

Stan J. Thomas, PhD

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EDUCATION: Ph.D. in Computer Science, Vanderbilt University, 1983
Various teaching and NSF-sponsored research assistantships

B.S. in Mathematics, Davidson College, 1974
National Merit Scholarship, NC Veteran's Scholarship

**ACADEMIC
EMPLOYMENT:** Chair, Department of Computer Science, Wake Forest University, 2004-2011

Associate Professor of Computer Science, Wake Forest University, 1988-present

Visiting Professor, United States Air Force Academy, 1989-1990, 1995-1996

Visiting Lecturer, Lahore University of Management Science, Lahore, Pakistan,
June-August, 1999

Assistant Professor of Computer Science, Wake Forest University, 1983-1988

Instructor of Computer Science, Vanderbilt University, 1979-1980

Instructor of Computer Science, University of Tennessee at Nashville, 1976-1979

HONORS: ABET Fellow, November 2018, conferred by the ABET Board for service to the Computing Accreditation Commission as Program Evaluator, Team Chair, Executive Committee Member and Chair, and as a driving force on the CAC-CSAB Criteria Committee and the AC Training Committee

CSAB (Computing Sciences Accreditation Board) Fellow, 2013, in recognition of sustained, quality service to the computing profession and to computing education through the activities of CSAB

Chair of the Computing Accreditation Commission of ABET, 2014-2015

ABET-Seoul Accord reviewer of international accrediting bodies, 2014-2017

Fulbright Specialist Roster in Computer Science, 2011-2015

Emissary representing Wake Forest University to educational institutions in Ghana and Liberia, May, 2013

**PROFESSIONAL
EXPERIENCE:**

Member, Computing Area Delegation, Engineering Area Delegation, representing CSAB on the ABET Board of Delegates, 2018-2021; member ABET Global Council; member ABET Audit Committee

Advisory Board, Academic Accreditation and HRD Associates (AACHA), Chennai, India, 2017-2018

Expert witness regarding patent reviews, Fish & Richardson, Austin, Texas, 2019-2020

Software Consultant, Lexington Asset Management, Wake Forest, NC, 2008

Expert witness for the Superior Court of North Carolina, North Carolina Business Court Division, Forsyth County, NC, 2006-2007

Software Consultant, Eaton Corporation (Qualcomm), Winston-Salem, NC, 1994-2002

Educational consultant, 2001-2019

Board of Advisors, Metagenix Corporation, Durham, NC, 2000-2003

Instructional Consultant, Inmar Corporation, Winston-Salem, NC, 1999

Technical Consultant, Yang Enterprises, Merritt Island, FL, 1996

**RESEARCH
INTERESTS:**

Database theory; data analysis of structured, unstructured and sparse data sets; model-based reasoning; medical applications of computing; computer science education.

**SELECTED
REFEREED
PUBLICATIONS:**

“The Value of ABET Accreditation to Computing Programs”, M. Oudshoorn, R. Raj, S. Thomas, A. Parrish, *2018 ASEE Annual Conference & Exposition*”, Salt Lake City, UT, June, 2018.

“Understanding the New ABET Computer Science Criteria”, M. Oudshoorn, S. Thomas, R. Raj, A. Parrish, *SIGCSE 2018*, Baltimore, MD, March, 2018.

“Parallel Computing in the WFU CS Curriculum”, D. John, S. Thomas, CSInParallel Workshop, Loyola University, Chicago, Illinois, August 2015.

“Parallel and Distributed Computing Across the Computer Science Curriculum,” D. John, S. Thomas, *Proceedings of the 28th IEEE International Parallel and Distributed Processing Symposium, EduPar Workshop*, May 2014, pp. 1085-1090.

“In the Zone: Virtual Computing on a Budget,” S. Thomas, P.M. Whitener, *Proceedings of SIGCSE '10 the 41st ACM Technical Symposium on Computer Science Education*, March 2010, pp. 366-370.

“Comparison of co-temporal Modeling Algorithms on Sparse Experimental Time-Series Data Sets,” E.E. Allen, J.S. Fetrow, D.J. John, J. Norris, S. Thomas, W.T. Turkett, Jr., *10th IEEE International Conference on Bioinformatics and Bioengineering*, 2010.

