Timothy William O'Neil

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Education

Ph.D., Computer Science and Engineering, The University of Notre Dame, May 2002.
- Thesis: *Techniques for Optimizing Loop Scheduling*.
- Advisors: Edwin H.-M. Sha, Peter M. Kogge.

M.S., Computer and Information Sciences, The Ohio State University, June 1993.
M.S., Mathematics, The Ohio State University, August 1991.
B.S., Computer Science, Clarion University of Pennsylvania, May 1989.
B.S.Ed., Secondary Education Mathematics, Clarion University of Pennsylvania, May 1989.
- Graduated *cum laude*.
- Pennsylvania secondary school (grades 7-12) math certification, June 1989.

Additional Education:
Completed all Ph.D.-related coursework in Mathematics, Bowling Green (Ohio) State University, 1993-96.

Employment Profile, Instructional

2002 – present — Professor (Tenured), Department of Computer Science.
The University of Akron, Akron OH.
- Assistant Professor, 2002-07; Tenured Associate Professor, 2007-13.
- Principle instructor for 2-3 classes per semester.

2001 – 2002 — Graduate Fellow/Research Associate, Dept. of Comp. Sci. and Engineering.
The University of Notre Dame, Notre Dame IN.
- Principle instructor for CSE 210, Spring Semester 2002.
- Assisted Prof. M. Scheutz with curriculum development, Summer 2002.

2000 – 2001 — Senior Lecturer, Department of Computer Science.
The University of Texas at Dallas, Richardson TX.
- Principle instructor for two classes per semester.

1998 – 2000 — Graduate Fellow, Department of Computer Science and Engineering.
The University of Notre Dame, Notre Dame IN.
- Research assistant to Prof. Edwin Sha, 1998-2000.
- Teaching assistant for CSE 341, Spring Semester 2000.

1996 – 1998 — Instructor, Department of Mathematics and Computer Science.
Manchester College, North Manchester IN.
- Taught 3-5 classes per semester plus intensive January session.

1993 – 1996 — Graduate Fellow, Department of Mathematics and Statistics.
Bowling Green State University, Bowling Green OH.
- Principle instructor for 1-2 classes per semester.

Employment Profile, Instructional (continued)

1989 – 1993 GRADUATE TEACHING ASSISTANT, Department of Mathematics.
THE OHIO STATE UNIVERSITY, Columbus OH.

- Principle instructor for 1-4 classes per quarter.

1988 STUDENT TEACHER, Department of Mathematics.
CLARION AREA JUNIOR-SENIOR HIGH SCHOOL, Clarion PA.

- Taught 7th & 8th Grade Math, Algebra and Trig., Fall Semester 1988.

Employment Profile, Administrative

2018 – present CHAIR, Departments of Computer Science and Statistics.
THE UNIVERSITY OF AKRON, Akron OH.

- Deal with all facets of managing the departments, including
  - Personnel matters, including recruitment, retention, promotion, tenure and facilitating faculty development;
  - Fiscal considerations, including salary recommendations, operating budgets and growing endowments;
  - Undergraduate and graduate program, curriculum and course development;
  - Scheduling of course offerings for each academic term;
  - Relations with other University components and external groups; and
  - Student and faculty matters.

2015 – 2017 COORDINATOR, Department of Computer Science.
THE UNIVERSITY OF AKRON, Akron OH.

- Work directly with the Associate Dean, Natural Sciences Division, College of Arts and Sciences, to maintain day-to-day operation of the Computer Science department.
- Advise Associate Dean (who was also serving as interim department chair) on academic and procedural issues related to the department and field.
- Develop schedule of course offerings for each academic term.
- Select, hire, orient, manage, train and evaluate graduate teaching assistants and part-time instructors.
- Assign and supervise graduate assistant grading and lab monitoring duties.
- Assist in management of department expenses within budget limitations.
- Provide oversight and answer questions relative to the evaluation of transcripts of transfer students for purposes of admission to the Computer Science programs of study.
- Monitor faculty follow-up with students concerning academic issues.

2012 – 2015 COMPUTER SCIENCE I/II COORDINATOR, Department of Computer Science.
THE UNIVERSITY OF AKRON, Akron OH.

- Designed general course syllabus, as well as more detailed course and lesson plans.
- Managed online delivery of labs using Subversion, Trac and MyProgrammingLab.
- Communicated regularly with other faculty and graduate assistants teaching assigned courses.

