

AMY CSIZMAR DALAL

Professor of Computer Science
STEM Board Director
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Carleton College
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EDUCATION

PhD	Electrical Engineering, Northwestern University	December 1999
MS	Electrical Engineering, Northwestern University	December 1997
BS	Electrical Engineering, University of Notre Dame	May 1994

PROFESSIONAL EDUCATION

HERS Institute Wellesley, MA https://hersnet.org/institutes Higher Education Leadership Institute	Fall 2018-Spring 2019
HERS Luce Program for Women in STEM Leadership Wellesley, MA	Fall 2018-Spring 2019

ACADEMIC LEADERSHIP EXPERIENCE

STEM Director, Carleton College 2019-present

- **Responsibilities:** Develop a shared vision for cross-departmental, STEM-wide initiatives at Carleton, in collaboration with the STEM Board. Serve as the point person for articulating and promoting this vision, including advocating for resources to enable relevant work.
- **Key initiatives:** Establish a collaborative community within our new Science Complex. Clarify priorities for awarding internal grant funding to students and faculty for research activities, and ensure the award process reflects these priorities. Develop, with the STEM Program Manager, a mechanism to assess students' sense of belonging in STEM departments at Carleton, as a first step in broadening participation and inclusion in STEM at Carleton.

Director, Summer Science Fellows Program, Carleton College 2017-present

- **Responsibilities:** Select, manage, and mentor 2 cohorts of 4 students each through their first 2 summers of research in a STEM field. Work with faculty, both at and outside of Carleton, to place students into research labs. Develop cohort-building activities. Teach 2 1-credit seminars per year, one for the first year cohort and one for the second year cohort, covering topics such as research culture, developing a professional network, and presenting your results to a scientific audience.

- **Key achievements:** Successfully placed 100% of students, including one summer when 75% of science departments were off-line for the summer due to construction of the new science complex. Streamlined the selection process by ensuring student matches prior to finalizing fellow selection. Broadened the mentor pool to disciplines not traditionally represented (Math, Geology).

Chair, Computer Science Department, Carleton College

2013-2016

- **Responsibilities:** Direct the long-term planning and priority setting of the department, as well as the day-to-day operation of the department. Recruit, hire, retain, support, and reward faculty. Oversee the curriculum and set the course schedule each year.
- **Key achievements:** Hired 3 tenure-track faculty to new lines, achieving gender parity in the tenure-track faculty. Managed the “growing pains” as the number of majors doubled over 2 years, balancing serving our students while maintaining manageable faculty workloads. Mentored several multi-year visiting faculty as well as short-term visiting faculty.

GRANTS AND AWARDS

Summer Research Opportunity Grants, Carleton College (various years, 2004-2018)

Funding to support collaborative summer research with undergraduates at Carleton. Supported by the Howard Hughes Medical Institute, the Towsley Endowment for the Sciences, and the Department of Computer Science.

Curricular Development Grants, Carleton College

Summer 2017: Developed curricular and evaluative materials for student participation in a humanitarian free and open source software (HFOSS) development project as their Senior Comprehensive Exercise in Computer Science.

Summers 2010 and 2011: Developed two linked “dyad” courses on human-centered computing: one in Psychology and one in Computer Science. Funded by an institutional grant from the Howard Hughes Medical Institute.

Summer 2005: Developed quantitative reasoning content for a CS 0 course. Funded by an institutional grant from the U.S. Department of Education FIPSE Grant.

Travel Award, Professors’ Open Source Software Experience Workshop

2016

Clare Booth Luce Program

2010-13

Institutional grant to Carleton College, joint between the Departments of Computer Science and Physics and Astronomy, supporting a total of 24 undergraduate women in a summer research cohort program.

Travel Award: CRA-W CAPP Advanced Career Mentoring Workshop

2010

Bush Fellowship Grant, Carleton College

2007

One term of pre-tenure sabbatical funding.

