

Stephen V. Providence **Curriculum Vitae**

Professional Preparation

Graduate School University Center, CUNY, Computer Science, Ph.D., 2000
Graduate School University Center, CUNY, Computer Science, Ph.M., 1998
Lehman College, CUNY, Computer Science, M.S., 1988
Lehman College, CUNY, Computer Science, Mathematics, B.A., 1986

Appointments

Assistant Professor Tenure-Track, School of Science, Department of Computer Science,
Hampton University, August 2006 - Present
Assistant Professor, College of Engineering, Department of Computer Science, North
Carolina A&T State University, August 2000 – July 2006
Graduate Assistant, College Coordinator - Founder and Director of the Science Learning
Center, Lehman College, CUNY, 1993-2000
Evaluation Coordinator, NYC Alliance, City College, CUNY, 1996-1997
Research Assistant, Chemistry Department, Lehman College, CUNY, 1988-1993
College Assistant/Senior Consultant, Academic Computer Center, Lehman College,
CUNY, 1986-1993
College Assistant, Mathematics and Computer Science Department, Lehman College,
CUNY, 1985-1989
College Assistant, IEEE Publications, Polytechnic Institute of NY, Brooklyn, NY
September 1977 – June 1978

Industry Experience

September 1983 – June 1985: Computer System Analyst,
Air Traffic Consultants Inc., 33rd Street and Madison Avenue, NYC
September 1981 – June 1983: IBM System 34 Operator/RPG II Programmer,
Publix Shirts Inc., Empire State Building, 26th Floor, NYC
September 1978 – June 1981: Assistant Data Processing Manager, IBM 360/20,
Gotham Distribution and Selective Freight Consolidation Inc., West New York, NJ

Selected Publications

1. V. Y. Pan, M. A. Tabanjeh, Z. Q. Chen, S. Providence, A. Sadikou, Transformations of Cauchy Matrices, Trummer's Problem and a Cauchy-Like Linear Solver. Proc. Of Fifth Annual International Symposium on Solving Irregularly Structured Problems in Parallel (Irregular98), Lecture Notes in Computer Science, 1457, 274-284, Springer, 1998
2. V. Y. Pan, M. A. Tabanjeh, Z. Q. Chen, S. Providence, A. Zheng. Superfast Computations with Singular Structured Matrices Over Abstract Fields. Proc. Second Workshop on Computer Algebra in Scientific Computing (CASC-99), 323-338, Springer, Berlin, 1999
3. S.V. Providence, A Unified Approach to Matrix Inversion and an Extension to Fast Solution of Trummer's Problem, Ph.D. Thesis, 2000

4. S.V. Providence, Utilization of Cellular Automata in the DNA Signal Search Problem, Proceedings of the IEEE South Eastern Conference (SouthEastCon 2004), 325-329, March 2004
5. X. Yuan, P. Vega, J. Xu, H. Yu, S. Providence, Animated Simulator for Packet Sniffer, WECS7 Conference Proceedings, 2006
6. S.V. Providence Book Review: Flexible Pattern Matching in Strings: Practical On-line Search Algorithms for Texts and Biological Sequences by G. Navarro, M. Raffinot, SIGACT New 2007, in preparation.

Oral Presentation or Talks

1. 3rd Annual Information Assurance Symposium, Hampton University, April 9th, 2007
Title: *An Introduction to Coding Theory and the Promise of the McEliece Cryptosystem*
2. High Performance Computing Workshop, Appalachian State University, July 29th, 2005, Title: *Parallelizing Algorithms*
3. Division of Research and Academic Affairs, Summer Fellowship closing talk, June, 24th, 2005, Title: *A New Linear Solver Implementation*
4. High Performance Computing Workshop, Appalachian State University, July, 2004
Title: *Parallelizing Algorithm Design & Analysis Course*
5. IEEE Southeastcon 2004, Greensboro, NC, March 26 – 29, 2004
Title: *Utilization of Cellular Automata in the DNA Signal Search Problem*

Synergistic Activities and Societies

- 1.
2. The National Center for Biotechnology Information (NCBI):
A Field Guide to GenBank and NCBI Molecular Biology Resources
April 22-23, 2003, Webb and Smith Halls, Drs. Stephen V. Providence (CS), Mulumebet Worku (animal science), Mary Smith (biology); interdisciplinary collaboration
3. Associate Member, Sigma Xi Scientific Research Society (1993);
4. Professional Member, Association for Computing Machinery (ACM) (2000);
Member, Special Interest Group on Algorithms and Computation Theory (SIGACT);
5. Member, IEEE (2000); Member, Signal Processing Society (2000),
Computer Society (2005);
6. Former Member, SIAM (2000-2003),
SIAM J. on Mathematical Analysis (SIMA),
SIAM J. on Matrix Analysis and Applications (SIMAX)
7. NSF-LSAMP (9/01/1993-8/31/1999), Role of LSAMP Coordinator (Founded, established and directed the activities of the Science Learning Center at Lehman College, CUNY. Disseminated scholarships and information to Lehman science, mathematics, engineering, and technology undergraduate, graduate and doctoral students.)
8. NSF-MBRS (9/01/1988-8/31/1993) Role: Research Assistant to design and implement an Automatic Device to Acquire Ion-Selective Electrode Measurements (a automatically measure and record up to 384 pH readings)