“Algebraic Dependency Models of Protein Signal Transduction Networks from Time-Series Data,” E.E. Allen, J.S. Fetrow, L.W. Daniel, S. Thomas, D.J. John, *Journal of Theoretical Biology*, 238:2 (2006), pp. 317-330.

“Heuristic Dependency Conjectures in Proteomic Signaling Pathways”, E.E. Allen, J.S. Fetrow, D.J. John, S. Thomas, *Proceedings of 43rd ACM-Southeast Conference/05*, (Victor A. Clincy, ed), March 2005, 75-79.

“The Impact of Campus-wide Portable Computing on Computer Science Education,” S. Thomas, C. Laxer, T. Nishida, H. Sherlock, *ACM-SIGCUE Outlook*, October, 1998, 26:4, 35-40.

“Waveform Analysis of Laser Doppler Signals from Normal and Diabetic Feet”, T. Smith, T. Torgersen, S. Thomas, *et al.*, IEEE Symposium on Computer-Based Medical Systems, June 1994, Winston-Salem, North Carolina.

POSTERS AND PRESENTATIONS:

“Workshop on Parallel and Distributed Computing in the Undergraduate Curriculum”, D. John, S. Thomas, University of Lima, Lima, Peru, September 14, 2018.

“Updates to the ABET Computing Accreditation Criteria”, A. Parrish, S. Thomas, Birds-of-a-Feather presentation, ABET Symposium 2016, Hollywood, FL, April 2016.

“Integrating MapReduce Concepts into Core CS Curricula”, D. John, S. Thomas, IEEE-SoutheastCon 2016, May 2016.

“Updates to the ABET Computing Accreditation Criteria”, A. Parrish, S. Thomas, Birds-of-a-Feather presentation, SIGCSE 2016, Memphis, TN, March 2016.

“MapReduce Modules to introduce parallel and distributed computing concepts”, W. Ge, D. John, S. Thomas, EduHPC poster session of Supercomputing 2015, Austin, TX, November 2015.

“Preparing a Computing Self-Study”, S. Thomas, D. Reese, 2015 ABET Symposium, Atlanta, GA, April 2015.

“Proposed Changes to the CAC CS Criteria”, M. Oudshoorn, S. Thomas, 2015 ABET Symposium, Atlanta, GA, April 2015.

- “Computer Science and ABET Accreditation: What you Should Know”, L. Cassel, D. Cordes, A. Parrish, A. Phillips, S. Thomas, Panel Session, SIGCSE 2015, Kansas City, KS, March 2015.
- “Proposed ABET Computer Science Program Criteria and the CS2013 Curriculum”, M. Oudshoorn, S. Thomas, Birds of a Feather Session, SIGCSE 2015, Kansas City, KS, March 2015.
- “Computing Accreditation Town Hall”, S. Thomas, 2014 ABET Symposium, Pittsburgh, PA, April 4, 2014.
- “Instructional Parallel Computing Modules”, D. John, S. Thomas, HPC Educator’s Workshop, Supercomputing 2013, Denver, CO, November, 2013.
- “Basic LittleFE Instructional Module: Trapezoidal Rule”, S. Thomas, D. John, HPC Educator’s Workshop, Supercomputing 2013, Denver, CO, November, 2013.
- “Basic LittleFE Instructional Module: Balanced Parallel Sorting”, D. John, S. Thomas, HPC Educator’s Workshop, Supercomputing 2013, Denver, CO, November, 2013.
- “Parallel Computing in the CS Curriculum”, D. John, S. Thomas, IEEE Winston-Salem Section, June 12, 2013.
- “Preparing the Computing Accreditation Self-Study”, S. Thomas, 2013 ABET Symposium, Portland, OR, April 2013.
- “Growing a ‘Green’ Virtual Environment”, P.M. Whitener, S. Thomas, EDUCAUSE - 2011 Southeast Conference, Charlotte, NC, June 2011.
- “Preparing a Computing Self-Study”, S. Thomas, 2011 ABET Symposium, Indianapolis, IN, April 2011.
- “A Comparison of Next-state (dynamic) and Co-temporal Modeling of Time Course Data”, E. Allen, D. John, J. Fetrow, S. Thomas, International Society for Computational Biology, December, 2008.
- “Analysis and Characterization of Reactive Cysteines in Protein Structures and Within Cellular Signal Transduction Networks,” S. Thomas, F. Salsbury, S. Knutson, L.B. Poole, J.S. Fetrow, W. Turkett, Poster – *Microsoft’s eScience07*, Friday Center, Chapel Hill, NC, October, 2007.
- “Modeling Protein Signaling Transduction Networks via Markov Chain Monte Carlo Sampling of Bayesian Networks”, W. Turkett, A. Reilly, J. Fetrow, S. Thomas, Poster – 19th Annual Symposium of the Protein Society, July 2005.

