

# PAMELA A. CUTTER

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Department of Computer Science  
Kalamazoo College  
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## Education:

- **University of Georgia, 1992-2000**  
Ph.D., Mathematics  
Dissertation: Finding Prime Pairs with Particular Gaps and Square-free Parts of Polynomials, advised by Andrew Granville  
Honors: University Outstanding Graduate Teaching Award, 1997
- **SUNY College at Fredonia, 1988-1992**  
B.S., Majors in Computer Science and Mathematics, *summa cum laude*  
Honors: *Pi Mu Epsilon* – National Honorary Mathematics Society

## Professional Experience:

- **Associate Professor, Department of Computer Science,**  
Kalamazoo College 2008 - present  
**Research Interests:** Computer science education, broadening participation in CS, computational number theory.
- **Assistant Professor, Department of Mathematics and Computer Science,**  
Kalamazoo College 2002 - 2008
- **Visiting Assistant Professor, Department of Mathematics and Computer Science,**  
Kalamazoo College 2001 - 2002
- **Visiting Assistant Professor, Department of Mathematics and Computer Science**  
Albion College 2000 - 2001
- **Teaching Assistant, Mathematics Department**  
University of Georgia 1992 - 2000
- **Research Assistant, Mathematics Department**  
University of Georgia 1992 - 2000

## Honors, Awards, and Grants:

- Kalamazoo College Pedagogical Development Grant to involve student in work to create interactive textbook for Introduction to Scientific Computing course, 2022
- Girls Who Code Clubs Fund Grant to support activities of Kalamazoo College Girls Who Code Club, 2017 - 2020
- Kalamazoo College Outstanding Advisor Award, 2010
- Travel grant from Kalamazoo College's HHMI grant to present paper on bioinformatics project at SIGCSE 2007, 2007
- Kalamazoo College High Merit Award, 2005
- Curricular Development Grant from Kalamazoo College's HHMI grant to develop a bioinformatics module for Data Structures, 2005
- Travel grant from Kalamazoo College's HHMI grant to work on educational module in DNA sequencing, 2004
- CRA-W travel grant to attend career mentoring workshop and SIGCSE 2003, 2003
- Faculty Development travel grants to attend conferences and workshops , 2003 - present
- Michigan Project NExT Fellow, 2001-2002

## Courses Taught:

- **Introduction to Computer Science (with Lab):** 2001-2005, 2008, 2014, 2017-2022
- **Introduction to Multimedia Programming in Python (with Lab):** 2005-2008, 2010-2020, 2023
- **Introduction to Scientific Computing (with Lab):** 2016 – 2018, 2021 - 2023
- **Introduction to Programming (with Lab):** 2002, 2005, 2006, 2007, 2010, 2012-2018, 2020-2022
- **Data Structures:** 2001, 2002, 2004, 2007, 2008, 2012, 2021, 2022
- **Computer Algorithms:** 2012, 2013, 2019-2023
- **Automata, Formal Languages, and Computability:** 2003, 2005, 2007, 2009, 2011, 2013, 2019, 2021, 2023
- **Programming Languages:** 2010
- **Operating Systems:** 2013
- **Special Topics – Mobile Computing:** 2013, 2015, 2017, 2020, 2022
- **Special Topics – Cryptography:** 2002, 2005, 2008, 2009, 2011, 2017, 2020, 2022
- **Special Topics – Applied Combinatorics:** 2004
- **First-Year Seminar (Who Gets to Do Science? Expl. Gender & Race in Science):** 2009, 2013, 2023
- **Discrete Mathematics:** 2004-2009, 2011, 2012, 2014, 2018, 2023
- **Calculus I with Review:** 2015
- **Calculus II:** 2004
- **Math/CS SIP Seminar:** 2004, 2005, 2007, 2009, 2011, 2013, 2015, 2017
- **Independent Study Course (Variations of Mobile Computing):** 2012, 2013, 2015, 2017

- **Independent Study Course (Advanced Image and Sound Processing):** 2019, 2020
- **Professional Apprenticeship:** 2018, 2020-2023

### Senior Integrated Projects (SIPs) Supervised:

2022-23	9	2015-16	10
2021-22	10	2014-15	8
2019-20	3	2013-14	5
2018-19	8	2012-13	6
2017-18	8	2011-12	4
2016-17	8	2001-11:	Generally 1 or 2 a year

### Refereed Publications:

1. Pamela Cutter, “Having a BLAST: A Bioinformatics Project in CS2”, *Proceedings of the 38<sup>th</sup> SIGCSE Technical Symposium on Computer Science Education*, March 2007, 353 - 357.
2. Alyce Brady, Pamela Cutter, Kelly Schultz, “Benefits of a CS0 Course in Liberal Arts Colleges”, *Journal of Computing Sciences in Colleges*, 20 (1), October 2004, 90 – 97.
3. Pamela Cutter, Andrew Granville, Thomas Tucker, “On the Number of Fields Generated by the Square Root of Values of a Given Polynomial”, *Canadian Mathematical Bulletin*, 45 (1), 2003, 71-79.
4. Pamela Cutter, “Finding Prime Pairs with Particular Gaps”, *Mathematics of Computation*, 70 (2001) 1737-1744.

