Biographical Sketch: Barry G. Lawson

Professional Preparation

University of Virginia's College at Wise	Mathematics/CIS	BS	1993	
College of William and Mary	Computer Science	MS	1996	Parallel/Distributed Systems
College of William and Mary	Computer Science	PhD	2002	Modeling and Simulation

Appointments

Assistant Professor of Computer Science, University of Richmond, 08/2002 – present
Instructor of Computer Science, College of William and Mary, 2001 – 2002
Teaching Fellow, College of William and Mary, 1998 – 2001
Programmer, Unisys Corporation, NASA Langley Research Center, 1997 – 1998
Programmer, VA Department of Mines, Minerals, and Energy, 1991 – 1994

Grants

NSF #0524239, Cyber Trust, Division of Information & Intelligent Systems, $401,193. "CT-ISG/RUI: Ensuring Computation Integrity in Distributed Volunteer Computing Platforms", co-PI with Doug Szajda and Jason Owen, September 2005 – August 2008.

Selected Publications Related to the Proposed Research:

J. Owen, B. Lawson, and D. Szajda. *A Nonparametric Analysis for Smith-Waterman Alignment Scores*, Proceedings of the American Statistical Association 2006 Joint Statistical Meetings, Biometrics Section, pp. 315-320. August 2006.

D. Szajda, M. Pohl, J. Owen, and B. Lawson. Toward a Practical Data Privacy Scheme for a Distributed Implementation of the Smith-Waterman Genome Sequence Comparison Algorithm. In *Proceedings of the Network and Distributed System Security Symposium (NDSS 2006)*, San Diego, CA, February 2006.

D. Szajda, B. Lawson, and J. Owen. Toward An Optimal Redundancy Strategy for Distributed Computations. In *Proceedings of the 2005 IEEE International Conference on Cluster Computing (Cluster 2005)*, Boston, MA, September 2005.

D. Szajda, W. Owen, B. Lawson, A. Charlesworth, and E. Kenney. An Alternate Multiplicity-2 Task Assignment Scheme for Distributed Computations. In *Scheduling and Resource Management for Parallel and Distributed Systems (SRMPDS 05)* in conjunction with *The 2005 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA 05)*, pages 59–65, Las Vegas, NV, June 2005.

D. Szajda, B. Lawson, and J. Owen. Hardening Functions for Large Scale Distributed Computations. In *Proceedings of the 2003 IEEE Symposium on Security and Privacy*, pages 216-224, Berkeley, CA, May 2003.

Selected Other Publications:

B. Lawson and E. Smirni. Power-aware Resource Allocation in High-end Systems via Online Simulation. In *Proceedings of the ACM International Conference on Supercomputing (ICS05)*, Cambridge, MA, June 2005.

B. Lawson and E. Smirni. Self-Adaptive Scheduler Parameterization Via Online Simulation. In *Proc. of the 19th International Parallel and Distributed Processing Symposium (IPDPS 2005)*, Denver, CO, April 2005.

B. Lawson, E. Smirni, and D. Puiu. Self-adapting Backfilling Scheduling for Parallel Systems. In *Proceedings of the International Conference on Parallel Processing (ICPP 2002)*, Vancouver, B.C., August 2002.

B. Lawson and E. Smirni. Multiple-queue Backfilling Scheduling with Priorities and Reservations for Parallel Systems. In *8th Annual Workshop on Job Scheduling Strategies for Parallel Processing*, pages 72-83, Edinburgh, Scotland, July 2002.

B. Lawson and S. Park. Asynchronous Time Evolution in an Artificial Society Model. *Journal of Artificial Societies and Social Simulation*, 3(1), January 2000.

Synergistic Activities:

- **Undergraduate Research, University of Richmond:**

  In his first five years at the University of Richmond, Dr. Lawson has directed or co-directed fifteen undergraduate students, including two women, in summer research on topics specifically related to this proposal. The students were either funded by NSF Cyber Trust grant IIS-0524239 or by a University of Richmond Summer Undergraduate Research Fellowship, with findings of their work disseminated via student presentation at the University's annual Undergraduate Student Symposium.

- **Other Education-Related Activities:**

  Developed two new courses, one a general-education Elementary Programming course and the other an upper-level Simulation course, at the University of Richmond.

  Directed four separate full-course-credit independent study courses and supervised two internships at University of Richmond.

  Developed and presented, with Larry Leemis (William and Mary), "Simulation 101" — a pre-conference day-long workshop at the 2006 and 2007 Winter Simulation Conference meetings.

  Member of conference panel on undergraduate research: "Approaches to Undergraduate Research: What Works", with K. Anewalt, J. Polack-Wahl, R. Necaise. Consortium for Computing Sciences in Colleges (CCSC) 2006 Eastern Conference, University of Mary Washington, Fredericksburg, VA, 27–28 October 2006.

  Research Talks to Undergraduates:

  - In Faculty and Student Talk (FAST) Series, Denison University Department of Mathematics and Computer Science, Granville, OH, 19 April 2006.
  - To Elon University Department of Computer Science, Elon, NC, 13 April 2006.
  - ACM Spring 2006 Invited Speaker, Bucknell University, Lewisburg, PA, 6 April 2006.

  Affiliated Faculty for Undergraduate Modeling, Simulation, and Analysis (UMSA): an interdisciplinary upper-level undergraduate research course designed to introduce research into the undergraduate curriculum. This course was developed and offered at the College of William and Mary for three semesters in 1998, 2000, and 2002 under the sponsorship of NSF award CDA-9712718.

Recent Collaborators:

Arthur Charlesworth	University of Richmond
Larry Leemis	William and Mary
Dimitris Nikolopoulos	VA Tech
W. Jason Owen	University of Richmond
Steve Park	William and Mary
Mike Pohl	Google
Evgenia Smirni	College of William and Mary
Doug Szajda	University of Richmond

Graduate Advisors:

David Nicol	Professor of Computer Science	UIUC
Steve Park	Professor of Computer Science	College of William and Mary