# Charles R. Wallace

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## Education

University of Michigan: Ph.D., Computer Science & Engineering (1999)
University of California, Santa Cruz: M.A., Linguistics (1992)
University of Pennsylvania: B.A., Linguistics, *Magna cum laude*, Phi Beta Kappa (1989)

## Academic employment

Michigan Tech: Assoc. Dean for Curriculum & Instruction, College of Computing (2019–present)
Interim Chair, Computer Science Department (2012–2014)
Associate Professor of Computer Science (2006–present)
Assistant Professor (2000–2006)
Visiting Professor, Quinnipiac University (2019)
Fulbright Scholar / Visiting Professor, Pontificia Universidad Católica de Chile (2010)
Visiting Assistant Professor, University of Delaware (1999–2000)

## Awards

Michigan Association of State Universities Distinguished Professor of the Year (2024)
Academy of Teaching Excellence, Michigan Tech (2024)
Finalist, Distinguished Teaching Award, Michigan Tech (2024)
Faculty Distinguished Service Award, Michigan Tech (2014)

## Consulting and other employment

Detroit Area Pre-College Engineering Program (2022–present)
Pearson Higher Education (2019)
Keweenaw Bay Indian Community, Baraga MI (2017–2019)
Little Brothers Friends of the Elderly, Hancock MI (2017)
GE Aviation, Houghton MI (2007)
Eaton Corporation, Milwaukee WI (2005)
Thermoanalytics, Inc., Hancock MI (2004)
Microsoft Research, Redmond WA (1998–99)
Schlumberger, Austin TX (1998)
Kestrel Institute, Palo Alto CA (1996)
Harris Digital Telephone Systems, Novato CA (1987–90)

## Professional memberships

ACM SIGACCESS, SICCAS, SIGCSE · IEEE
Society for Ethics Across the Curriculum · International Society of Learning Sciences

**Research interests:** learning and communication in digital contexts, including:
software usability & accessibility · gerontechnology · smart & connected communities
communication in software development · agile development methods · applied formal methods
computing ethics · sustainable computing · computer science & software engineering education

## Current advisees

PhD: Josh Alele-Beals · MS: Noah Kolczynski, Tim Perr

## PhD/MS theses/projects

Jaclyn Barnes (PhD, 2023)
*Toward a longitudinal program of in situ social robotics research and informal STEAM education*
Leo C. Ureel (PhD, 2020)
*Critiquing antipatterns in novice code*
Shreya Kumar (PhD, 2016)
*Communication patterns and strategies in software development communities of practice*
Marcus Scese (MS, 2023)
*Design and implementation of a GraphQL mesh gateway*
Jonathan Parks (MS, 2022)
*Exploring interpretations and consequences of Michigan's expungement statute through formal modeling and analysis*
Ann Ciesla (MS, 2021)
*A framework for building assessment and learning tools for digital skills*
Prathyusha Sreedhara (MS, 2020)
*A household level field intervention and metabolism tracker*
Marissa Walther (MS, 2019)
*MatlabTA: A style critiquer for novice engineering students*
Sophia Farquhar (MS, 2019)
*A critical review of current approaches and practices in computing ethics education*
Nichole Mackey (MS, 2019)
*HomeTracker: A household information feedback system for food/energy/water metabolism*
Mugdha Degaonkar (MS, 2017)
*An interactive approach to teaching discrete structures using Alloy and POGIL*
Harriet King (MS, 2013)
*Understanding "just enough" users: Motivation style and proficiency*
Kishor Joshi (MS, 2007) *Testing and maintenance of ConcurrentMentor*
Øystein Thorsen (MS, 2006) *Automated verification of UPC memory consistency*
Kohinoor Begum (MS, 2005) *UPC collective conformance suite*
Abu Ashraf (MS, 2004) *Design and use of instruments for the measurement of software usefulness*
Parul Mishra (MS, 2004) *Bridging the software requirements-architecture gap*
Beena More (MS, 2004) *Statechart Diagram Executor*
Ravish Mehta (MS, 2004) *PFEdit: A graphical editor for Problem Frame diagrams*
William Kuchera (MS, 2003) *Illuminating the UPC memory model*
Varsha Awhad (MS, 2002) *A unified specification and analysis of the new Java memory models*
Yongsheng Huang (MS, 2002) *An investigation of the UPC memory model*

**Committee membership** (not including above): 22 (PhD), 60 (MS)

## Research funding

(PI) SCC-PG: Digital Learning Through Digital Dialogue: Exploring the Fusion of Generative AI with Rhetorical Strategies to Empower Digital Outsiders and Newcomers. Smart & Connected Communities, National Science Foundation, under review, $148,880.

