

**UNIVERSITY OF MIAMI**  
**CURRICULUM VITAE**  
Standard Format

1. **Date:** September 24, 2009

**PERSONAL**

2. **Name:** Burton Rosenberg
3. **Home Phone:** (305) 448-0897
4. **Office Phone:** (305) 284-2141
5. **Home Address:** 904 Anastasia Ave, Coral Gables, FL 33134
6. **Current Academic Rank:** Associate Professor
7. **Primary Department:** Computer Science
8. **Secondary or Joint Appointment:** None
9. **Citizenship:** U.S.
10. **Visa Type (if non-citizen):**

**HIGHER EDUCATION**

11. **Institutional (institution; degree; date conferred):**

Princeton University, Doctor of Philosophy in Computer Science, October 1991.

Princeton University, Master of the Arts in Computer Science, May 1988.

Columbia University, Master of Science in Computer Science, June 1986.

Massachusetts Institute of Technology, Bachelor of Science in Electrical Engineering, June 1980.

12. **Non-Institutional (description; dates):** None
13. **Certification, licensure (description; board or agency; dates):** None

**EXPERIENCE**

14. **Academic (institutions; rank/status; dates):**

University of Miami. Associate Professor. 2000–present.

University of Miami. Assistant Professor, on leave. 1998–2000.

University of Miami. Assistant Professor. 1992–1998.

Dartmouth College. Visiting Assistant Professor. 1991–1992.

Princeton University. Research Assistant. 1986–1991.

Massachusetts Institute of Technology. Teaching Assistant. 1978–1980.

**15. Non-Academic (employer; title; responsibilities; dates):**

Expert witness, September 2007, for B. Lazarus. Opinion on ERP system fitness.

Expert witness, July 2007, for Erik Scharf. Analysis of chat logs and file system integrity

Expert witness, 2006, for Addicott and Addicott. Opinion on intellectual property theft in a software dispute.

Citrix Systems, Ft. Lauderdale, Florida. Senior Software Engineer. Third level engineer responsible for debug of the NT Kernel and the Citrix product line. August 1998–August 2000.

Giordano, Halleran & Ciesla, Attorneys at Law. Expert witness. Consulting on evidential use of computer data. Dec. 1997–1998.

MIT Department of Architecture and Biennale de Lyon d'Art Contemporain, Lyon, France. Consulting engineer. *Communication Transcript*, Internet communication and language translation project. 20 December 1995 – 18 February 1996.

Instant Replay, Miami, Florida. Consulting Engineer. Microcontroller and DOS development for language translation and teletext software. 1995.

Cambridge Research Laboratory, Digital Equipment Corporation, Cambridge, Mass. Visiting Researcher. Independent research activities. Summer 1993.

Paris Research Laboratory, Digital Equipment Corporation, Paris, France. Visiting Researcher. Research on constraint satisfaction systems for user interfaces. Written in Modula-3. Summer 1990.

Bell Communications Research, Morristown, New Jersey. Visiting Researcher. Experimentation and implementation of interior point algorithms for solving mathematical optimization problems. Summer 1987.

Medical Laboratory Automation, Pleasantville, New York. Software Engineer. Architect of a real-time, multiprocessor operating system. Embedded application software for medical instrumentation. Intel 8085 microprocessors and 8741 microcontrollers. 1984–1986.

Centre George Pompidou, Paris, France. Engineer for artist Piotr Kowalski's *Time Machine* project. Evaluated projects for other exhibitions. Video electronics, computer graphics and programming. 1982–1984.

Acoustic Research, Norwood, Massachusetts. Consulting Engineer. Working under the Director of Research to design and implement an automated sound compensation system. LSI digital electronics and analog audio electronics. 1982.

MIT Research Laboratory of Electronics. Technician. Project member of the Associate Press Wirephoto Service and Electronic Darkroom project. 1980–81.

MIT Educational Video Resources. Technician. Management and installation of cable head-end. 1979.

Dynatrend, Burlington, Mass. Summer Intern. Programmer on the Water Intrusion Detection Simulation project for the O.N.R. Summer 1977.

Board of Education, Parsippany, New Jersey. Programmer. Helped program the township's payroll and student records computer. 1975.

**16. Military (branch; rank; responsibilities; dates):** None

**PUBLICATIONS**

(author(s) (in actual precedence of authorship); title; publisher or journal name; date (current year first); page numbers)

**17. Books and monographs published:**

**18. Juried or refereed journal articles and exhibitions:**

**Refereed journal articles:**

Robert Chen, Alan Zame and Burton Rosenberg, *On the first occurrence of strings*, The Electronic Journal of Combinatorics, **16 (1)** (2009), R29.