TEACHING PROFILE

COLLEGE COURSES TAUGHT, COMPUTER SCIENCE

THE UNIVERSITY OF AKRON (2002 – PRESENT)

- Since assuming chair position, Spring Semester 2018
  - 3460:4/526 – Operating Systems — Sp18, Sp19, Fa19, Sp20
  - 3460:4/577 – Introduction to Parallel Processing — Fa18
  - 3460:490 – Senior Seminar in Computer Science — Sp18
- Prior to assuming chair position
  - 3460:209 – Computer Science I (C++ programming) — Fa12 (2 secs.), Su13, Fa13 (2 secs), Sp14, Fa14 (2 secs)
    - Previous title: Introduction to Computer Science (Java programming) — Sp06, Sp07
  - 3460:210 – Computer Science II (C++ programming)
    - Previous title: Data Structures and Algorithms I (Java programming) — Fa07
  - 3460:306 – Assembly Language Programming — Fa02
  - 3460:316 – Data Structures — Fa17
    - Previous title: Data Structures and Algorithms II — Sp06
  - 3460:389 – Intermediate Topics in Computer Science: Cloud Computing — Fa17
  - 3460:4/521 – Object-Oriented Programming — Fa15 (2 secs)
  - 3460:4/526 – Operating Systems — Fa02, Sp03, Fa03, Sp04, Fa04, Sp05, Fa06, Fa07, Fa08, Fa09, Fa10, Sp13, Fa14, Sp15, Sp16, Sp17
  - 3460:4/540 – Compiler Design — Sp08
  - 3460:4/565 – Computer Architecture — Sp10, Sp11
  - 3460:4/577 – Intro to Parallel Processing — Sp03, Fa05, Sp07, Sp09, Fa13, Fa16
  - 3460:490 – Senior Seminar in Computer Science — Sp04, Sp05, Sp08, Sp09, Sp10, Sp17
  - 3460:626 – Advanced Operating Systems — Fa09
  - 3460:635 – Advanced Algorithms — Sp16
    - Previous title: Advanced Algorithms and Complexity Theory — Sp11
  - 3460:641 – Optimization for Parallel Compilers — Fa04, Fa06, Fa08, Sp13, Sp15, Fa17
  - 3460:665 – Advanced Computer Architecture — Fa05
  - 3460:677 – Parallel Processing — Fa03, Fa12, Sp14, Fa15, Fa16
    - Assisted with curriculum development, Fall 2011

THE UNIVERSITY OF NOTRE DAME (1998 – 2000, 2001 – 2002)
- CSE 210 – Discrete Mathematics (1 semester)
- CSE 341 – Operating Systems Principles (1 semester, teaching assistant)

THE UNIVERSITY OF TEXAS AT DALLAS (2000 – 2001)
- CS 3305 – Discrete Mathematics for Computing II (3 semesters)
- CS 5333 – Discrete Structures (1 semester)

MANCHESTER COLLEGE (1996 – 1998)
- CPTR 101 – Introduction to Computers (2 semesters)
- CPTR 105 – Computer Programming I (2 semesters, Pascal programming)
- CPTR 217 – C Programming (1 semester)

College Courses Taught, Mathematics

MANCHESTER COLLEGE (1996 – 1998)
- MATH 103 – Survey of Mathematical Thought (1 semester)
- MATH 112 – College Algebra (3 semesters)
- MATH 120 – Precalculus (2 semesters)
- MATH 121 – Calculus I (1 semester)
- MATH 122 – Calculus II (1 semester)
- MATH 130 – Discrete Mathematics (1 semester)
- MATH 233 – Numerical Analysis (1 semester)

BOWLING GREEN STATE UNIVERSITY (1993 – 1996)
- MATH 120 – College Algebra (1 semester)
- MATH 128 – Precalculus Mathematics I (1 semester, team taught)
- MATH 241 – Math for Elementary Teachers I (4 semesters)
- MATH 242 – Math for Elementary Teachers II (1 semester)

THE OHIO STATE UNIVERSITY (1989 – 1993)
- MATH 050 – Precollege Mathematics I (4 quarters)
- MATH 075 – Precollege Mathematics II (5 quarters)
- MATH 104 – Basic College Mathematics (2 quarters)
- MATH 116 – Survey of Finite Mathematics (1 quarter)
- MATH 130 – Mathematical Analysis for Business I (1 quarter)
- MATH 148 – College Algebra (1 quarter)
- MATH 151 – Calculus and Analytic Geometry I (1 quarter, recitation instructor)
- MATH 152 – Calculus and Analytic Geometry II (1 quarter, recitation instructor)
- MATH 153 – Calculus and Analytic Geometry III (1 quarter, recitation instructor)

Research Profile

Primary Research Interests

High level compiler optimization/loop transformation and scheduling, high performance (parallel/distributed) computing, computer science education.