Proposals and Applications

1. “On-line Mentoring”,
FUTURES Venture Grants, February 2004, \$15,000.00
Dr. Stephen V. Providence (PI), Dr. Jeffrey Forbes, Duke U. (Co-PI),
Profs. Shearon Brown, Ray Hawkins (Co-PIs)
2. “A Computational Science and Engineering Laboratory ”,
Hewlett-Packard Itanium 2 Grant Proposal,
April 2004, \$132,750.00
Dr. Stephen V. Providence (PI),
Dr. Xiaohong Yuan (Co-PI), Prof. Edward Carr (Co-PI)

Collaborators and Other Affiliations

1. “Consortium to Promote Computational Science and High Performance Computing”
August 2004, \$650,000.00, two AYs, Funded
Participating Universities:
ASU, NCAT, UNCG, UNCP, WCU, Elon U., Lenoir-Rhyne College, High Point U.
NCAT part, \$92,000.00, two AYs
Dr. Barry Kurtz (PI - ASU), Drs. Stephen V. Providence, Yaohang Li (Co-PIs)
2. “Collaborative Project: Bridge Gaps in IA Education Through Collaboration”,
August 2004, \$299,896.00, two AYs, Funded
Dr. Huiming Yu (PD), Drs. Stephen V. Providence, Xiaohong Yuan, Jinsheng Xu
(Co-PIs)
3. “Administrative Supplement/Curricular Improvement in MARC U* Institutions”
January 2004, \$54,000.00. Drs. James A. Williams (Biology), Stephen V. Providence
4. “Transforming the Master’s Programs in Applied Mathematics, Physics and
Chemistry into an Interdisciplinary Computational Science Program”
March, 2002, \$7,500.00, Computational Science Group – Guoqing.Tang (Director of
Research-Mathematics), Caesar Jackson (Associate Dean-Art & Sciences), Solomon
Bililign (Chair-Physics); Dominic P. Clemence (Mathematics), Yongmei Wang
(Chemistry); Mary Smith (Biology),
5. Subcontract for UNC President’s Office Proposal, ”GeneBeans: A modular system
that makes genomics scale analysis accessible to biologists”, February 2002,
\$106,000.00, Bio-Informatics Group – David Aldrich (Chair-Biology), A.Giles
Warwick (Mathematics), Roy Coomans (Biology), Mary Smith (Biology)
6. “Investigating the Relationship Between Physiological and Eye Movement Indicators
of Children with Attention-Deficit Hyperactivity Disorder During Reading”,
February, 2002, \$15,000.00,
Celestine A. Ntuen, George Robinson, Anthony Perry, Elizabeth Davis-Seaver;
Department of Industrial and Systems Engineering, Department of Psychology,
Department of Curriculum and Instruction
7. “Experiments for Rational Polynomial Interpolation Problems, Specifically the
Tangential Nevanlinna-Pick and Nehari Problems”, NCSC, MCNC
February, 2002, Allocation - 200 hours: SGI Origin; 2000 hours: IBM SP
Dr. Stephen V. Providence; Department of Computer Science

8. “Building the Pipeline for the New Interdisciplinary Computational Science Program Through Undergraduate Research Training”, FURURES Ventures Grants, March 2003, \$15,000.00, Gouqing Tang (Director of Research, College of Arts and Sciences), Caesar R. Jackson (Assoc. Dean, College of Arts and Sciences), Solomon Bililign (Chairman, Physics Department), Drs. Yongmei Wang, Mary Smith, Stephen V. Providence, (Departments of Mathematics, Chemistry, Biology and Computer Science, resp.)
9. “Interdisciplinary Program: Information Security and Assurance ”, FUTURES Ventures Grants, March 2005, \$15,000.00 Kossi Edoh, Associate Professor, Mathematics, Vereda Johnson King, Associate Professor, Business and Finance, James Mayes, Interim Director, Criminal Justice, Belinda Borah, Professor, Mathematics, Yaw Kei, Lecturer, Mathematics

Curricular Changes

1. COMP690 Special Topics: Parallel Algorithm Design and Analysis
Developed teleconference course (over NCREN) for HPC grant
2. COMP320 Fundamentals of Information Assurance
Developed course for IA grant
3. CSE 703 Data Structures and Software Principles for Program Scalability
Developed course for Interdisciplinary Computational Science Master’s Program
4. COMP732 Advanced Software Tools
Developed course for Interdisciplinary Computational Science Master’s Program
5. COMP733 Parallel Computing Applications
Developed course for Interdisciplinary Computational Science Master’s Program
6. COMP770 Computer Organization and Programming for Scientific Computing
Developed course for Interdisciplinary Computational Science Master’s Program
7. COMP600 Special Topics: Embedded Systems Software
Developed course to extend curriculum in Computer Architecture and Systems Programming areas
8. COMP600 Special Topics: Computational Science
Developed course to extend curriculum in Scientific Computation area.

Thesis Advisor or Postgraduate-Scholar Sponsor for:

Master’s Thesis Committee – Kevin L. Mosley, February 15, 2001

Master’s Thesis Committee – Natalia Vainstein

Master’s Project Committee – Supanon Limthung, May 9, 2001

Master’s Thesis Committee – Sahdevsinh P. Zala, October, 2, 2003

Master’s Thesis Committee – Jason Clarke, August 26, 2005

Master’s Project Advisor – Nelson Veale, May, 2006

Master’s Project Advisor – Yusef Pogue, December, 2006

Total number of graduate students advised: 2