(CoPI) Center for Humanistic AI Research (CHAIR). Humanities Research Centers on Artificial Intelligence, National Endowment for the Humanities, under review, $500,000.

(CoPI) EAGER: SAI: Illuminated Devices: A Sociotechnical Approach to Empowering Digital Citizens and Strengthening Digital Infrastructure. Strengthening American Infrastructure (SAI), National Science Foundation (BCS-2122034), 2021–2024, $299,617.

(PI) Redesign and Implementation of USDS-Proxy Language. U.S. Department of Defense / Applied Research in Acoustics LLC, 2020–2025, $741,608.

(CoPI) RAPID: COVID-19, Consumption, and Multi-dimensional Analysis of Risk (C-CAR). National Science Foundation Special Initiatives (CBET-2031677), 2020–2021, $190,764.

(Senior Personnel) INFEWS/T3: Climate Change Mitigation via Reducing Household Food, Energy and Water Consumption: A Quantitative Analysis of Interventions and Impacts of Conservation. Innovations at the Nexus of Food, Energy and Water Systems (INFEWS), National Science Foundation (CBET-1639342), 2016–2021, $2,983,358.

(PI) Agile Communicators: Preparing Students for Communication-Intensive Software Development Through Inquiry, Critique, and Reflection. Improving Undergraduate STEM Education (IUSE), National Science Foundation (DUE-1504860), 2015–2018, $218,735 + $21,000 NSF Research Experience for Undergraduates (REU).

(CoPI) CS For All. Google Tide of Funds Foundation, 2015–2018. $105,000.

(PI) Pan-American Software Quality Institute. Pan American Advanced Studies Institutes (PASI), National Science Foundation (OISE-1242257), 2012-2013. $98,002 + $25,000 from LACCIR.

(CoPI) Environmental Cybercitizens: Engaging Citizen Scientists in Global Environmental Change through Crowdsensing and Visualization. Cyberinfrastructure-TEAM (CI-TEAM), National Science Foundation (OAC-1135523), 2011–2013, $249,840.

(PI) The software communication Chautauqua. CISE Pathways to Revitalized Undergraduate Computing Education (CPATH), National Science Foundation, 2007–2008. $66,595.

(PI) Speaking of software: Integrating communication and documentation techniques into an undergraduate Software Engineering curriculum. CISE Combined Research and Curricular Development and Educational Innovation Program (CRCD/EI), National Science Foundation, 2004–2007. $313,249 + $6,000 NSF Research Experience for Undergraduates (REU).

(CoPI) Unified Parallel C technology development projects. U.S. Department of Defense, 2003–2005. $754,740.

(CoPI) Unified Parallel C technology development. Hewlett-Packard, 2002–2003. $189,558.

(PI) Pedagogical tools for Abstract State Machines. Microsoft Research, 2002–2005. $32,500.

## Courses taught

**Introductory Undergraduate**

Introduction to Computer Science · Explorations in Computing
Minds and Machines · Object Oriented Design · Discrete Structures

**Upper-level Undergraduate**

Software Quality Assurance · Software Testing · Software Modeling
Software Processes and Management · Model Driven Development
Introduction to Software Engineering · Safety Critical Software Systems
Ethical & Social Aspects of Computing · Programming Languages · Senior Design

**Graduate**

Theory of Computation · Requirements Engineering · Software Engineering
Formal Methods · Programming Languages · Digital Literacy and Older Adults

## University service (curriculum & instruction)

| | |
|---|---|
| ABET Coordinator, Computer Science | (2022-present) |
| Assessment Council | (2006–2012, 2019–present) |
| Cognitive & Learning Sciences Department review team | (2023) |
| Computer Science Undergraduate Committee | (2001–present, Director 2014–2019) |
| General Education Council | (2011–2012, 2019–present) |
| Husky Game Development Enterprise (Faculty advisor) | (2006–07) |
| Reading as Inquiry program | (2004–2011) |
| Software Engineering Degree program (Co-author) | (2003) |
| Working Groups: Academic Advising, Curriculum Roadmap, Essential Education | (2023–present) |

