verification and synthesis of computer systems, including distributed computing.”*
  - ACM Fellow, 1994
  - John Simon Guggenheim Fellowship, 1990-1991
  - Outstanding Educator Award, 1987
- Cornell University
  - Dean of the Faculty of Computing and Information Science (1999-2009)
  - Chairman of Computer Science Department (1993-1999)
  - Computing and Information Science Task Force (1999)
  - Research Initiatives Task Force (1997-1998)
  - Task Force on Mathematics (1994-1995)
  - Cognitive Studies Executive Committee (1987-1992)

– Director of Graduate Studies, Computer Science (1976-1979)

## PUBLICATIONS

### Books

1. *Implementing Mathematics with the Nuprl Proof Development System*, Prentice-Hall, Englewood Cliffs, NJ, 1986 (with PRL Group).
2. *An Introduction to the PL/CV2 Programming Logic*, Lecture Notes in Computer Science 135, Springer-Verlag, 1982 (with S. D. Johnson and C. D. Eichenlaub).
3. *A Programming Logic*, Winthrop, Cambridge, 1978 (with M. J. O'Donnell).

### Chapters in Books (selected)

1. Polymorphic Logic. In *Logic, Construction, Computation*, editors U. Berger, H. Diener, P. Schuster, M. Seisenberger, Ontos Verlag, 2013 (with M. Bickford).
2. Russell's Orders in Kripke's Theory of Truth and Computational Type Theory. In *Handbook of the History of Logic: Sets and Extensions in the Twentieth Century*, editors D. M. Gabbay, A. Kanamori, and J. Woods, Elsevier B.V., Vol. 6, 2012, pages 801 – 845 (with F. Kamareddine and T. Laan).
3. The Triumph of Types: Principia Mathematica's Impact on Computer Science. In *Principia Mathematica Anniversary Symposium*, 2010.
4. Building Mathematics-Based Software Systems to Advance Science and Create Knowledge. In *Efficient Algorithms: Essays Dedicated to Kurt Mehlhorn on the Occasion of His 60th Birthday*, LNCS 5760, editors S. Albers, H. Alt, and S. Näher, Springer, 2009, pages 3 – 17.
5. Formal Foundations of Computer Security. In *NATO Science for Peace and Security Series - D: Information and Communication Security*, Vol. 14, 2008, pages 29 – 52 (with M. Bickford).
6. Recent Results in Type Theory and Their Relationship to Automath. In *Thirty Five Years of Automating Mathematics*, editor F. Kamareddine, Kluwer, Amsterdam, 2003, pages 37 – 48.
7. Naive Computational Type Theory. In *Proof and System-Reliability*, editors H. Schwichtenberg and R. Steinbrueggen, NATO Science Series III, International Summer School Marktoberdorf, Kluwer, Amsterdam, 2002, pages 213 – 260.
8. Computational Complexity and Induction for Partial Computable Functions in Type Theory. In *Reflections on the Foundations of Mathematics: Essays in Honor of Solomon Feferman*, editors W. Sieg, R. Sommer, and C. Talcott, Association for Symbolic Logic, 2001, pages 166 – 183 (with K. Cray).
9. Nuprl's Class Theory and its Applications. In *Foundations of Secure Computation*, editors F. L. Bauer and R. Steinbrueggen, NATO Science Series F, IOS Press, Amsterdam, 2000, pages 91 – 116.