“Discrete Mathematical Modeling of Signal Transduction Networks”,
E. Allen, D. John, L. Daniel, J. Fetrow, S. Thomas, Poster – 19th Annual
Symposium of the Protein Society, July 2005.

“Spectral Analysis of Laser Doppler Signals to Assess Microvascular Pathology
in the Diabetic Foot”, M.J. Willenborg, T. Smith, R. Teasdall, S.J. Thomas,
et al., Orthopaedic Research Society 47th Annual Meeting, San Francisco,
California, February, 2001.

“Evaluation of Microvascular Perfusion in Diabetic Feet Using Spectral Analysis
of Laser Doppler Waveforms”, M.J. Willenborg, T. Smith, S.J. Thomas, *et
al.*, Southern Orthopaedic Association 17th Annual Meeting, Dec., 2000.

“The Impact of campus-wide portable computing on computer science
education,” S. Thomas, C. Laxer, T. Nishida, H. Sherlock, Working Group
reports of the 3rd annual SIGCSE/SIGCUE ITiCSE conference on Integrating
technology into computer science education, December, 1998, Dublin,
Ireland, August, 1998.

“A Neural Network Approach to a Multistage Graph Optimization Problem”, S.
Thomas, North Carolina Symposium on Artificial Intelligence, March 1992.

“Backpropagation vs. Gaussian Classifiers for Speaker Gender Identification”,
S. Thomas, J. Fussell, North Carolina Symposium on Artificial Intelligence,
November 1990.

**FUNDED
RESEARCH:**

Travel grant to Supercomputing 15, NSF/TCPP Early Adopter Program through
Georgia State University, \$1,500, November 2015.

Co-primary investigator with D. John: “Preparing Students for a Big Data
World”, NSF-TCPP Early Adopter Program, \$2,500, August 2014.

Co-primary investigator with D. John: “Supercomputing 2013 Travel and
Equipment Grant”, NSF and Intel, \$5,000, November 2013.

Co-primary investigator with D. John: “Supercomputing 2012 Travel and
Equipment Grant”, NSF and Intel, \$9,000, November 2012.

PI, “SunSPOTS from the Start”, Sun Microsystems, \$9,000, May 2008.

Co-investigator with J. Fetrow (PI): “Algebraic and Statistical Models of Redox
Signaling”, NIH-NIGMS 1R01, \$1,073,242 over years 2005-2008.

Co-investigator with D. John, “A Consortium to Promote Computational Science
and High Performance Computing”, subcontract to Appalachian State
University, \$23,000, 2005-2006.

Culpepper Foundation, Summer 2000, 2001.

Computer Enhanced Learning Initiative, Wake Forest University, Summer 2000.

Visiting Research Faculty Grant, US Air Force Academy, 1989-90, 1995-96.

NASA grant for research on symbolic computing, 1988-1990.

**STUDENTS
SUPERVISED:**

Bruce Shen, Honors Thesis supervisor, 2016-17.

Udita Patel, MS Thesis Adviser, 2015-16.

Kyle Pinheiro de Oliveira, Honors Thesis supervisor, 2015-16.

Eric Jimenez, Cancer Biology PhD Committee Chair, 2014.

Weiwei Ge, MS Project Adviser, 2014-15.

Thang Pham, MS Project Adviser, 2010.

