

# Christopher Roy Monroe

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## Education

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- 1992 Ph.D., Physics, University of Colorado, Boulder (Advisor: Carl Wieman)
- 1987 S.B., Physics, Massachusetts Institute of Technology (Advisor: Michael Feld)

## Positions

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- 2007– Gus T. Zorn and Bice Sechi-Zorn Professor of Physics and JQI Fellow, University of Maryland, College Park
- 2006–2007 Director, FOCUS Center (an NSF Physics Frontier Center)
- 2006–2007 Professor, Department of Electrical Engineering and Computer Science, University of Michigan
- 2003–2007 Professor, Department of Physics, University of Michigan
- 2000–2003 Associate Professor, Department of Physics, University of Michigan
- 1994–2000 Staff Physicist, National Institute of Standards and Technology, Boulder, CO
- 1995–2000 Lecturer, University of Colorado, Boulder, CO
- 1992–1994 Postdoctoral Researcher, National Inst. of Stand. and Tech., Boulder, CO (Advisor: David Wineland)

## Awards and Fellowships

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- Fellow, American Physical Society
- Fellow, Institute of Physics (U.K.)
- Scientific American “50” Research Award (2006)
- University of Michigan Faculty Recognition Award (2005-2006)
- American Physical Society Division of Laser Science Distinguished Traveling Lecturer (2002-2008)
- American Physical Society I.I. Rabi Award (2001)
- International Quantum Communication Award (Research Institute of Tamagawa University, Japan) (2000)
- US Presidential Early Career Award for Scientists and Engineers (1997)
- National Research Council Postdoctoral Fellowship (1992-1994)
- University of Colorado Feldkamp Award for Graduate Research (1990)

## Select Journal Publications

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- “*Entanglement of Single Atom Quantum Bits at a Distance*,” D. L. Moehring, P. Maunz, S. Olmschenk, K. C. Younge, D. N. Matsukevich, L.-M. Duan, and C. Monroe, *Nature* (2007)
- “*Ion Trap in a Semiconductor Chip*,” D. Stick, W. K. Hensinger, S. Olmschenk, M. J. Madsen, K. Schwab, and C. Monroe, *Nature Physics* **2**, 36 (2006).
- “*Implementation of Grover’s Quantum Search Algorithm in a Scalable System*,” K.-A. Brickman, P. C. Haljan, P. J. Lee, M. Acton, L. Deslauriers, and C. Monroe, *Phys. Rev. A* **72**, 050306 (2005).
- “*Spin-dependent Forces on Trapped Ions for Phase-Stable Quantum Gates and Motional Schrödinger Cat States*,” P. C. Haljan, K.-A. Brickman, L. Deslauriers, P. J. Lee, and C. Monroe, *Phys. Rev. Lett.* **94**, 153602 (2005).
- “*Observation of entanglement between a single trapped atom and a single photon*,” B. B. Blinov, D. L. Moehring, L.-M. Duan, and C. Monroe, *Nature* **428**, 153 (2004).
- “*A Decoherence-Free Quantum Memory Using Trapped Ions*,” D. Kielpinski, V. Meyer, M. A. Rowe, C. A. Sackett, W. Itano, C. Monroe, and D. Wineland, *Science* **291**, 1013 (2001).
- “*Experimental Entanglement of Four Particles*,” C. Sackett, D. Kielpinski, Q. Turchette, V. Meyer, M. Rowe, C. Langer, C. Myatt, B. King, W. Itano, D. Wineland, and C. Monroe, *Nature* **404**, 256 (2000).
- “*Generation of nonclassical motional states of a trapped atom*,” D. Meekhof, C. Monroe, B. King, W. Itano, and D. Wineland, *Phys. Rev. Lett.* **76**, 1796 (1996).
- “*Demonstration of a Universal Quantum Logic Gate*,” C. Monroe, D. Meekhof, B. King, W. Itano, and D. Wineland, *Phys. Rev. Lett.* **75**, 4714 (1995).
- “*Very Cold Trapped Atoms in a Vapor Cell*,” C. Monroe, W. Swann, H. Robinson and C. Wieman, *Phys. Rev. Lett.* **65**, 1571 (1990).