## University service (other)

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|---|---|
| Canterbury House Campus Ministry | (2011–2015, President 2012–2015) |
| Computer Science Living Community mentor | (2003–2005) |
| Computer Science Tenure, Promotion, & Reappointment Committee | (2006–present) |
| Diversity Literacy Workshop Facilitator | (2011–2012) |
| Husky Innovate Internal Advisory Board | (2022–present) |
| Phi Kappa Theta fraternity (Faculty advisor) | (2008–2011) |
| University Senate | (2007–2012, 2016–2018, 2022–2023) |
| Senate Academic Policy Committee | (2010–2012, 2016–2018) |
| Senate Administrative Policy Committee | (2016–2019) |
| Senate Bylaws Committee | (2022–present) |

## Outreach and educational programs

BASIC (Building Adult Skills in Computing): Instruction in digital literacy for community members (Founder). In conjunction with Little Brothers Friends of the Elderly; Portage Lake District Library and Ojibwa Community Library; Ashler Village, MasonicCare, and PortagePointe assisted living communities; and undergraduate and graduate students at Michigan Tech and Quinnipiac University. (2011–present)

Copper Country Programmers: Instruction in computer programming for middle and high school students (Founder). In conjunction with the Copper Country Intermediate School District and undergraduate Computer Science students at Michigan Tech. (2011–present)

ROBOT 101 (`robot101.mtu.edu`): Exploring the past, present, and future of "robot" in imagination and practice (Principal Organizer). A campus-wide reflection on 101 years of the word "robot", including Orientation Week activities for incoming students, a shared reading experience, and a series of external and internal speakers. (2022)

World Usability Day–Upper Peninsula (WUD-UP) (Principal Organizer). Exposing Michigan Tech students to research and learning opportunities in human centered technology across campus. (2010–2015)

## Reviewing

**Journals**
*ACM Transactions on Computing Education*
*Concurrency and Computation: Practice and Experience*
*Educational Gerontology* · *Formal Aspects of Computing Science*
*Health & Social Care in the Community* · *ICT Software* · *IEEE Software*
*Journal of Logic and Computation* · *Journal of Universal Computer Science*
*Universal Access in the Information Society*

**Books**
Addison-Wesley · Cambridge University Press · IGI Global · John Wiley & Sons

**Foundations**
Austrian Science Fund (FWF) · Fulbright Egypt · Fulbright Chile
Latin American & Caribbean Collaborative ICT Research (LACCIR)
National Fund for Scientific and Technological Development (FONDECYT), Chile
São Paulo Research Foundation (FAPESP), Brazil
TechWomen, USA · Volkswagen Foundation, Germany

**National Science Foundation panels**
Research Experiences for Undergraduates (REU SITES)
Improving Undergraduate STEM Education (IUSE)
Inclusion Across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES)
National Science Foundation Research Traineeship Program (NRT)
Smart and Connected Communities (S&CC)

## Program Committees

AAAI Conference on Artificial Intelligence
ACM Symposium on Applied Computing
ACM Conference on Fairness, Accountability, and Transparency
American Society for Engineering Education
ASM, B and Z Conference

Computer Science Teachers' Association Annual Conference
Computers & Writing Conference
Conference on Software Engineering Education & Training
Hawaii International Conference on System Sciences
Human Computer Interaction International Conference
IEEE Frontiers in Education Conference (Dasher Best Paper Award committee, 2022–present)
IEEE International Symposium on Technology and Society
International Conference on Computer Supported Education
International Conference on Formal Engineering Methods
International Conference on Innovation and Technology in Computer Science Education (Evaluation Chair, 2022–present)
International Conference on the Learning Sciences
International Conference on Software Engineering – Software Engineering in Society
Parallel and Distributed Systems: Testing and Debugging
SIGCSE Technical Symposium on Computer Science Education (Evaluation Chair, 2020)
Symposium on Theoretical Aspects of Computer Science

## Other service activities

Computer Science Teachers' Association–Michigan Chapter: Steering Committee (2016–present)
Fulbright Ambassador (2013–2017)
Pan American Software Quality Institute, San Jose, Costa Rica: Co-Chair (2013)
*SIGCSE Bulletin*: Co-Editor (2021–present)
*Teaching Communication Skills in the Software Engineering Curriculum: A Forum for Professionals and Educators*, Oxford OH: Co-Chair (2008)

## Invited Presentations

A Language Lab Approach to Introductory Discrete Mathematics. Future of Alloy Workshop, Cambridge MA, 2018.