ACADEMIC EXPERIENCE

Carleton College , Northfield, MN	
Professor	2017-present
Associate Professor	2010-2017
Assistant Professor	2003-2010
Summer Computer Science Institute Faculty	2013-2015, 2017
<ul style="list-style-type: none">• Selected courses taught (courses developed in <i>italics</i>): <i>Digital Storytelling</i>, <i>Human-Centered Computing</i>, Introduction to Computer Science, Data Structures, Computer Organization and Architecture, Software Design, <i>Computer and Network Security</i>, Computer Networks, <i>Human-Computer Interaction</i>.• Advised 24 Senior Comprehensive Exercise teams, 2005-2021.• Collaborated with over 30 Carleton undergraduate students in collaborative research, 16 of them co-authors on peer-reviewed publications, 2003-present.	
Hewlett-Packard Laboratories , Palo Alto, CA	2000-2003
Post-doctoral Researcher	
Northwestern University , Evanston, IL	
Research assistant	1999
Instructor Engineering Analysis	1998, 1999
Teaching assistant	1995-1999

PUBLICATIONS

Undergraduate authors listed in **bold**.

Publications available online at <http://cs.carleton.edu/faculty/adalal/research/publications.php>

Refereed Journal Publications

1. A. Csizmar Dalal. User-perceived Quality Assessment of Streaming Media Using Reduced Feature Sets. *ACM Transactions on Internet Technology*, 11(2), December 2011.
doi:10.1145/2049656.2049660
2. A. Csizmar Dalal. Digital Storytelling as a Gateway to Computer Science. *Journal of the Research Center for Educational Technology*, North America, 4, Nov. 2009. Available at: <http://rcetj.org/index.php/rcetj/article/view/31/37>.
3. A. Csizmar Dalal and S. Jordan. Optimal Scheduling in a Queue with Differentiated Impatient Users. *Performance Evaluation*, 59(1):73–84, January 2005.
doi:10.1016/j.peva.2004.08.001
4. A. Csizmar Dalal and S. Jordan. An Optimal Service Ordering for a World Wide Web Server. *ACM SIGMETRICS Performance Evaluation Review*, 29(2):8–13, September 2001.
doi:10.1145/572317.572319

Refereed Conference Publications

1. A. Csizmar Dalal, **Jackie Chan**, and **Kirby Mitchell**. A Preliminary Study of the Role of Language in Home Network Troubleshooting. In *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)*. ACM, New York, NY, USA. doi:10.1145/3290607.3312856
2. A. Csizmar Dalal. A Framework for Self-Healing Home Networks. In *Proceedings of the Tenth International Conference on Heterogeneous Networking for Quality, Reliability, Security, and Robustness (Qshine)*, Rhodes, Greece, August 2014. (Short paper)
3. A. Csizmar Dalal. Systems Considerations in Real Time Video QoE Assessment. In *Proceedings of the IEEE Workshop on Quality of Experience for Multimedia Communications (QoEMC)*, Anaheim, CA, December 2012.
4. A. Csizmar Dalal, **Andy Bouchard**, **Sara Cantor**, **Yiran Guo**, **Anya Johnson**. Assessing QoE of On-Demand TCP Video Streams in Real Time. In *Proceedings of the IEEE International Conference on Communications (ICC 2012)*, Ottawa, Ontario, Canada, June 2012.
5. **H. French**, **J. Lin**, **T. Phan**, A. Csizmar Dalal. Real Time Video QoE Analysis of RTMP Streams. (Poster). In *Proceedings of the 30th IEEE International Performance Computing and Communications Conference (IPCCC)*, Orlando, FL, November 2011.
6. A. Csizmar Dalal. Revisiting a QoE Assessment Architecture Six Years Later: Lessons Learned and Remaining Challenges. (Invited paper) In *Proceedings of the Third International Workshop on Advanced Architectures and Algorithms for Internet Delivery and Applications (AAA-IDEA)*, Las Palmas de Gran Canaria, Spain, November 2009.
7. A. Csizmar Dalal, **E. Kawaler**, **S. Tucker**. Towards Real-Time Stream Quality Prediction: Predicting Video Stream Quality from Partial Stream Information. In *Proceedings of The Sixth International ICST Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (QShine)*, Las Palmas de Gran Canaria, Spain, November 2009.
8. A. Csizmar Dalal and **J. Olson**. Feature Selection for Prediction of User-Perceived Streaming Media Quality. In *Proceedings of the 2007 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS)*, San Diego, California, July 2007.
9. A. Csizmar Dalal, D. Musicant, **J. Olson**, **B. McMenamy**, **S. Benzaid**, **B. Kazez**, **E. Bolan**. Predicting User-Perceived Quality Ratings from Streaming Media Data. In *Proceedings of the IEEE International Conference on Communications (ICC 2007)*, Glasgow, Scotland, June 2007.
10. A. Csizmar Dalal and **K. Purrington**. Discerning User-Perceived Media Stream Quality Through Application-Layer Measurements. In *Proceedings of the First International Conference on Multimedia Services Access Networks*, Orlando, Florida, June 2005.