Published Journal Papers

- J.S. Haddad, T. W. O'Neil, A. Deeter, and Z.-H. Duan, "An Implementation of Parallel Bayesian Network Learning", *Journal of Computational Science Education*, Vol. 8, No. 2, July 2017, pp. 24 – 28. DOI: 10.22369/issn.2153-4136/8/2/4
- T.W. O'Neil, "Extended Retiming: Transforming Synchronous Data-Flow Graphs to Minimize Clock Period", *Asian Journal of Applied Science and Engineering*, Vol. 4, December 2015, pp. 201 – 218.
- T.W. O'Neil, "Static Scheduling of Synchronous Data-Flow Graphs Under Resource Constraints", *Parallel and Distributed Computing and Networks*, Vol. 2, 2012. DOI: 10.2316/Journal.211.2012.1.211-1057.
- T.W. O'Neil, D.H. Mugler, K.J. Liszka, R. Gummadi and A.B. Mirza, "Experiments in Parallelizing the Type IV Discrete Cosine Transform", *Computer Technology and Application*, Vol. 3, No. 4, April 2012, pp. 305 – 314.
- T.W. O'Neil, S.F. Khasawneh, M.E. Richter and R.K. Pullaguntla, "Transforming Synchronous Data-Flow Graphs to Reduce Execution Time", *International Journal of Computers and Their Applications*, Vol. 18, June 2011, pp. 111-122.
- E.R. Wheland, T.W. O'Neil, J.D. Adler and K.J. Liszka, "The Poster Session: A Tool for Education, Assessment and Recruitment", *Mathematics and Computer Education*, Vol. 43, No. 2, Spring 2009, pp. 141-150.
- T.W. O'Neil and E. H.-M. Sha, "Time-Constrained Loop Scheduling with Minimal Resources", *Journal of Embedded Computing*, Vol. 2, October 2006, pp. 103-117.
- T.W. O'Neil and E. H.-M. Sha, "Combining Extended Retiming and Unfolding for Rate-Optimal Graph Transformation", *Journal of VLSI Signal Processing Systems for Signal, Image and Video Technology*, Vol. 39, March 2005, pp. 273-293.
- E. H.-M. Sha, T.W. O'Neil and N.L. Passos, "Efficient Polynomial-Time Nested Loop Fusion with Full Parallelism", *International Journal of Computers and Their Applications*, Vol. 10, March 2003, pp. 9-24.
- Z. Wang, T.W. O'Neil and E. H.-M. Sha, "Optimal Loop Scheduling for Hiding Memory Latency Based On Two Level Partitioning and Prefetching", *IEEE Transactions on Signal Processing*, Vol. 49, November 2001, pp. 2853-2864.
- T.W. O'Neil and E. H.-M. Sha, "Retiming Synchronous Data-Flow Graphs to Minimize Execution Time", *IEEE Transactions on Signal Processing*, Vol. 49, October 2001, pp. 2397-2407.
- Z. Wang, T.W. O'Neil and E. H.-M. Sha, "Minimizing Average Schedule Length Under Memory Constraints by Optimal Partitioning and Prefetching", *Journal of VLSI Signal Processing Systems for Signal, Image and Video Technology*, Vol. 27, March 2001, pp. 215-233.
- S. Tongsima, T.W. O'Neil, C. Chantrapornchai and E. H.-M. Sha, "Properties and Algorithms for Unfolding of Probabilistic Data-flow Graphs", *Journal of VLSI Signal Processing Systems for Signal, Image and Video Technology*, Vol. 25, No. 3, July 2000, pp. 215-234.