Technology and the Future of Aging. White House Conference on Aging, Washington DC, 2015.

Fighting Fraud Against the Elderly. Testimony before the U.S. House of Representatives Subcommittee on Commerce, Manufacturing and Trade, Washington DC, 2015.

Agile Communicators: Cognitive Apprenticeship to prepare students for communication-intensive software development. Symposium on Assessing Hard-to-Measure Cognitive, Intrapersonal and Interpersonal Competencies, National Academies of Science, Washington DC, 2015.

## Refereed publications

V. Barfield and C. Wallace. Refinement versus disruption: Patterns of critical inquiry in iterative computing ethics assignments. IEEE Frontiers in Education, in preparation.

N. Englehart, I. Kothari, J. Alele-Beals, A. Ebnenasir, S. Peters, and C. Wallace. Empowering legal stakeholders through a digital sandbox: A case study modeling and analyzing Michigan's Clean Slate statute. ACM Conference on Fairness, Accountability, and Transparency (under review).

S. Peters and C. Wallace (2024). Breaking into the black box of the automated expungement process. Law and Society Association Annual Meeting, Denver CO.

E. Lucas, K.S. Steelman, L.C. Ureel, C. Wallace, and D. Geshel (2024). For those who don't know (how) to ask: Building a dataset of technology questions for digital newcomers. (poster) AAAI2024 Workshop on AI for Education.

C. Wallace (2024). Doing (and disrupting) computing ethics through dialogue. Association for Practical & Professional Ethics International Conference, Cincinnati OH.

A. Ciminski and C. Wallace (2023). The role of dialogue as disruptor in critical ethical analysis for computing students. IEEE Frontiers in Education, College Station TX.

L. Fiss, B. Hamlin, H. Love, L. Ott, C. Wallace, and S. Walton (2023). Enabling covert student learning through a cross-campus connecting theme. IEEE Frontiers in Education.

Z. Wang, C. Wallace, A. Bifet, X. Yao, and W. Zhang (2023). $FG^2AN$: Fairness-aware graph generative adversarial networks. European Conference on Principles of Data Mining and Knowledge Discovery (PKDD).

S. Ahamed, C. Schelly, K. Floress, W. Lytle, H. Caggiano, C. Cuite, C. Wallace, R. Cook, R. Jarvis, R. Shwom, and D. Watkins (2023). "Being able to work has kept our life fairly constant:" Reconciling social practice models to assess the impact of (infra)structural inequities on household wellbeing during the COVID-19 pandemic. *Environmental Research: Infrastructure and Sustainability* 3(1).

J. Daignault, C. Wallace, D. Watkins, R. Handler, Y. Yang, D. Heaney, and S. Ahamed (2023). A household-scale life cycle assessment model for understanding the food-energy-water nexus. *Frontiers in Environmental Science* 11.

A. Morrison and C. Wallace (2022). Making it strange: Disrupting assumptions about technology and ethics in engineering and computing education. *IEEE Technology and Society* 41(3): 81–90.

B. Bettin, M. Jarvie-Eggart, K.S. Steelman, and C. Wallace (2022). Preparing first year engineering students to think about code: A guided approach. *IEEE Transactions on Education* 65(3): 309–319.

D. Pontious, K. Thelen, B. Bettin, K.S. Steelman, L.C. Ureel, and C. Wallace (2022). Illuminated Devices: A sociotechnical system to broaden access to digital assistance. (poster) International Conference on Computer Supported Collaborative Learning, Hiroshima, Japan.

B. Bettin, K.S. Steelman, C. Wallace, D. Pontious, and E. Veinott (2022). Identifying and addressing risks in the early design of a sociotechnical system through premortem. Human Factors & Ergonomics Society Annual Meeting.

A. Morrison and C. Wallace (2021). Iteration and inquiry: Toward a meaningful model of ethical engagement for engineering and computing students. IEEE ETHICS Conference, Waterloo ON, Canada.