11. A. Csizmar Dalal and E. Perry. A New Architecture for Measuring and Assessing Streaming Media Quality. In *Proceedings of the Third Workshop on Passive and Active Measurements (PAM 2003)*, San Diego, CA, April 2003.
12. S. Banerjee, J. Brassil, A. Csizmar Dalal, S. J. Lee, E. Perry, P. Sharma, A. Thomas. CDNs for Personal Broadcasting and Individualized Reception. In *Proceedings of the Seventh International Web Content Caching and Distribution Workshop (WCW2002)*, Boulder, CO, August 2002.
13. A. Csizmar Dalal and S. Jordan. Improving User-Perceived Performance at a World Wide Web Server. In *Proceedings of Globecom 2001*, San Antonio, Texas, November 2001.

Refereed Magazine Articles

- J. Davis, J. Albrecht, C. Alvarado, T. Chen, A. Csizmar Dalal, S. Lee. Computer Science Faculty Careers at Liberal Arts Colleges. In *XRDS 21(3)*, March 2015, pp. 13-15.

Other Publications and Reports

1. S. Hambrusch, R. Libeskind-Hadas, F. Zhao, D. Rabson, A. Csizmar Dalal, E. Fox, C. Isbell, V. Taylor. Exploring the Baccalaureate Origin of Domestic PhD. Students in Computing Fields. In *Computing Research News 25(1)*, January 2013.
2. A. Csizmar Dalal and D. Musicant. Engaging Students in Research: Building Community in Computer Science. *Building Intellectual Community Through Collaboration*. C. Rutz and M. Savina, ed. Northfield, Minnesota: College City Publications, 2007, pp. 121-139. (book chapter)
3. A. Csizmar. "CDPD Security Issues." White paper, Ameritech Cellular Services, June 1996.

PATENTS

1. US Patent 8,464,353, "[Method and system for content downloads via an insecure communications channel to devices](#)" (with David Andrew Thomas, Puneet Sharma, Sujata Banerjee, and Sung-Ju Lee), awarded June 11, 2013.
2. US Patent 7,216,165, "[Streaming Media Quality Assessment System](#)" (with Ed Perry), awarded May 8, 2007.

SELECT PRESENTATIONS AND INVITED LECTURES

1. Things I Wish I'd Known. (Panel presentation). *ACM Richard Tapia Celebration of Diversity in Computing*, Orlando, FL, September 2018.
2. ACE at Carleton: How Well Are We Doing and What Can We Do Better? (Panel presentation). Perlman Learning and Teaching Center, Carleton College, 2017.