- F. Chen, T.W. O'Neil and E. H.-M. Sha, "Optimizing Overall Loop Schedules using Prefetching and Partitioning", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 11, No. 6, June 2000, pp. 604-614.
- T.W. O'Neil, "Catalan's Equation", *Mathematics in College*, 1998, pp. 53-58.
- T.W. O'Neil and D. Bhattacharya, "Exploring Fermat's Last Theorem", *Ontario Mathematics Gazette*, Vol. 29, September 1990, pp. 18-21.
- J. Blass, A.M.W. Glass and T.W. O'Neil, "Catalan's conjecture and linear forms in logarithms", *Ulam Quarterly Journal*, accepted but never appeared in print; cited by:
    - C.D. Bennett, L.K. Elderbrock and A.M.W. Glass, "Zero Estimates for Polynomials in Three and Four Variables using Orbits and Stabilisers", in *Hilbert's Tenth Problem: Relations with Arithmetic and Algebraic Geometry*, Amer. Math. Soc., 2000, 357 – 367.
    - M. Mignotte, "Catalan's equation just before 2000", *Number Theory (Turku, 1999)*, de Gruyter, Berlin, 2001, 247 – 254.
    - P. Mihailescu, "A Class Number Free Criterion for Catalan's Conjecture", *J. Number Th.* **99** (2003), 225 – 231.
    - Y.F. Bilu, "Catalan's conjecture (after Mihailescu)", *Seminaire Bourbaki*, 909, 2002-2003; *Astrisque* **294** (2004), 1 – 26.

Published Papers, Refereed Conferences

- T.W. O'Neil, "A Project-Driven Operating Systems Class: A Case Study", in *Proc. 13th International Conference on Frontiers in Education: Computer Science and Computer Engineering*, in conjunction with the *2017 World Congress in Computer Science, Computer Engineering and Applied Computing*, Las Vegas NV, July 2017, pp. 142 – 147.
- T.W. O'Neil and Y. Xiao, "Teaching Parallel Programming Using CUDA: A Case Study", in *Proc. 13th International Conference on Frontiers in Education: Computer Science and Computer Engineering*, in conjunction with the *2017 World Congress in Computer Science, Computer Engineering and Applied Computing*, Las Vegas NV, July 2017, pp. 110 – 115.
- B. Cai, Y. Xiao, T.W. O'Neil and Z.-H. Duan, "Scattered Data Modeling Using GPU: A Case Study", in *Proc. 13th International Conference on Modeling, Simulation and Visualization Methods*, in conjunction with the *2016 World Congress in Computer Science, Computer Engineering and Applied Computing*, Las Vegas NV, July 2016, pp. 173 - 179.
- J.S. Haddad, A. Deeter, Z.-H. Duan and T.W. O'Neil, "Analysis of Parallel Bayesian Networks", in *Proc. ISCA International Conference on Computers and Their Applications*, Las Vegas NV, April 2016, pp. 101 - 106.
- T.W. O'Neil, "Experiments with Massively Parallel Matrix Multiplication", in *Proc. ISCA 29th International Conference on Computers and Their Applications*, Las Vegas NV, March 2014, pp. 135 – 140.
- T.W. O'Neil, "Rate-Optimal Unfolding of Balanced Synchronous Data-Flow Graphs", in *Proc. ISCA 29th International Conference on Computers and Their Applications*, Las Vegas NV, March 2014, pp. 261 – 266.
- T.W. O'Neil, "Unfolding Synchronous Data-Flow Graphs", in *Proc. IASTED 23rd International Conference on Parallel and Distributed Computing and Systems*, Dallas TX, December 2011, pp. 278 – 283.
- T.W. O'Neil, "Resource-Constrained Static Scheduling of Synchronous Data-Flow Graphs", in *Proc. IASTED 23rd International Conference on Parallel and Distributed Computing and Systems*, Dallas TX, December 2011, pp. 124 – 129.
- T.W. O'Neil, A.B. Mirza and D.H. Mugler, "An Experiment in Parallelizing the Fast Fourier Transform", in *Proc. 2011 International Conference on Parallel and Distributed Processing*

Techniques and Applications, in conjunction with the *2011 World Congress in Computer Science, Computer Engineering and Applied Computing*, Las Vegas NV, July 2011, Vol. I, pp. 336-341.