10. Constructively Formalizing Automata. In *Proof Language and Interaction: Essays in Honour of Robin Milner*, MIT Press, Cambridge, 2000, pages 213 – 238 (with P. B. Jackson, P. Naumov, and J. Uribe).
11. Formalizing Decidability Theorems about Automata. In *Computational Logic*, editors U. Berger and H. Schwichtenberg, NATO ASI Series, Springer, Vol. 165, 1999, pages 179 – 213.
12. Types in Logic, Mathematics and Programming. In *Handbook of Proof Theory*, editor S. R. Buss, Elsevier Science B.V., 1998, pages 683 – 786.
13. The Structure of Nuprl’s Type Theory. In *Logic and Computation*, NATO ASI Series, Springer-Verlag, 1996, pages 123 – 156.
14. Using Reflection to Explain and Enhance Type Theory. In *Proof and Computation*, NATO ASI Series, Springer-Verlag, 1994, pages 65 – 100.
15. Metalogical Frameworks. In *Logical Environments*, editors G. Huet and G. Plotkin, Cambridge University Press, 1993, pages 1 – 29 (with D. A. Basin).
16. Lectures on: Classical Proofs as Programs. In *Logic and Algebra of Specification*, editors F. L. Bauer, W. Brauer, and H. Schwichtenberg, Springer, 1993, pages 31 – 61.
17. Metalevel Programming in Constructive Type Theory. In *Programming and Mathematical Method*, NATO ASI Series, Vol. F88, Springer-Verlag, 1992, pages 45 – 93.
18. Formal Theories and Software Systems: Fundamental Connections between Computer Science and Logic. In *Future Tendencies in Computer Science, Control and Applied Mathematics, Lecture Notes in Computer Science 653*, Springer-Verlag, 1992, pages 105 – 127.
19. Reflecting the Open-ended Computation System of Type Theory. In *Logic, Algebra, and Computation*, editor F. L. Bauer, Springer, 1991, pages 265 – 280 (with D. Howe and S. F. Allen).
20. Nuprl as a General Logic. In *Logics for Computer Science*, Academic Press, 1990, pages 77 – 90 (with D. Howe).
21. Implementing Metamathematics as an Approach to Automatic Theorem Proving. In *A Source Book of Formal Approaches in Artificial Intelligence*, North-Holland, 1990, pages 45 – 75 (with D. Howe).
22. Assigning Meaning to Proofs: A Semantic Basis for Problem Solving Environments. In *Constructive Methods in Computing Science*, editor M. Broy, NATO ASI Series, Vol. F55, Springer-Verlag, 1989, pages 63 – 91.
23. Themes in the Development of Programming Logics Circa 1963 – 1987. In *Annual Review of Computer Science*, Vol. 3, 1988, pages 147 – 165.
24. The Role of Finite Automata in the Development of Modern Computing Theory. In *Proceedings of the Kleene Symposium*, North-Holland, 1980, pages 59 – 81.
25. A Discussion of Program Verification. In *Proceedings of the Conference on Research Directions in Software Technology*, editor P. Wegner, MIT Press, Cambridge, 1979, pages 393 – 403.