3. Balancing the Demands in Academia (Teaching, Research, and Service). (Session, with M. Gini.) Presented at the Computing Research Association Women (CRA-W) Workshop for Assistant Professors and Senior Graduate Students at the *Grace Hopper Celebration of Women in Computing*, Houston, TX, October 2016.
4. Diversity and Inclusion Efforts in the Faculty at Liberal Arts Colleges. (Poster) Presented at the *ACM Richard Tapia Celebration of Diversity in Computing*, Austin, TX, September 2016.
5. Collaborative Learning Across the Curriculum. (Panel presentation). Perlman Learning and Teaching Center, Carleton College, 2015.
6. Faculty Careers at Liberal Arts Colleges: Myths and Reality. (Panel presentation) Presented at the *Grace Hopper Celebration of Women in Computing*, Minneapolis, MN, October 2013.
7. Self-Healing Home Networks: Challenges and Opportunities. Presented at the Mathematics, Statistics, and Computer Science Seminar, Macalester College, September 10, 2013.
8. Building Bridges and Breaking Barriers: Panel on Diversity and Inclusion in Computer Science Education. (Panel presentation) Presented at the *Grace Hopper Celebration of Women in Computing*, Atlanta, GA, October 2010.
9. Formal, Informal, Stealth? Mentoring Strategies for Women in Computer Science. Invited talk, Associated Colleges of the Midwest FaCE Project Women in Science Networking Seminar, Coe College, March 2006.

PROFESSIONAL SERVICE

Organization and Conference Leadership

Academic Alliance, National Center for Women in Information Technology

Summit Planning Team, 2017-2019

Leader, Recruitment and Engagement Team, 2012-2014.

IEEE Women in Engineering, Santa Clara Valley Chapter

Founding member and membership chair, 2002-2003.

Grace Hopper Celebration of Women in Computing

Posters Committee co-chair, 2016 and 2017.

Networking Networking Women Conference (N2Women)

Mentoring program co-chair, 2014.

MinneWIC

Co-chair for inaugural year of regional ACM-W conference, 2010.

Elected Service Appointments and Significant Service, Carleton College

Interim Math-Science Steering Committee, 2018. Developed a new model for STEM leadership at Carleton.

Community and Civic Engagement Committee, 2017-2020.

Faculty Grants Committee (elected), 2014-2016.

Sexual Misconduct Committee Co-Chair, 2012-2013.

Liaison to Community, Equity, and Diversity Initiative (CEDI) Leadership Board, 2012-2013.

Co-Director and Program Mentor, Clare Booth Luce Scholars, 2010-2011.

Education and Curriculum Committee, At-Large Representative (elected), 2009-2011.

Institutional Representative, University of Michigan's Institute on Intergroup Relations, July 2009.

Co-Organizer, Women's Fall Faculty Meeting, October 2005.

Computer Science Department: Comps Czar (2012-13, 2017-18, 2020-present), Course Staff Czar (2019-20), Assessment Coordinator (2011-13).

External Department Reviews

Grinnell College, Department of Computer Science, 2018

Rhodes College, Department of Mathematics and Computer Science, 2017.

Washington and Lee University, Department of Computer Science, 2017.

Simpson College, Department of Computer Science, 2013.

Outreach

Blogger, *This is What a Computer Scientist Looks Like* (<http://acdalal.wordpress.com>), August 2009-present.

OTHER PROFESSIONAL DEVELOPMENT

Professors' Open Source Software Experience (POSSE) Workshop

Raleigh, NC, November 2016

Attended follow-up workshops in 2018 (Baltimore, MD) and 2019 (Minneapolis, MN).

CRA-W CAPP Advanced Career Mentoring Workshop

Providence, RI, June 2010

HONOR AND PROFESSIONAL SOCIETY MEMBERSHIPS

Sigma Xi (scientific research honor society)

Tau Beta Pi (engineering honor society)

Eta Kappa Nu (electrical engineering honor society)

Association for Computing Machinery (ACM): special interest groups in Computer-Human Interaction (SIGCHI), Computer Science Education (SIGCSE); Women in Computing (ACM-W).