Burton Rosenberg, *Fast nondeterministic recognition of context free languages using two queues*, Information Processing Letters, **67** (1998), 91–93.

Robert W. Chen, Burton Rosenberg and Larry A. Shepp, *A secretary problem with two decision makers*, Journal of Applied Probability, **34** (1997), 1068–1074.

Bernard Chazelle and Burton Rosenberg, *Simplex range reporting on a pointer machine*, Computational Geometry: Theory and Applications, **5** (1996), 237–247.

Michel Gangnet and Burton Rosenberg, *Constraint programming and graph algorithms*, Annals of Mathematics and Artificial Intelligence, **8:3-4** (1993), 271–284.

Bernard Chazelle and Burton Rosenberg, *The complexity of computing partial sums off-line*, International Journal of Computational Geometry and Applications **1:1** (1991) 33–45.

**Refereed conference articles:**

Robert Chen, Burton Rosenberg, *Optimal exercise of russian options in the binomial model*, International Conference on Computational Finance and its Applications, WIT Press (2006), 171–181.

Robert Chen, Burton Rosenberg, Yi-Tsung Lee, *Inferring model parameters in markets with collars*, International Conference on Computational Finance and its Applications, WIT Press (2004), 167–175.

Burton Rosenberg, *Two experiments in the stability of stock statistics*, Third International Conference on Artificial Intelligence Applications on Wall Street (1995), 182–187.

Burton Rosenberg, *Simulating a stack by queues*, Proceedings of the XIX Latinamerican Conference on Computer Science **1** (1993), 3–13.

Bernard Chazelle and Burton Rosenberg, *Lower bounds on simplex range reporting on a pointer machine*, Nineteenth International Colloquium on Automata, Languages and Programming, **LNCS 623** (1992), 439–449.

Bernard Chazelle and Burton Rosenberg, *Computing partial sums in multidimensional arrays*, Proceedings of the Fifth Annual ACM Symposium on Computational Geometry, ACM Press, (1989) 131–139.

**19. Other works, publications, and abstracts:**

Discovered failure in Windows NT FAT file creation date handling. (Details of result currently suppressed.)

Discovered failure in CampMinder web site security, privacy. Personal communication with Dan Konigsberg, President and Founder of CampMinder. 6 December 2003.

Discovered failure in Citrix password encryption. Personal communication with John Richardson, et al, December 22, 1999.

Discovered failure in Microsoft security protocol CHAP V2, reported in Bugtraq 7 July 1999. <http://archives.neohapsis.com/archives/bugtraq/1999-q3/0057.html>.

Jason Glick, Huseyin Kocak, Burton Rosenberg, *Phaser*, a Java application for visualizing differential equations and chaos. <http://www.cs.miami.edu/~phaser>.

Web Learning Pages: Learn C. On-line publication of a tutorial for the programming language C. Online at <http://passaic.cs.miami.edu/wlp/LearnC.html> since January 1997.

Spring 1995, Webex-mail project, later Emumail, with Matt Mankins until sold to FastCGI. <http://www.emumail.com>.

Microkernel Research Project related press item. *IBM Announces New Software Code That is Universal*, Wall Street Journal, October 31, 1995. Page B6.

Microkernel Research Project related press item. *IBM Microkernel Set To Pop*, Informationweek, Oct 16, 1995. Page 87.

Burton Rosenberg, *Lower Bounds in Geometric Searching*, Department of Computer Science, Princeton University **CS-TR-343-91** (1991). Thesis for Doctor of Philosophy. Advisor Bernard Chazelle.

Burton Rosenberg, *Survey of NC problems*, Master of Science Thesis, Columbia University, (1986). Advisor Zvi Galil.

Burton Rosenberg, *Reversibility in computer architecture*, Bachelor of Science Thesis, M.I.T. (1980). Advisor Ronald MacNeil.

## 20. Other works accepted for publication:

### PROFESSIONAL

**21. Funded Research Performed:** (include all grants received in the last five years, identifying the principal investigator and the amounts and dates of the awards)

National Science Foundation grant DUE-0630894, “S-STEM: Computer Science and Mathematics for Scientists,” \$467,575. January 1, 2007 – December 31, 2011. co-P.I.