### Journal Articles (selected relevant to current research)

1. Intuitionistic Ancestral Logic. In *Journal of Logic and Computation: exv073v1-exv073*, October 2015 (with Liron Cohen).
2. Intuitionistic Completeness of First-Order Logic. In *Annals of Pure and Applied Logic*, Elsevier B.V., Vol. 165, Issue 1, 2014, pages 164 – 198 (with M. Bickford).
3. Knowledge-Based Synthesis of Distributed Systems Using Event Structures. In *Logical Methods in Computer Science*, Vol. 7, Issue 2, 2011 (with M. Bickford, J. Halpern, and S. Petride).
4. Extracting Programs from Constructive HOL Proofs via IZF Set - Theoretic Semantics. In *Logical Methods in Computer Science*, Vol. 4, Issue 3, 2008 (with W. Moczydlowski).
5. Transforming the Academy: Knowledge Formation in the Age of Digital Information. In *PhysicaPlus*, 9, January, 2007.
6. Innovations in Computational Type Theory using Nuprl. In *Journal of Applied Logic*, Elsevier Science, Vol. 4, Issue 4, 2006, pages 428 – 469 (with S. Allen, M. Bickford, R. Eaton, C. Kreitz, L. Lorigo, and E. Moran).
7. Using Formal Reference to Enhance Authority and Integrity in Online Mathematical Texts. In *Journal of Electronic Publishing*, Vol. 9, No. 2, 2006 (with L. Lorigo and S. Allen).
8. The Future of Departments. In *Academic Leader*, 19, 2003, pages 1 – 12 (with G. C. Altschuler).
9. The Horus and Ensemble Projects: Accomplishments and Limitations. In *DARPA Information Survivability Conference and Exposition (DISCEX 2000)*, Vol. I, 2000, pages 149 – 161 (with K. Birman, M. Hayden, J. Hickey, C. Kreitz, R. van Renesse, O. Rodeh, and W. Vogels).
10. Metalogical Frameworks II: Developing a Reflected Decision Procedure. In *Journal of Automated Reasoning*, Vol. 22(2), 1999, pages 171 – 221 (with W. E. Aitken and J. L. Underwood).
11. A Note on Complexity Measures for Inductive Classes in Constructive Type Theory. In *Information and Computation*, Vol. 143(2), 1998, pages 137 – 153.
12. Computational Foundations of Basic Recursive Function Theory. In *Theoretical Computer Science B: Logic, Semantics, and Theory of Programming*, Vol. 120, 1993, pages 89 – 112 (with S. F. Smith).
13. On Writing Programs that Construct Proofs. In *Journal of Automated Reasoning*, Vol. 1, 1985, pages 285 – 326 (with T. Knoblock and J. Bates).
14. Proofs as Programs. In *Transactions on Programming Languages and Systems*, Vol. 7(1), 1985, pages 113 – 136.
15. Remembrances of Errett Bishop. In *Contemporary Mathematics*, American Mathematical Society, Vol. 39, 1985, pages 79 – 84 (with A. Nerode and G. Metakides).

16. Constructive Mathematics as a Programming Logic I: Some Principles of Theory. In *Foundations of Computing Theory, Lecture Notes in Computer Science* 158, Springer-Verlag, NY, 1983, pages 64 – 77; also *Annals of Discrete Mathematics*, Vol. 24, 1985, pages 21 – 38.
17. The Type Theory of PL/CV3. In *Logics of Programs, Lecture Notes in Computer Science* 135, Springer-Verlag, 1982, pages 72 – 93 (with D. Zlatin); also in *Transactions on Programming Languages and Systems*, Vol. 6(1), 1984, pages 94 – 117.
18. Programs as Proofs. In *Information Processing Letters*, Vol. 16(3), 1983, pages 105 – 112.
19. A Hierarchical Approach to Formal Semantics with Application to the Definition of PL/CS. In *Transactions on Programming Languages and Systems*, Vol. 1(1), 1979, pages 98 – 114 (with J. Donahue).
20. On Computational Complexity of Scheme Equivalence. In *Proceedings of the Eighth Princeton Conference on Information Sciences and Systems*, 1974; also *SICOMP*, Vol. 9(2), 1980, pages 396 – 416 (with H. Hunt and S. Sahni).
21. A Constructive Programming Logic. In *Proceedings of the World Computer Congress of the IFIP 77*, 1977, pages 733 – 738.
22. Computability Concepts for Programming Language Semantics. In *Proceedings of the Seventh ACM Symposium on the Theory of Computing*, 1975, pages 98 – 105; also *Theoretical Computer Science* 2, 1976, pages 133 – 145 (with H. Egli).
23. Two Types of Hierarchy Theorem for Axiomatic Complexity Classes. In *Courant Computer Science Symposium 7, Computational Complexity*, Algorithmic Press, NY, 1973, pages 733 – 738.
24. The Operator Gap. In *Proceedings of the Ninth IEEE Symposium on Switching and Automata Theory*, 1969, pages 20 – 26 (expanded in *Journal of the ACM*, Vol. 19(1), 1972, pages 175 – 183).
25. On the Efficiency of Programs in Subrecursive Formalisms. In *Proceedings of the Tenth IEEE Symposium on Switching and Automata Theory*, 1972, pages 60 – 67; also as Subrecursive Programming Languages I; also, in *Journal of the ACM*, Vol. 19(3), 1972, pages 526 – 586 (with A. Borodin).
26. On Classes of Program Schemata. In *SIAM Journal of Computing*, Vol. 1(1), 1972, pages 66 – 118 (with D. Gries).
27. Subrecursive Program Schemata I Undecidable Equivalence Problems. In *Proceedings of the Fourth Symposium on the Theory of Computing*, 1972; also *Journal of Computer and System Sciences*, Vol. 6(6), 1972, pages 480 – 518 (with S. Muchnick).
28. Constructive Mathematics and Automatic Program Writers. In *Proceedings of the World Computer Congress of the IFIP*, 1971, pages 229 – 233.