B. Bettin, M. Jarvie-Eggart, K.S. Steelman, and C. Wallace (2021). Developing a comic-creation assignment and rubric for teaching and assessing algorithmic concepts. IEEE Frontiers in Education, Lincoln NE.

K.S. Steelman and C. Wallace (2021). Breaking barriers, building understanding: A multigenerational approach to digital literacy instruction for older adults. *ACM SIGCAS Computers and Society* 49(1): 23–24.

B.C. Bettin, M. Jarvie-Eggart, K. Steelman, and C. Wallace (2020). Infusing Computing Identity Into Introductory Engineering Instruction. IEEE Frontiers in Education, Virtual Conference.

K. Steelman, M. Jarvie-Eggart, K.L. Tislar, N. Manser, B.C. Bettin, L.C. Ureel, and C. Wallace (2020). Work in Progress: The perception of computer programming within engineering education: An investigation of student attitudes, beliefs, and behaviors. ASEE Annual Conference & Exposition. American Society of Engineering Education, Virtual Conference.

L.C. Ureel and C. Wallace (2019). Automated critique of early programming antipatterns. ACM SIGCSE Technical Symposium on Computer Science Education, Minneapolis MN.

I. Pollock, B. Alshaigy, A. Bradley, B.R. Krogstie, V. Kumar, L. Ott, A.-K. Peters, C. Ridesel, and C. Wallace (2019). 1.5 degrees of separation: Computer science education in the age of the Anthropocene. ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE), Aberdeen, UK. ITiCSE-WGR '19: Proceedings of the Working Group Reports on Innovation and Technology in Computer Science Education, 1–25.

S. Kumar and C. Wallace. (2019). The case for kairos: The importance of moment and manner in software engineering communication. Conference on Software Engineering Education & Training, Maui HI.

L.E. Brown, A. Feltz, and C. Wallace (2018). Lab exercises for a discrete structures course: Exploring logic and relational algebra with Alloy. ACM Conference on Innovation and Technology in Computer Science Education, Lanarca, Cyprus.

S. Frezza, M. Daniels, A. Pears, A. Cajander, K. Viggo, K. Amanpreet, R. McDermott, A.-K. Peters, M. Sabin, and C. Wallace (2018). Modelling Competencies for Computing Education beyond 2020: A Research Based Approach to Defining Competencies in the Computing Disciplines. ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE), Lanarca, Cyprus.

C. Wallace (2018). Learning Discrete Structures Interactively with Alloy. (workshop) ACM Technical Symposium on Computer Science Education, Baltimore MD.

K. Steelman and C. Wallace (2017). Identifying and Mitigating Technology-Related Anxiety. (poster) ACM SIGACCESS Conference on Computers and Accessibility, Baltimore MD.

K.S. Steelman, C.L. Tislar, L.C. Ureel, and C. Wallace (2017). Eliciting best practices in digital literacy tutoring: A cognitive task analysis approach. HCI International Conference, Vancouver BC, 2017.

K. Atkinson, J. Barnes, J. Albee, P. Anttila, J. Haataja, K. Nanavati, K.S. Steelman, and C. Wallace (2016). Breaking barriers to digital literacy: An intergenerational social-cognitive approach. ACM SIGACCESS Conference on Computers and Accessibility, Reno NV, 2016.

K.S. Steelman, C.L. Tislar, L.C. Ureel, and C. Wallace (2016). Breaking Digital Barriers: A social-cognitive approach to improving digital literacy in older adults. (poster) HCI International Conference, Toronto ON, 2016.

S. Kumar, C. Wallace, and M. Young (2016). Mentoring trajectories in an evolving agile workplace. International Conference on Software Engineering, Austin TX.

L.C. Ureel and C. Wallace (2016). Discrete Mathematics for Computing Students: A Programming Oriented Approach with Alloy. IEEE Frontiers in Education Conference, Erie PA.

L. Bowen, A. Cavallero, M. Larabee, and C. Wallace (2015). Interfaces, Infrastructures, and Interventions in State Institutions. (panel) Computers & Writing Conference, Menominee WI.

S. Kumar, L.C. Ureel, and C. Wallace (2015). Agile communicators: Cognitive apprenticeship to prepare students for communication-intensive software development. AGILE'15, Washington DC.

L.C. Ureel and C. Wallace (2015). WebTA: Automated iterative critique of student programming assignments. IEEE Frontiers in Education Conference, El Paso TX.