- K.C. Chakilam, S.R. Anapalli and T.W. O'Neil, "Minimizing Inter-Iteration Dependencies in Multi-Dimensional Loops", in *Proc. ISCA 22nd International Conference on Parallel and Distributed Computing and Communication Systems*, Louisville KY, September 2009, pp. 25-30.
- S.R. Anapalli, K.C. Chakilam and T.W. O'Neil, "Static Scheduling for Cyclo-Static Data Flow Graphs", in *Proc. 2009 International Conference on Parallel and Distributed Processing Techniques and Applications*, in conjunction with the *2009 World Congress in Computer Science, Computer Engineering and Applied Computing*, Las Vegas NV, July 2009, Vol. I, pp. 302-306.
- R.K. Pullaguntla, S.F. Khasawneh and T.W. O'Neil, "Rotation Scheduling on Synchronous Data Flow Graphs", in *Proc. 2009 International Conference on Parallel and Distributed Processing Techniques and Applications*, in conjunction with the *2009 World Congress in Computer Science, Computer Engineering and Applied Computing*, Las Vegas NV, July 2009, Vol. I, pp. 263-269.
- M.E. Richter, D.J. Poeschl and T.W. O'Neil, "New Heuristics for Rotation Scheduling", in *Proc. 2008 International Conference on Parallel and Distributed Processing Techniques and Applications*, in conjunction with the *2008 World Congress in Computer Science, Computer Engineering and Applied Computing*, Las Vegas NV, July 2008, pp. 10-16.
- S.F. Khasawneh, M.E. Richter and T.W. O'Neil, "Static Scheduling for Synchronous Data-Flow Graphs", in *Proc. ISCA 22nd International Conference on Computers and Their Applications*, Honolulu HI, March 2007, pp. 38-43.
- T.W. O'Neil and E. H.-M. Sha, "Static Scheduling of Split-Node Data-Flow Graphs", in *Proc. IASTED 17th International Conference on Parallel and Distributed Computing and Systems*, Phoenix AZ, November 2005, pp. 125-130.
- T.W. O'Neil and E. H.-M. Sha, "Using Unfolding to Minimize Inter-Iteration Dependencies", in *Proc. IASTED 16th International Conference on Parallel and Distributed Computing and Systems*, Cambridge MA, November 2004, pp. 342-347. (Nominee for best paper.)
- T.W. O'Neil, "Optimal Graph Transformation Assuming Alternate Scheduling Models", in *Proc. ISCA 16th International Conference on Parallel and Distributed Systems*, Reno NV, August 2003, pp. 55-60.
- T.W. O'Neil and E. H.-M. Sha, "Unfolding a Split-Node Data-Flow Graph", in *Proc. IASTED 14th International Conference on Parallel and Distributed Computing and Systems*, Cambridge MA, November 2002, pp. 717-722.
- T.W. O'Neil and E. H.-M. Sha, "Using Retiming to Minimize Inter-Iteration Dependencies", in *Proc. ISCA 16th International Conference on Parallel and Distributed Systems*, Louisville KY, September 2002, pp. 482-487.
- T.W. O'Neil and E. H.-M. Sha, "Minimizing Resources in a Repeating Schedule for a Split-Node Data-Flow Graph", in *Proc. IEEE/ACM 12th Great Lakes Symposium on VLSI*, New York City NY, April 2002, pp. 136-141.
- T.W. O'Neil and E. H.-M. Sha, "On Retiming Synchronous Data-Flow Graphs", in *Proc. ISCA 14th International Conference on Parallel and Distributed Systems*, Richardson TX, August 2001, pp. 103-108.
- T. W. O'Neil, E. H.-M. Sha and S. Tongsima, "Parallelizing Synchronous Data-Flow Graphs via Retiming", *4th International Conference on Algorithms and Architectures*, Hong Kong, December 2000, pp. 252-263.

- T.W. O'Neil and E. H.-M. Sha, "Optimal Graph Transformation using Extended Retiming with Minimal Unfolding", in *Proc. IASTED 12th International Conference on Parallel and Distributed Computing and Systems*, Las Vegas NV, November 2000, Vol. I, pp. 128-133.
- T.W. O'Neil and E. H.-M. Sha, "Minimizing Inter-Iteration Dependencies for Loop Pipelining", in *Proc. ISCA 13th International Conference on Parallel and Distributed Systems*, Las Vegas NV, August 2000, pp. 412-417.
- T.W. O'Neil and E. H.-M. Sha, "Rate-Optimal Graph Transformation via Extended Retiming and Unfolding", in *Proc. IASTED 11th International Conference on Parallel and Distributed Computing and Systems*, Cambridge MA, November 1999, Sec. 10, pp. 764-769.
- T.W. O'Neil, S. Tongsima and E. H.-M. Sha, "Optimal Scheduling of Data-Flow Graphs Using Extended Retiming", in *Proc. ISCA 12th International Conference on Parallel and Distributed Systems*, Fort Lauderdale FL, August 1999, pp. 292-297.
- T.W. O'Neil, S. Tongsima and E. H.-M. Sha, "Extended Retiming: Optimal Scheduling via a Graph-Theoretical Approach", in *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing*, Phoenix AZ, March 1999, Vol. 4, pp. 2001-2004.
- S. Tongsima, T.W. O'Neil and E. H.-M. Sha, "Unfolding Probabilistic Data-flow Graphs Under Different Timing Models", in *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing*, Phoenix AZ, March 1999, Vol. 4, pp. 1889-1892.