National Science Foundation grant DUE-0230612, “PHASER: A Universal Simulator for Dynamical Systems,” \$299,828. February 1, 2003 – January 31, 2006. co-P.I.

Microkernel Research Agreement, IBM Boca Raton. Burton Rosenberg, principal investigator. Contract PSP950359: Microkernel software grant of \$150,000, hardware grant of \$4,100, and \$7,347 award. August 1995–May 1997.

Summer Award in the Natural Sciences and Engineering, Summer 1994.  
Burton Rosenberg, principal investigator; \$9,012; 20 December 1993.

Summer Award in the Natural Sciences and Engineering, Summer 1993.  
Burton Rosenberg, principal investigator; \$8,253; 8 December 1992.

**22. Editorial Responsibilities:**

Review CL-320, “An improvement of an authentication protocol without a trusted third party” for IEEE Communications Letters, June 1998.

Review Ms. No. G047, “A recursive n-dimensional point inclusion algorithm” for Computer Vision, Graphics and Image Processing: Graphic Models and Image Processing, February 1995.

**23. Professional and Honorary Organizations (member; officer; date):**

International Financial Cryptography Association (IFCA), elected member of the board, appointed secretary. 2006–present.

Financial Cryptography 07, sponsorship chair.

Member of the ACM. 1987-present, with hiatus.

**24. Honors and Awards:**

Method and System for Data Security, US Provisional Patent 60/838,220.

Invention Recognition Program Award, for UM07-04, Method and System for Data Security, US Provisional Patent 60/838,220.

**25 Post-doctoral fellowships:**

**26. Other professional activities:** (e.g., papers presented; performances; conference proceedings; seminar or conference panel member; etc.)

Information on Quantitative Biology workshop, July 18-20, 2007 at East Tennessee State University. Panel representing University of Miami’s Biology Peer team lead education in biology for the Howard Hughes Institute.

AMS Mini-course: Some deterministic models in Mathematical Biology and Their Simulations Using Phaser, Jan 5, 2007, AMS Joint Mathematics Meeting, New Orleans.

NYU Network Summer, summer 2006. Biology 2010 workshop.

Brouillard, Précis, Marseille, France Presentation of Phaser for discussion: *Les outils, les logiciels* 3 July, 2000.

ITU Telecom Inter@ctive 97, Geneva, Switzerland. Panel Member: Applications Platform 7, *Words & Images: Reconciling Gutenberg and McLuhan*, 11 September 1997.

38-th Internet Engineering Task Force, Memphis, Tenn. Taskforce attendee for IPv6 Working Group. 7–11 April 1997.

21-st Annual ACM international Collegiate Programming Contest, San Jose, California. Advisor to the University of Miami ACM Programming team. 28 February – 2 March 1997,

1996 Southeast Regional Programming Contest, University of Central Florida, Orlando, Florida. Advisor to the University of Miami ACM Programming team. 9 November 1996.

Interview with France Culture. *Le Bon Plaisir de Piotr Kowalski*, 6 January 1996.

Piotr Kowalski, Burton Rosenberg, Jeffrey Krause, *Communication Transcript*, Biennale de Lyon d'Art Contemporain, Lyon, France. 20 December 1995 – 18 February 1996.

CAVS/MIT Sky Art Event, Munich/Cambridge, 1983. Early research in Multimedia in collaboration with the Center for Advanced Visual Studies at MIT. Documented in: *Digital joins forces with the avant-garde*, Boston Sunday Globe, 21 October 1983, Page A54.

*Espace, Sigma 18*, Entrepot Laine, Bordeaux. Technical direction of *The Time Machine*. See exhibition at the Centre George Pompidou, below. 7–20 November 1982. Catalog page 15-30.

Retrospective exhibition of Piotr Kowalski at the Centre George Pompidou, Paris, France. 16 December 1981 – 6 February 1982. Technical direction of *The Time Machine*, an early project in what is now termed “multimedia”. Documented in: *Piotr Kowalski: Time Machine + Projects*, Centre George Pompidou, 1981. (ISBN 2-85850-120-3.)

## **TEACHING**

### **27. Teaching awards received:**

Certificate of Appreciation, The School of Continuing Studies, University of Miami. In recognition of teaching in the Off-Campus Degree Program at IBM, Boca Raton, 23 March 1993.