### Scholarpedia article

1. Computational Type Theory. Scholarpedia, 4(2):7618, 2009. (15,000 visits)

### Conference Proceedings (selected)

1. Formal Specification, Verification, and Implementation of Fault-Tolerant Systems Using EventML. In *Proceedings of the 15th International Workshop on Automated Verification of Critical Systems (AVoCS 2015)*, Edinburgh, Scotland, 2015 (with V. Rahli, D. Guaspari, and M. Bickford).
2. Nuprl's Inductive Logical Forms. In the *6th International Workshop on the use of AI in Formal Methods (AI4FM)*, Edinburgh, Scotland, 2015 (with M. Bickford, R. Eaton, and V. Rahli).
3. Developing Correctly Replicated Databases Using Formal Tools. In the *44th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN)*, Atlanta, GA, 2014 (with N. Schiper, V. Rahli, R. van Renesse, and M. Bickford).
4. A Type Theory with Partial Equivalence Relations as Types. In *TYPES 2014: Types for Proofs and Programs*, Paris, France, 2014 (with A. Anand, M. Bickford, and V. Rahli).
5. Inductive Construction in Nuprl Type Theory Using Bar Induction. In *TYPES 2014: Types for Proofs and Programs*, Paris, France, 2014 (with M. Bickford).
6. A Diversified and Correct-by-Construction Broadcast Service. Presented at the *2nd International Workshop on Rigorous Protocol Engineering (WRiPE)*, Austin, TX, 2012 (with V. Rahli, N. Schiper, R. van Renesse, and M. Bickford).
7. ShadowDB: A Replicated Database on a Synthesized Consensus Core. Presented at the *8th Workshop on Hot Topics in System Dependability (HotDep)*, Hollywood, CA, 2012 (with N. Schiper, V. Rahli, R. van Renesse, and M. Bickford).
8. On Building Constructive Formal Theories of Computation Noting the Roles of Turing, Church, and Brouwer. In *Proceedings of the 27th Annual ACM/IEEE Symposium on Logic In Computer Science (LICS)*, Dubrovnik, Croatia, 2012.
9. Proof Assistants and the Dynamic Nature of Formal Theories. In *Proceedings of the Second International Workshop on Proof Exchange for Theorem Proving*, editors D. Pichardie and T. Weber, Manchester, UK, 2012, pages 1 – 15.
10. The Logic of Events, a Framework to Reason about Distributed Systems. Presented at the *2012 Languages for Distributed Algorithms (LADA) Workshop*, Philadelphia, PA, 2012 (with M. Bickford and V. Rahli).
11. Investigating Correct-by-Construction Attack-Tolerant Systems. In *Proceedings of the Workshop on Survivability in Cyberspace*, Stockholm, 2010 (with M. Bickford and R. van Renesse).
12. Extracting the Resolution Algorithm from a Completeness Proof for the Propositional Calculus. In *Proceedings of the Symposium on Logical Foundations of Computer Science*, 2007 (with W. Moczydlowski).
13. Extracting Programs from Constructive HOL Proofs via IZF Set-Theoretic Semantics. In *Proceedings of the 3rd International Joint Conference on Automated Reasoning (IJCAR 2006)*, LNCS 4130, 162 – 176, Springer. Invited to the special issue of *Logical Methods in Computer Science* (with W. Moczydlowski).