Publications Contributed To

- S.R. Anapalli, *Scheduling on Cyclo Static Data Flow Graphs*, Lambert Academic Publishing, 2011, ISBN 9783838373843.
- C.D. Bennett, J. Blass, A.M.W. Glass, D.B. Meronk and R.P. Steiner, "Linear Forms in the Logarithms of Three Positive Rational Numbers", *J. Th. Num. Bordeaux*, Vol. 9, No. 1, 1997, pp. 97-136.
- "January Calendar", *Mathematics Teacher*, Vol. 84, No. 1, 1991, pp. 36-40.
- "December Calendar", *Mathematics Teacher*, Vol. 83, No. 12, 1990, pp. 725-729.

Graduate Students Advised

- Sukumar R. Anapalli, M.S.C.S. (Thesis) student, August 2009. Project: *Static Scheduling and Rotation Scheduling on Cyclo Static Data Flow Graphs*.
- Krishna C. Chakilam, M.S.C.S. (Thesis) student, August 2009. Project: *Representing and Minimizing Multi-Dimensional Dependencies.*
- Neeraj Mogla (co-advisor with L. Lenhart), M.S.C.S. (Project) student, December 2008. Project: *E-read Ohio Online Instructor Application System using Flex and ColdFusion.*
- Ameen B. Mirza (co-advisor with D. Mugler), M.S.C.S. (Thesis) student, December 2008. Project: *Parallel Computation of the Interleaved Fast Fourier Transform with MPI*.
- Rama K. Pullaguntla, M.S.C.S. (Thesis) student, August 2008. Project: *Rotation Scheduling on Synchronous Data-Flow Graphs.*
- Michael E. Richter, M.S.C.S. (Thesis) student, August 2007. Project: *Variations on Rotation Scheduling*.
- Samer F. Khasawneh, M.S.C.S. (Thesis) student, August 2007. Project: *Static Scheduling of Synchronous Data-Flow Graphs*.

Grant Activity

- **P.I. (with K. Liszka), NSF DUE 11-23094 RSP #11C128 (Illinois State University), Sub-award #11C128.15, *Service Oriented Paradigm across Introductory Information Technology Curricula*, $5000, 5/1/2013 – 7/31/2014.**
- Senior/Key Person, NIH STTR grant proposal (D. Mugler, P.I.), *Innovative Parallel Implementation of the FFT for Molecular Dynamics*, 2013 – 2014, $300,000.
- Team Member, Ohio Third Frontier University Technology Validation and Start-Up Fund grant (D. Mugler, P.I.), *Parallel Computation of the Fast Fourier Transform*, $100,000 (unfunded).
- **P.I. (with Y. Xiao), NVIDIA CUDA Teaching Center Program, *CUDA Instruction at the University of Akron*, equipment grant (value ~ $17000), 3/1/2011 – 12/31/2012.**
    - **Follow-up equipment grant (value ~$6300), 11/29/2012.**
    - **Follow-up equipment grant (with D. Mugler, value ~$750), 5/6/2014.**
    - **Renewal and follow-up equipment grant (value ~ $1100), 3/8/2016.**
- P.I., Faculty Research Grant, University of Akron, *An Exploration of Rotation Scheduling*, Summer 2011 (unfunded).
- P.I., NSF CCF 10-572, *Efficient Scheduling and Graph Transformations for DSP Applications to Minimize Execution Time*, $153000, December 2010 (unfunded).
- Investigator, HP Technology for Teaching Grant (T. Margush, P.I.), *Tablet Technology: Supporting Programming and Learning*, 2008 (unfunded).
- Investigator, NSF CCLI 05-36761 (T. Margush, P.I.), *Revitalizing the Assembly Language Programming Component of the Undergraduate Computer Science Curriculum*, 2005 (unfunded).
- P.I., Faculty Research Grant, University of Akron, *Extended Retiming via Alternate Methods*, Summer 2003 (unfunded).
- **OSC Cluster Ohio grant, P.I. (with J. Zhu, A. Baldum, Z.-H. Duan, A. Sokolov and P. Wang), *Computational Study of Ligand-Protein-Nanofiber Interactions for the Development of Biosensors*, 16-node Itanium cluster, January 2003.**

Service Profile

Professional Affiliations

- Institute of Electrical and Electronics Engineers, 1999-present.
- Association for Computing Machinery, 2015-present.
- International Society for Computers and Their Applications, 1999-2003, 2007, 2009, 2011, 2014, 2016.
- Mathematics Association of America, 1993-1996.
- National Council of Teachers of Mathematics, 1987-1990.
- Pennsylvania Council of Teachers of Mathematics, 1987-1989.
- Pennsylvania State Education Association, 1986-1989.