### **28. Teaching specialization (courses taught):**

CS 15: Introduction to Data Structures (at Dartmouth College)  
CS 43: Introduction to Computer Graphics (at Dartmouth College)  
CS 85/185: Computational Geometry (at Dartmouth College)  
MTH 101: Algebra for College Students  
MTH120: Programming I  
MTH 220: Programming II  
MTH 228: Assembly Language and Microprocessors  
MTH 322: C Language and Unix  
MTH 517: Algorithms  
MTH 519: Programming Languages  
MTH 524: Introduction to Networks and Network Security  
MTH 529: Introduction to Computer Graphics  
MTH 540: Combinatorial Optimization  
MTH 596: Operating Systems and Networks  
MTH 599: Introduction to Computer Graphics (at IBM Boca Raton)  
MTH 599: Java Programming  
MTH 687: Computational Geometry  
MTH 688: Computability and Complexity (at IBM Boca Raton)  
MTH 688: Advanced Computer Graphics (at IBM Boca Raton)  
CSC120: Programming I  
CSC 220: Programming II  
CSC 228: C and Unix  
CSC 517: Algorithms  
CSC 521: Operating Systems  
CSC 524: Introduction to Networks and Network Security  
CSC 527: Theory of Computation  
CSC/MTH 507/609: Cryptography  
CSC 598: Web services  
CSC 687: Quantum Computing  
CSC 687: Auctions, Games and the Internet

**29. Thesis and dissertation advising:** (chairman or committee member;  
topic; student name; date)

Aravind Prakash *Confidential Data Dispersion Using Thresholding*, Master of Science, Computer Science, April 2009. (chair)

Anoop Mohan *Confidential and Resilient Store of Persistent Web Objects*, Master of Science, Computer Science, April 2009. (chair)

Aparna Varsha Yerikalapudi, *Answer Extraction in Automated Reasoning*, Master of Science, Computer Science, December 2008.

Thesis committee member, Masters of Computer Science, Anand Jayaraman, *Concurrent Multi-path real-time transmission control protocol*, 26 November 2007.

Thesis Committee Member, Doctor of Philosophy, Interdepartmental, *Algorithms and software for automated seizure detection*, Morgan Johnson, December 2004.

Thesis Committee Member, Master of Science, Department of Computer Science, University of Miami, *Automated Generation of Interesting Theorems*, Yi Gao, June 2004.

Thesis Committee Member, M.S. Department of Electrical and Computer Engineering, *A Super-Node Enriched Heterogeneous Architecture for Wireless Ad Hoc Networks*, Rajvir Wadhwa, University of Miami, 12 May 2004.

Thesis Committee Member, Master of Science, Department of Computer Science, University of Miami, *Distributed Branch and Bound Optimization for Minimal Enclosure of Translating Polygons*, Jerry Cattell. 7 May 2004.

Thesis Chair, M.S. in Computer Science, *An open tunneling suite in support of Ad Hoc VPN's*, Aidi Niu, December 2002.

Thesis Committee Member, M.S. in Computer Science, *Phaser: an Internet-native software for visualizing differential equations and chaos*, Jason Glick, 1998.

Thesis Committee Member, M.S. in Computer Science, *Dynamical Compaction of Polygons*, Michael Lindner, 12 May 1997.

Thesis Committee Member, Doctor of Philosophy in Computer Science, Florida International University, *Finding Efficient Collision-free Paths in an Uncertain Dynamic Environment*, Jay Mookherje, 4 April 1995.

## **SERVICE**

### **30. University committee and administrative responsibilities:**

Facilities and Planning Committee 2007–present

Special Deans committee on the School of Arts and Sciences home page.

ITACS, September 2006–present.

Arts and Science Web page advisory group, May 2006.

College Educational and Informational Technology Committee, December 2002–2006.

Directory of Technology for the Department of Computer Science, 2000–present.

University WWW committee, Sept. 1996–1997.

Undergraduate Laboratory for Computer Science. Specified, designed and installed computer and networking for the principal undergraduate and graduate computer laboratory for the Department of Computer Science, University of Miami. Budget of over \$100,000. December 1995.

Undergraduate Computer Science Curriculum committee, 1994–1995.

Computer Science Comprehensive Exam committee, 1994–1997.

Responsible for the computer and network infrastructure of the department of mathematics (unofficial capacity) 1993–1998.

**31. Community Activities:**

Volunteer, Miami Coalition for Election Reform, presidential election 2004.

Election Board, November 7, 2006.

MIT Educational Council, 2003–present.

Shake-a-leg Miami, 2005–present.