14. A Graph-Based Approach Towards Discerning Inherent Structures in a Digital Library of Formal Mathematics. In *International Conference on Mathematical Knowledge Management, Lecture Notes in Computer Science*, editors A. Asperti, G. Bancerek, and A. Trybulec, Springer-Verlag, 2004, pages 220 – 235 (with L. Lorigo, J. Kleinberg, and R. Eaton).
15. Knowledge-Based Synthesis of Distributed Systems Using Event Structures. In *Logic for Programming, Artificial Intelligence, and Reasoning*, 11th International Conference, LPAR 2004, Springer, 2005, pages 449 – 465 (with M. Bickford, J. Halpern, and S. Petride).
16. An Experiment in Formal Design Using Meta-Properties. In *DARPA Information Survivability Conference and Exposition II (DISCEX 01)*, Vol. II, IEEE Computer Society Press, 2001, pages 100 – 107 (with M. Bickford, C. Kreitz, and R. van Renesse).
17. The Nuprl Open Logical Environment. In *17th International Conference on Automated Deduction*, editor D. McAllester, Springer-Verlag, 2000, pages 170 – 176 (with S. Allen, R. Eaton, C. Kreitz, and L. Lorigo).
18. Building Reliable, High-Performance Communication Systems from Components. In *Proceedings of the 17th ACM Symposium on Operating System Principles*, 1999, pages 80 – 92 (with X. Liu, C. Kreitz, R. van Renesse, J. Hickey, M. Hayden, and K. Birman).
19. Verbalization of High-Level Formal Proofs. In *Sixteenth National Conference on Artificial Intelligence*, 1999, pages 277 – 284 (with R. Barzilay and A. Holland-Minkley).
20. Creating and Evaluating Interactive Formal Courseware for Mathematics and Computing. In *Frontiers in Education*, IEEE, editors M. F. Iskander, M. J. Gonzalez, G. L. Engel, C. K. Rushforth, M. A. Yoder, R. W. Grow, and C. H. Durney, Vol. 1, pages 420 – 423, 1996.
21. Experience Using Type Theory as a Foundation for Computer Science. In *Proceedings of the Tenth Symposium on Logic in Computer Science*, IEEE, 1995, pages 266 – 279.
22. Meta-Logical Frameworks. In *Proceedings of the Second Workshop on Logical Frameworks*, Edinburgh, UK, 1991 (with D. Basin).
23. Extracting Computational Content from Classical Proofs. In *Proceedings of the First Annual BRA Workshop on Logical Frameworks*, Sophia-Antipolis, France, 1990, pages 141 – 156.
24. The Semantics of Reflected Proof. In *Proceedings of the Fourth Symposium on Logic in Computer Science*, IEEE, May 1990, pages 95 – 105 (with D. Howe, S. Allen, and W. Aitken).
25. Computational Foundations of Basic Recursive Function Theory. In *Proceedings of the Third Symposium on Logic in Computer Science*, IEEE, May 1988, pages 360 – 371 (with S. Smith).
26. Partial Objects in Constructive Type Theory. In *Proceedings of the Third Symposium on Logic in Computer Science*, May 1988, pages 183 – 193.
27. Infinite Objects in Type Theory. In *Proceedings of the Symposium on Logic in Computer Science*, IEEE, Computer Science Press, Washington, DC, 1986, pages 249 – 257 (with N. P. Mendler and P. Panangaden).