Professional Activities

- IASTED International Conference on Parallel and Distributed Computing and Networks.
  - Program Committee, 13th Int'l Conf., February 15-17 2016, Innsbruck Austria.
  - Program Committee, 12th Int'l Conf., February 17-19 2014, Innsbruck Austria.
  - Program Committee, 11th Int'l Conf., February 11-13 2013, Innsbruck Austria.
  - Program Committee, 9th Int'l Conf., February 15-17 2011, Innsbruck Austria.
  - Program Committee, 8th Int'l Conf., February 16-18 2010, Innsbruck Austria.
  - Program Committee, 7th Int'l Conf., February 16-18 2009, Innsbruck Austria.
  - Program Committee, 6th Int'l Conf., February 12-14 2008, Innsbruck Austria.
  - Program Committee, 5th Int'l Conf., February 13-15 2007, Innsbruck Austria.
- IASTED International Conference on Parallel and Distributed Computing and Systems.
  - Program Committee, 24th Int'l Conf., November 12-14 2012, Las Vegas NV.
  - Session Co-chair (Scheduling and Load Balancing), 23rd Int'l Conf., December 14-16 2011, Dallas TX.
  - Program Committee, 23rd Int'l Conf., December 14-16 2011, Dallas TX.
  - Program Committee, 22nd Int'l Conf., November 8-10 2010, Marina del Rey CA.
  - Program Committee, 21st Int'l Conf., November 2-4 2009, Cambridge MA.
  - Program Committee, 20th Int'l Conf., November 16-18 2008, Orlando FL.
  - Program Committee, 19th Int'l Conf., November 19-21 2007, Cambridge MA.
  - Program Committee, 18th Int'l Conf., November 13-15 2006, Dallas TX.
  - Program Committee, 17th Int'l Conf., November 14-16 2005, Phoenix AZ.
  - Program Committee, 16th Int'l Conf., November 8-11 2004, Cambridge MA.
  - Program Committee, 15th Int'l Conf., November 3-5 2003, Marina del Rey CA.
  - Session Co-chair (Compilation Techniques), 14th Int'l Conf., November 4-6 2002, Cambridge MA.
- IFIP International Conference on Embedded and Ubiquitous Computing.
  - Program Committee, 3rd International Workshop on Embedded Software Optimization, in conjunction with EUC 2008, December 17-20 2008, Shanghai PRC.
  - Program Committee, 2006 Int'l Conf., August 1-4 2006, Seoul ROK.
  - Paper Reviewer, 1st International Workshop on Trustworthiness, Reliability and Services in Ubiquitous and Sensor Networks, in conjunction with EUC 2006, August 1-4 2006, Seoul ROK.

- ISCA International Conference on Computers and Their Applications.
  - Session Chair (Medical Applications), 29th Int'l Conf., Mar. 24-26 2014, Las Vegas NV.
  - Session Chair (Algorithms II), 22nd Int'l Conf., March 28-30 2007, Honolulu HI.
  - Program Committee, 19th Int'l Conf., March 18-20 2004, Seattle WA.
- ISCA International Conference on Parallel and Distributed Computing Systems.
  - Session Chair (Algorithms I), 16th Int'l Conf., August 13-15 2003, Reno NV.
  - Program Committee, Session Chair (Mobile Networks and Routing) and Assistant to the Program Chair, 14th Int'l Conf., August 8-10 2001, Richardson TX.
  - Assistant to the Program Committee Co-Chair, 13th Int'l Conf., August 8-10 2000, Las Vegas NV.
- World Congress in Computer Science, Computer Engineering and Applied Computing.
  - Session Chair (Supercomputing, Parallel Processing, Multimedia, VOD, Streaming, Mobile Systems and Algorithms), 2009 International Conference on Parallel and Distributed Processing Techniques and Applications, in conjunction with WORLDCOMP '09, July 13-16 2009, Las Vegas NV.
  - Session Chair (The WWW and Intranets), 2008 International Conference on Internet Computing, in conjunction with WORLDCOMP '08, July 14-17 2008, Las Vegas NV.
- IARIA International Conference on Systems.
  - Program Committee, 13th Int'l Conf., April 22 – 26 2018, Athens Greece.
  - Program Committee, 11th Int'l Conf., February 21 – 25 2016, Lisbon Portugal.
  - Program Committee, 9th Int'l Conf., February 23 – 27 2014, Nice France.
  - Program Committee, 8th Int'l Conf., January 27 – February 1 2013, Seville Spain.
  - Program Committee, 7th Int'l Conf., Feb. 29 – March 5 2012, St. Gilles Reunion Island.
- Local Organizing Committee Co-chair, 6th International Conference on Rough Sets and Current Trends in Computing, October 23-25 2008, Akron OH.
- Program Committee, IEEE 5th International Symposium on Embedded Computing, October 6-8 2008, Beijing PRC.
- Program Committee, ISCA 17th International Conference on Computer Applications in Industry and Engineering, November 17-19 2004, Orlando FL.
- Program Committee, 2000 International Conference on Information Technology for the New Millennium, Dec. 18-20 2000, Bangkok Thailand.
- Reviewer for many journals including *The Computer Journal*, *International Journal of Computers and Applications*, *IEEE Transactions on Parallel and Distributed Systems*, *Journal of VLSI Signal Processing*, *IEEE Transactions on Signal Processing*, *IEEE Transactions on Circuits and Systems*, *IEEE Transactions on Computers*, *Journal of Supercomputing*, etc.
- Reviewer for discrete math textbook by Thomas Koshy (2002), Java textbook by Elizabeth Boese (2006) and compilers textbook by Fischer and LeBlanc (2008).

