PROFESSIONAL VITA
John C. Reynolds
February 2012

Address and Background

Office: Computer Science Department, Carnegie Mellon University, Pittsburgh, PA 15213 (412) 268-3057

Born June 1, 1935, Illinois, U.S. Citizen

Married Mary A. Allen 1960, Children: Edward A. (born 1963), Matthew C. (born 1965)

Education

Harvard University, 1956-61, Ph.D. (Theoretical Physics) 1961, A.M. (Physics) 1957

Purdue University, 1953-56, B.S. with highest distinction 1956

Employment (since Ph.D.)

Professor of Computer Science, Carnegie Mellon University, 1986-present.

Professor of Computer and Information Science, Syracuse University, 1970-1986.

Assistant and Associate Physicist, Applied Mathematics Division, Argonne National Laboratory, 1961-70.

Visiting Positions:

Microsoft Research, Cambridge, England, Sept-Nov 2007

Aarhus Univ., Aug-Dec 2006, June-July, Oct-Dec 2003, May-July 2001, May-June 2000, Sept-Oct 1999

University of Edinburgh, May-June 2005, Aug 2004-Jan 2005, Nov-Dec 1998, 1976-77

Queen Mary, University of London, July-Sept 2010, Aug 2002, Aug 1997, 1970-1971

Lucent Technologies (Bell Laboratories), Aug 1996

Imperial College of Science, Technology, and Medicine, London, Oct-Dec 2010, 1994-95

INRIA, Rocquencourt and Sophia Antipolis, France, 1983-84

Stanford University, 1965-66

Professional Activities and Awards

Lovelace Medal, awarded by BCS, the Chartered Society for IT (the British Computer Society) 2010

Lecturer, FIRST PhD Fall School on Logics and Semantics of State, IT University, Copenhagen
Denmark, October 20-24, 2008

Lecturer, International Summer School, Marktoberdorf, Germany, August 5-16, 2008

Member, Academia Europaia, 2007-present

Honorary D.Sc. Degree, University of London (Queen Mary and Westfield), July 17, 2007

Dana Scott Distinguished Research Career Award (from Carnegie Mellon University), April 2006.

Invited Speaker, FSTTCS 2004, Chennai, India, December 2004.

Invited Speaker, POPL 2004, Venice, January 2004.

SIGPLAN Programming Language Achievement Award. June 2003.

Fellow of the Association for Computing Machinery, March 2001-present.

Principal Investigator, National Science Foundation Grants, "The Design, Definition, and Implementation
of Programming Languages", "Reasoning about Low-Level Programming", "Reasoning about Data
Structures, Concurrency, and Resources", and "Specification, Verification, and Semantics of Higher-
Order and Concurrent Software", during January 1974-June 2012.

Member, IFIP Working Group 2.3 on Programming Methodology, 1969-present.

Member, IFIP Working Group 2.2 on Formal Language Definition, 1977-1991.

Lecturer, IFIP WG2.3 State of the Art Seminar/School on Program Design using Logic,
Tandil, Argentina, September 6-13, 2000.

Lecturer, ACM State of the Art Summer School, Functional and Object-Oriented Programming,
Sobotka, Poland, September 8-14, 1996.

Participant, Semantics of Computation Programme, Issac Newton Institute,
Cambridge, UK, July-August 1995.

Invited Speaker, IFIP '83 World Computer Conference, Paris, September 1983.

Co-Chairman, U.S.-French Joint Seminar on Algebraic Methods in the Semantics of Programming
Languages, Fontainebleau, June 1982.

Selected Publications and Reports (sole author unless otherwise indicated)

1. Reddy, Uday S. and Reynolds, J. C., "Syntactic Control of Interference for Separation Logic", *POPL 2012: Proceedings of the 39th Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages*, January 2012, pp. 323--336.

2. O'Hearn, P. W., Yang, H., and Reynolds, J. C., "Separation and Information Hiding", *ACM Transactions on Programming Languages and Systems*, 31(3), 2009, pp. 11:1-58.

3. Torp-Smith, N., Birkedal, L., and Reynolds, J. C., "Local Reasoning about a Copying Garbage Collector", *ACM Transactions on Programming Languages and Systems*, 30(4), 2008, pp. 24:1-58.

4. "Towards a Grainless Semantics for Shared Variable Concurrency", FSTTCS 2004: Foundations of Software Technology and Theoretical Computer Science, ed. Lodaya, K. and Mahajan, M., *Lecture Notes in Computer Science*, 3328 (2004), pp. 35-48.

5. "Separation Logic: A Logic for Shared Mutable Data Structures", Proceedings Seventeenth Annual IEEE Symposium on Logic in Computer Science, July 2002, pp. 55-74.

6. "Intuitionistic Reasoning about Shared Mutable Data Structure", Millennial Perspectives in Computer Science, ed. Davies, J., Roscoe, A. W., and Woodcock, J. C. P., Palgrave, 2000.

7. O'Hearn, P. W., and Reynolds, J. C., "From Algol to Polymorphic Linear Lambda-Calculus", *Journal of the ACM*, 47 (January 2000) pp. 167-223.

8. Theories of Programming Languages, Cambridge University Press, 1998.

9. "Using Functor Categories to Generate Intermediate Code", Conference Record of POPL '95, January 1995, pp. 25-36.

10. "The Discoveries of Continuations", *Lisp and Symbolic Computation*, 6 (1993), pp. 233-247.

11. Reynolds, J. C., and Plotkin, G. D., "On Functors Expressible in the Polymorphic Typed Lambda Calculus", *Information and Computation*, 105 (July 1993) pp. 1-29.

12. "The Coherence of Languages with Intersection Types", Theoretical Aspects of Computer Software; International Conference TACS '91, Proceedings, *Lecture Notes in Computer Science*, 526, Springer-Verlag, Berlin (1991), pp. 675-700.

13. "Syntactic Control of Interference, Part 2", Proceedings of the 16th International Colloquium on Automata, Languages, and Programming, *Lecture Notes in Computer Science*, 372, Springer-Verlag, Berlin (1989), pp. 704-722.

14. "Polymorphism is not Set-Theoretic", Semantics of Data Types, eds. Kahn, G., MacQueen, D. B., and Plotkin, G., *Lecture Notes in Computer Science*, 173, Springer-Verlag, Berlin (1984), pp. 145-156.

15. "Types, Abstraction and Parametric Polymorphism", Information Processing 83, ed. R. E. A. Mason, Elsevier Science Publishers B. V. (North-Holland) 1983, pp. 513-523.

16. "Idealized Algol and its Specification Logic", Tools and Notions for Program Construction, ed. D. Neel, Cambridge University Press (1982), pp. 121-161.

17. "The Essence of Algol", Algorithmic Languages, ed. J. W. de Bakker and J. C. van Vliet, North-Holland, 1981, pp. 345-372.

18. The Craft of Programming, Prentice-Hall International, London, 1981.

19. "Syntactic Control of Interference", Proceedings of the Fifth ACM Symposium on Principles of Programming Languages, January 1978, pp. 39-46.

20. "Towards a Theory of Type Structure", Proceedings, Colloque sur la Programmation, *Lecture Notes in Computer Science*, 19, Springer-Verlag, New York 1974, pp. 408-425.

21. "Definitional Interpreters for Higher-Order Programming Languages", Proceedings 25th National ACM Conference (August 1972), pp. 717-740. Reprinted in *Higher-Order and Symbolic Computation*, 11 (1998), pp. 363-397.

22. "GEDANKEN - A Simple Typeless Language Based on the Principle of Completeness and the Reference Concept", *Comm. ACM*, 13 (May 1970), pp. 308-319.