28. Formalized Metareasoning in Type Theory. *In Proceedings of the Symposium on Logic in Computer Science*, IEEE, Computer Society Press, Washington, DC, 1986, pages 237 – 248 (with T. Knoblock).
29. Recursive Definitions in Type Theory. *In Logics of Programs, Lecture Notes in Computer Science* 193, editor R. Parikh, Springer-Verlag, NY, 1985, pages 61 – 78 (with N. P. Mendler).
30. Mathematics as Programming. *In Proceedings of the Workshop on Programming Logics, Lecture Notes in Computer Science* 164, Springer-Verlag, 1983, pages 116 – 128.
31. Partial Functions in Constructive Formal Theories. *In Proceedings of the Sixth G. I. Conference, Lectures Notes in Computer Science* 145, 1983, pages 1 – 18.
32. Programs and Types. *Proceedings of the 21st IEEE Symposium on the Foundations of Computer Science*, 1980, pages 118 – 128.
33. A PL/CV precis. *In Proceedings of the ACM Symposium on the Principles of Programming Languages*, 1979, pages 7 – 20 (with S. Johnson).
34. On the Theory of Programming Logics. *In Proceedings of the Ninth ACM Symposium on the Theory of Computing*, 1977, pages 269 – 285.

#### Technical Reports (not fully published elsewhere)

1. Generating Event Logics with Higher-Order Processes as Realizers, Computing and Information Science Technical Reports, Cornell University, 2011, <http://hdl.handle.net/1813/23562> (with M. Bickford and D. Guaspari).
2. Effectively Nonblocking Consensus Procedures Can Execute Forever - a Constructive Version of FLP, Cornell University Tech Report Ref Number 11512, 2008.
3. The Fundamental Theorem of Arithmetic in PL/CV2. TR 80-424, Department of Computer Science, Cornell University, 1980.
4. Language Features that Support Program Verification (illustrated by PL/C). TR 76 - 276, Department of Computer Science, Cornell University, 1976.
5. PL/CS, a Disciplined Subset of PL/C. TR 76 - 273, Department of Computer Science, Cornell University, 1976 (with R. Conway).

#### Other Publications

1. Users Guide for the PL/CV Program Verifier. Department of Computer Science, Cornell University (with M. O'Donnell, S. Johnson, and C. Hauser).
2. PL/CV Program Verifier Reference Manual. Department of Computer Science, Cornell University (with S. Johnson).
3. Formalizing Metamathematics in Type Theory. University of Edinburgh Computer Science Notes, Edinburgh.

## PH. D. STUDENTS ADVISED

1969 – Allan B. Borodin  
1972 – Robert V. Harris  
1973 – Stephen S. Muchnick  
1976 – Michael J. O'Donnell  
1979 – Joseph L. Bates  
1980 – Tat-Hung Chan  
1981 – John P. Privitera  
1985 – Ryan D. Stansifer  
1986 – James T. Sasaki  
1987 – Todd B. Knoblock  
1987 – Stuart F. Allen  
1988 – Timothy G. Griffin  
1990 – Chetan Murthy  
1994 – Wilfred Chen  
1995 – Paul Jackson  
1998 – Mark Hayden  
1998 – Pavel Naumov  
2001 – Ozan Hafizogullari (MS)  
2002 – Ralph Benzinger (SAP)  
2004 – Alexei Kopylov (CalTech)  
2006 – Eli Barzilay  
2007 – Wojciech Moczydlowski

1970 – Forbes D. Lewis  
1972 – John C. Cherniavsky  
1974 – Kurt Mehlhorn  
1976 – Edmund M. Clarke, Jr.  
1980 – Carl Hauser  
1981 – Scott D. Johnson  
1982 – Dean B. Krafft  
1985 – Robert W. Harper  
1987 – W. Rance Cleaveland  
1987 – N. P. Mendler  
1987 – Douglas J. Howe  
1988 – Scott F. Smith  
1990 – David Basin  
1994 – Judith Underwood  
1997 – Rod Moten  
1998 – James L. Caldwell  
1998 – Karl Crary  
2001 – Jason Hickey (CalTech)  
2002 – Aleksey Nogin (CalTech)  
2004 – Amanda Holland-Minkley  
2006 – Lori Lorigo