University/College Service Activities

UNIVERSITY OF AKRON (2002-present)

- Chair, Dept. Reappointment Committee, Academic Year 2012-2013.
- Dept. Honors Faculty Advisor, Academic Years 2012-2013 through present.
- Dept. Graduate Admissions Committee
  - Chair, Academic Years 2009-2010 and 2010-2011.
  - Member, Academic Year 2012-2013.
- Member, Buchtel College of Arts and Sciences Online Learning Committee/Technology Working Group, Spring Semester 2013.
- Dept. Graduate Faculty Chair, Academic Years 2008-2009, 2009-2010 and 2010-2011.

- Buchtel College Council.
    - Department representative, 2005-06 and 2006-07 Academic Years.
    - Member, Curriculum Committee, 2012-13 Academic Year.
- Coordinator
    - Dept. *Ad Hoc* Committee for Revising Retention/Tenure/Promotion Guidelines, Spring 2010.
    - Dept. *Ad Hoc* Committee for Revising Chair Review Guidelines, Spring 2008.
    - Spring 2007 "C.S. Day" event.
    - Fall 2005 and Fall 2006 "Welcome Back" events.
- Member, Department Faculty Merit Advisory Committee, Summers 2006 and 2007.
- Search Committee Member
    - Chair, Computer Science Department, Spring 2009.
    - Systems Administrator, Computer Science Department, Spring 2008.
    - Assistant Dir. Employer Relations, Center for Career Management, Spring 2005.
    - Assistant Professor, Computer Science Department, Fall 2003, Springs 2011, 2012 and 2013.
- Conference on Undergraduate and Graduate Student Research (CUGSR)
    - Judge, Outstanding Student Research Award, March 2011.
    - Judge, poster session, March 2010.
    - Moderator, CS/EE session, March 2009.
- Commencement exercises.
    - Department Representative, Springs 2003 and 2013.
    - Assistant marshal, Summers 2006, 2009 and 2012.
- Reviewer, Kent State University Master of Science in Digital Sciences proposal, Spring 2011.
- University Representative, Ohio Supercomputer Center (OSC) State Users Group, Academic Year 2002-2003.

MANCHESTER COLLEGE (1996-98)

- Dept. Rep., FESP (First-year Experience in the Sciences Program) Committee, 1996-98.
- Faculty Advisor, Student Senate, 1996-98.
- Member, Dept. *Ad Hoc* Committee for Revising Comp. Sci. Major and Minor, 1996-97.
- Member, Dept. *Ad Hoc* Committee for Precalculus textbook selection, 1997.
- Proctor, Math Placement Exams for incoming first-year students, Summers 1997 and 1998.
- Academic advisor to incoming first-year students, Summer Orientation 1997 and 1998.
- Dept. Rep., Campus Visitation Days, 1997-98. (Recruited prospective students).
- Interviewer, Scholarship Days, 1996-98. (Reviewed student eligibility for scholarships.)
- Coordinator for Campus Visit by DPS, Inc. of Indianapolis, October 1997.