S. Kumar and C. Wallace (2014). Instruction in software project communication through guided inquiry and reflection. IEEE Frontiers in Education Conference, Madrid, Spain.

S. Kumar and C. Wallace (2014). Engaging software engineering students in communication design through a pattern language. International Writing Across the Curriculum Conference, Minneapolis MN.

M.C. Paretti, M. Gustafsson, N. Lerner, M. Hoffman, and C. Wallace (2014). And maybe it doesn't matter: Exploring the conversation between writing and disciplinary faculty (panel). International Writing Across the Curriculum Conference (IWAC), Minneapolis MN.

S. Kumar and C. Wallace (2014). Communication strategies for mentoring in software development projects. Cooperative and Human Aspects of Software Engineering, Hyderabad, India.

M. Seigel, R. Pastel, W. Zhang, L. Bowen, L.C. Ureel II, and C. Wallace (2014). Teaching and talking in code: Pedagogical partnerships with computer science (panel). Conference on College Composition & Communication, Indianapolis IN.

C. Brown, R. Pastel, M. Seigel, L. Ott, and C. Wallace (2014). Adding unit test experience to a usability centered project course. ACM SIGCSE Technical Symposium on Computer Science Education, Atlanta GA.

J. Earnest, L.C. Ureel II, and C. Wallace (2014). Copper Country Programmers: A novel curriculum for beginning programmers in middle and high school. (poster) ACM SIGCSE Technical Symposium on Computer Science Education, Atlanta GA.

S. Kumar and C. Wallace (2013). A tale of two projects: A pattern based comparison of communication strategies in student software development. IEEE Frontiers in Education, Oklahoma City OK.

L.C. Ureel II and C. Wallace (2013). Software for Senior Citizens: An experiential learning course in gerontology, software usability and digital literacy. IEEE Frontiers in Education, Oklahoma City OK.

H. King, R. Pastel, P. Ward, and C. Wallace (2013). Extrinsic motivation and user performance. Human Factors and Ergonomics Society, San Diego CA.

H. King, S. Kumar, L.C. Ureel II, and C. Wallace (2013). Lessons from our elders: Identifying obstacles to digital literacy through direct engagement. International Conference on Pervasive Technologies Related to Assistive Environments, Rhodes, Greece.

S. Kumar and C. Wallace (2013). Patterns of inquiry in computer literacy help sessions for the elderly (Poster). International Conference on Pervasive Technologies Related to Assistive Environments, Rhodes, Greece.

S. Kumar and C. Wallace (2013). Guidance for exploratory testing through Problem Frames (Poster). Conference on Software Engineering Education & Training, San Francisco CA.

S. Kumar and C. Wallace (2013). Communication patterns: A tools for analyzing communication in emerging computer science educational practices (Poster). ACM Technical Symposium on Computer Science Education, Denver CO.

A. Ebnenasir, S. Seidel, and C. Wallace (2012). A programmer-friendly UPC memory model specification. Conference on Partitioned Global Address Space Programming Models (PGAS), Santa Barbara CA.

D. Troy, S. Mohan, M. Hoffman, and C. Wallace (2012). Scrum across the CS/SE Curricula: A Retrospective (Panel). ACM Technical Symposium on Computer Science Education (SIGCSE), Raleigh NC.

O. Thorsen and C. Wallace (2010). Understanding relaxed memory consistency through interactive visualization. ACM Symposium on Software Visualization (SOFTVIS), Salt Lake City UT.

Abstract State Machines and the inquiry process. With J.K. Huggins. In A. Blass, N. Dershowitz and W. Reisig (eds.), *Fields of Logic and Computation.* Lecture Notes in Computer Science 6300, 2010.

Making and acting: Ethnographic development of a case study approach. With M. Seigel and T. Vosecky. *Technical Communication*, 55(4), 2008.

Speaking of software: Case studies in software communication. With A. Brady, M. Seigel and T. Vosecky. In H.J.C. Ellis, S.A. Demurjian and J.F. Naveda (eds.), *Software Engineering: Effective Teaching and Learning Approaches and Practices.* IGI Global, 2008.

Teaching communication skills in the software engineering curriculum (Workshop). With J. Burge. Conference on Software Engineering Education & Training (CSEET), Charleston SC, 2008.

