# Panos Aliferis


**Contact Information**

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**Personal Information**

Born September 12, 1977 in Sparta, Greece

**Current Position**

**IBM, Research Division**, T.J. Watson Research Center

Post-Doctoral Fellow II, Physics of Information Group

**Education**

**California Institute of Technology**, Pasadena, CA

Ph.D., Physics, 2007

- Advisor: Prof. John Preskill

M.S., Physics, 2005. GPA: 4.3/4.0

**University of Michigan**, Ann Arbor, MI

M.S., Electrical Engineering, 2002. GPA: 4.2/4.0

- Major: Optics; Minor: Solid state
- Advisor: Prof. Duncan Steel

**National Technical University of Athens**, Athens, Greece

Diploma, Electrical Engineering and Computer Science, 2000. GPA: 8.9/10.0

- Major: Communications; Minor: Network and Control Theory
- Advisor: Prof. Heraklis Avramopoulos

**Experience**

*Research*

IBM T.J. Watson Research Center, Yorktown Heights, NY
- Physics of Information Group (since 03/2007)

California Institute of Technology, Pasadena, CA
- Institute for Quantum Information (IQI), Department of Physics. Advisor: Prof. John Preskill (2003–2007)

University of Michigan, Ann Arbor, MI
- Quantum Optics Group, Department of Physics. Advisor: Prof. Duncan Steel (2001–2002)

National Technical University of Athens, Athens, Greece
- Fiber Communications Group, Department of Electrical Engineering and Computer Science. Advisor: Prof. Heraklis Avramopoulos (1998–2000)

*Teaching*

California Institute of Technology, Pasadena, CA
- Physics 129c: Probability and Statistics (2006)
- Physics/CS 219: Quantum Computation (2005–2006)
- Physics 3, 5, 6, and 7: Freshman/Sophomore Lab (2002–2005)

University of Michigan, Ann Arbor, MI
- EECS 334: Principles of Optics (2001–2002)
- EECS 211: Electrical Engineering II (2001)

**Conference Talks**

5. "Quantum computing hardware with highly biased noise," *Quantum Information Processing* 2009 Workshop, Santa Fe, New Mexico (January 2009).

4. "Error-correcting the IBM superconducting flux qubit," *1st Inter. Conf. on Quantum Error Correction*, University of Southern California, Los Angeles, CA (December 2007).
3. "Threshold lower bounds for Knill's Fibonacci scheme," *Fault-Tolerant Quantum Computation* II Workshop, Perimeter Institute, Waterloo, Canada (June 2007).
2. "New directions in quantum fault tolerance," *Quantum Information Processing* 2007 Workshop, Brisbane, Australia (February 2007).
1. "Quantum accuracy threshold for concatenated distance-2 codes," *Fault-Tolerant Quantum Computation* I Workshop, IBM T.J. Watson, New York, NY (August 2005).

## Seminars & Colloquia

7. "Fault-tolerant quantum computing against highly biased noise," seminar at the Massachusetts Institute of Technology, Boston, MA (November 2008).
6. "Quantum computation and quantum error-correction," colloquium at the University of Crete, Iraklion, Greece (February 2008).
5. "How to quantum compute against biased noise," California Institute of Technology, Pasadena, CA (February 2008).
4. ——, University of New Mexico, Alberquerque, NM (February 2008).
3. "Fault-tolerant quantum computation: simple proofs, sub-system codes, and slow measurements," seminar at NEC Labs & Rutgers University, Princeton, NJ (November 2006).
2. "The simple syntax of threshold proofs, and fault tolerance with the Bacon-Shor code," colloquium at Institute for Quantum Computing, University of Waterloo, Waterloo, Canada (July 2006).
1. "Measurement-based quantum computation: views, clues and promises," Universität Innsbruck, Innsbruck, Austria (October 2004).

## Professional Activities

- Reviewer for *Physical Review Letters*, *Physical Review* A, *Quantum Information and Computation*, *Quantum Information Processing*, IEEE *Transactions of Information Theory*, *Proceeding of the Royal Society* A
- Program committee member: *Theory of Quantum Computation, Communication & Cryptography*, May 2009, Waterloo, Canada.

## Languages

- English, French, Greek.
- C/Pascal, HTML, LaTeX, Matlab.