Greg Galante, MS Project Adviser, 2010.

Shuai Zheng, "A Federated Data Repository Query System", 2010.

Patrick Kruse, "Database Security in Web Applications," Undergraduate Honors Thesis, 2008.

Santiago Saldano, "Explorations in Autonomous Flight," Undergraduate Honors Thesis, 2007.

Adam Reilly, "Bayesian Network Modeling of Cellular Signaling Pathways," MS Thesis, 2005.

Lili Zhao, "Data and Database Reverse Engineering," MS Thesis, 2003.

Jian Jin, "Data Mining of Time Series Data," MS Thesis, 2003.

Donald Hensley, "An Algorithm for Machine Learning," MS Thesis, 1999.

Rebecca Harris, "Training Neural Networks with Large Datasets and Few Examples," MS Thesis, 1998.

Thomas Thompson, III, "Three-Dimensional Polygon-Mesh Morphology," MS Thesis, 1994

**PROFESSIONAL
SERVICE:**

Commission Chair, Commissioner, Training Committee Chair,
Team Chair for the Computing Accreditation Commission of ABET -

the international accrediting agency for programs in engineering and technology, 2009-present.

ABET-CSAB Joint Criteria Committee, 2014-2018.

Training Facilitator for program evaluator training, Computer Science Accreditation Board (CSAB), 2010-present.

Accreditation Commission Training Committee of ABET, 2010-2013, 2016-2018.

Proposal Reviewer, Oak Ridge Associated Universities, 2009-2012.

Reviewer, IEEE-IES Africon17, 2017.

Reviewer, Journal of Medical Physics, 2007-2008.

Reviewer, ACM-SIGCSE Conference, 2009-2017.

Organizing Committee Member and Treasurer, ACM SouthEast Conference, 2007.

Academic consultant, South Carolina Commission on Higher Education, 1995, 2000; Francis Marion University, 2004; Chapman University, 2008.

Visiting lecturer and curriculum consultant; Lahore University of Management Science, Lahore, Pakistan, 1999.

Editor, with J. Burg, "Computers Across Campus," Special Section of the *Communications of the ACM*, January, 1998.

NASA/ASEE Summer Faculty Research Fellow, Kennedy Space Center, 1986, 1987, 1993, 1994.

Program Committee, 1992 Russian Neural Network Society/IEEE Symposium on Neuroinformatics and Neurocomputing.

**UNIVERSITY
AND COLLEGE**

SERVICE: College Honor and Ethics Council, 2018-2020

Faculty Athletic Committee, 2016-2020

Graduate School Honor Council, 2017-2019

Department Chair, 2004-2011

Senior Orations Reviewer, 2009-2010

College Committee on Academic Affairs, 2009-2011

College Curriculum Committee, 2004-2010

Graduate School Track 7 Implementation Task Force, 2010

Played key role in designing and implementing both the undergraduate and graduate Computer Science programs at Wake Forest University, 1985-1992

Committee on Information Technology, member 2005-2007, chair 2006-2007

ROTC Oversight Committee, 2000-2003, 2016-2018

**PROFESSIONAL
ORGANIZATIONS:**

Association for Computing Machinery

Life Senior Member, IEEE Computer Society

Pi Mu Epsilon, Upsilon Pi Epsilon, professional honor societies

Piedmont Triad Python Users Group

**COURSES
TAUGHT**

RECENTLY:

Data Structures and Algorithms I using *Data Structures* by Weiss, 2017-2020.

Introduction to Web Development using ZyBooks online text, 2017-2019.

Artificial Intelligence using *Artificial Intelligence: Foundations of Computational Agents, 2nd Edition* by Poole and Mackworth, Spring 2020.

Introduction to Computer Science, Spring 2018, Summer 2018, Summer 2020.

Introduction to Python (special topics) using Zybooks Python 3, Fall 2016-2018.

Data Structures and Algorithms II using *Algorithms* by Dasgupta and Papadimitriou, Fall 2015, Spring 2016.

Database Management Systems using *Database System Concepts* by Korth and Silberschatz, Fall 2013-2019.

Big Data Management and Analysis, Spring 2014-2017.