Addressing communication issues in software development through case studies. With A. Brady, M. Seigel and T. Vosecky. Conference on Software Engineering Education & Training (CSEET), Dublin, Ireland, 2007.

RFID cards: A new deal in accessibility for the elderly. With R. Pastel and J. Heines. International Conference on Human-Computer Interaction (HCII), Beijing, China, 2007.

Automated verification of UPC memory consistency. With Oystein Thorsen. Workshop on Verified Software: Theories, Tools, Experiments (VSTTE), Seattle, WA, 2006.

The intersecting futures of Technical Communication and Software Engineering: Forging a multidisciplinary alliance. With M.A. Brady and R.R. Johnson. *Technical Communication* 53(3), 2006.

Can Abstract State Machines be useful in language theory? With Y. Gurevich and M. Veanes. Developments in Language Theory (DLT), Santa Barbara, CA, 2006. Springer LNCS 4036.

Student-based case studies in software communication. With T. Vosecky, L. Steinbacher, A. Mareck, R.R. Johnson and A. Brady. Conference on Software Engineering Education and Training (CSEET), Kahuku, Oahu, Hawaii, 2006.

A course in problem analysis and structuring through Problem Frames. With X. Wang and V. Bluth. Conference on Software Engineering Education and Training (CSEET), Kahuku, Oahu, Hawaii, 2006.

Incorporating and compensating: Some challenges of interdisciplinary research on programs inside and outside of technical communication. With A. Brady, R.R. Johnson and T. Vosecky. Council for Programs in Technical and Scientific Communication Conference (CPTSC), Lubbock, TX, 2005.

*UPC Language Specifications V. 1.2*, § 5.1.2.3 (Program execution) and § B (Formal UPC memory consistency semantics). With D. Bonachea and K. Yelick. UPC Consortium, 2005.

The UPC memory model: Problems and prospects. With W. Kuchera. International Parallel and Distributed Processing Symposium (IPDPS), Santa Fe, NM, 2004.

A unified formal specification and analysis of the new Java memory models. With V. Awhad. In *Abstract State Machines 2003: Advances in Theory and Applications*, Springer LNCS 2589, 2003.

Teaching ASMs, teaching with ASMs: Opportunities in undergraduate education. With J.K. Huggins and J. Mayo. In *Abstract State Machines 2003: Advances in Theory and Applications*, Springer LNCS 2589, 2003 (short paper).

On the tamability of the Location Consistency model. With G. Tremblay and J.N. Amaral. International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA), Las Vegas, NV, 2002.

An Abstract State Machine specification and verification of the Location Consistency memory model and cache protocol. With G. Tremblay and J.N. Amaral. *Journal of Universal Computer Science* 7(11), 2001.

Investigating Java concurrency using Abstract State Machines. With Y. Gurevich and W. Schulte. In *Abstract State Machines: Theory and applications*, Springer LNCS 1912, 2000.

Formalizing database recovery. With Yuri Gurevich and Nandit Soparkar. *Journal of Universal Computer Science* 3(4), 1997.

Supervisory control of workflow scheduling. With Paul Jensen and Nandit Soparkar. Advanced Transaction Models & Architectures Workshop (ATMA), Goa, India, 1996.

Revisiting spheres of control: an approach to advanced recovery. With Nandit Soparkar. Advanced Transaction Models & Architectures Workshop (ATMA), Goa, India, 1996.

Formalizing recovery in transaction-oriented database systems. With Y. Gurevich and N. Soparkar. Conference on Management of Data (COMAD), Pune, India, 1995.

The semantics of the C++ programming language. In *Specification and Validation Methods*, ed. E. Boerger, Oxford University Press, 1995.

## Other publications

UPC Collective Conformance Suite. With L. Begum. Technical Report 06-01, Computer Science Dept., Michigan Technological University, 2006.

A proposal for a UPC memory consistency model. With K. Yelick and D. Bonachea. Technical Report, Lawrence Berkeley National Laboratory, 2003.

An Abstract State Machine primer. With J.K. Huggins. Technical Report 02-04, Computer Science Dept., Michigan Technological University, 2002.

Specification and verification of the Windows Card runtime environment using Abstract State Machines. With Y. Gurevich. Technical Report MSR-TR-99-07, Microsoft Research, 1999.

The semantics of the Java programming language. Technical Report CSE-TR-355-97, University of Michigan, 1997.

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