### Other Professional Projects, Publications and Activities:

1. “Promoting Undergraduate Student Success in STEM through Scholarships, Research Experiences, Mentoring, and Career Development”, PI: Jeffrey Bartz, Co-PIs: Pamela Cutter, Stephen Oloo, Santiago Salinas, Dwight Williams, David Wilson, Kalamazoo College, 2/2021-1/2026, National Science Foundation NSF S-STEM Grant No. 20-526, \$1,000,000.
2. Member, HHMI Inclusiveness Grant INTRO Implementation Team, Kalamazoo College 2018-present.
3. Pamela Cutter, L. Carl Leinbach, Kah Loon Ng, “Searching DNA Strands”, Educational Module (peer-reviewed), produced at DIMACS (The Center for **DI**screte **MA**thematics and Theoretical Computer Science) Reconnect Conference: Integrating Information from Sequence and Evolution: An Introduction to Computational Biology, 2004.

4. Dave Berque, Pam Cutter, Alan Zaring, “Customization of the ETS Major Field Test for Assessment in Small Computer Science Departments”, *Journal of Computing Sciences in Colleges*, 21(1), October 2005, p.130. (Panel description)
5. Alyce Brady, Pamela Cutter, “Nifty Assignments – GridPlotter”, *SIGCSE 2005: Proceedings of the 36<sup>th</sup> SIGCSE Technical Symposium on Computer Science Education*, February 2005, pp. 371 – 372. (Assignment description)
6. Pamela Cutter, Kelly Schultz, “Assignments to Use Next Week”, *Journal of Computing Sciences in Colleges*, 20 (1), October 2004, p.114. (Tutorial description)

### **Selected Conference Presentations and Invited Talks:**

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|------------------------|--|
| February 2019          | “Sponsoring Girls Who Code Clubs”, Birds-of-a-Feather session leader, 50 <sup>th</sup> ACM Technical Symposium on Computer Science Education, Minneapolis, MN.   |
| July, 2017             | “Math for Computing? Computing for Math? A Discussion of Interdependencies”, Panel presentation, Mathematical Association of America (MAA) MathFest 2017, Chicago, IL.   |
| March 2008, 2009, 2010 | “Multimedia Projects in Python for Introductory CS Courses”, Workshops, 39 <sup>th</sup> , 40 <sup>th</sup> , 41 <sup>st</sup> SIGCSE Technical Symposium on Computer Science Education, (with A. Brady (2008, 2009), with N. Sprague (2010)).                         |
| November 2008          | “Having a BLAST with Biology in Computer Science”, Mathematics and Computer Science Departmental Colloquium Talk, Albion College.  |
| March 2007             | “Teaching Tech: CS Unplugged”, Panel presentation, Michigan Celebration of Women in Computing (MICWIC), Hickory Corners, MI.   |
| March 2007             | “Having a BLAST: A Bioinformatics Project in CS2”, Paper presentation, 38 <sup>th</sup> SIGCSE Technical Symposium on Computer Science Education, Covington, KY.   |
| October 2005           | “Customization of the ETS Major Field Test for Assessment in Small Computer Science Departments”, Panel presentation, 12 <sup>th</sup> Annual Consortium for Computing Sciences in Colleges Midwestern Conference, Millikin University (with D. Berque and A. Zaring). |
| February 2005          | “Quick and Easy GUIs for 2D Array Assignments”, Workshop, 36 <sup>th</sup> SIGCSE Technical Symposium on Computer Science Education, St. Louis, MO (with A. Brady and K. Larson).  |

October 2004	“Benefits of a CS0 Course in Liberal Arts Colleges”, Paper presentation, 11 <sup>th</sup> Annual Consortium for Computing Sciences in Colleges Midwestern Conference, Kalamazoo College (with K. Schultz).
2001, 2004	“Filling in Some Gaps”, Invited Colloquium talks, Calvin College, Western Michigan University, Hope College
November 2002	“Recruiting and Retaining Females in Computer Science”, Invited Discussion Leader, Pew Mid-states Science and Mathematics Consortium Faculty Development Workshop: Computer Science in the Next Decade, Hope College.
February 2001	“Distinct Square Classes of Polynomials”, Departmental Colloquium talk, Central Michigan University.

## **Professional Activities and Service**

### **Professional Memberships**

- Association for Computing Machinery (ACM) 2018-present.
- Association for Computing Machinery Special Interest Group in Computer Science Education (ACM SIGCSE) 2001 – present.

### **Peer-Review, Conference, and Program Committees**

2007 – 2021	Member, SIGCSE Conference Committee, Program Co-Chair (2019-2021), Workshops Co-Chair (2018-2019), Student Volunteers Co-Coordinator (2013-2015), Chair of Panels and Special Sessions (2010-2011), Kids Camp Activities Coordinator (2007-2009).
2011 – 2013	Conference Chair, 2013 Michigan Celebration of Women in Computing (MICWIC), Ann Arbor, MI.
2005 – present	Member of the Michigan Celebration of Women in Computing (MICWIC) planning committee.
April 2009	Panelist, Academic Career Panel, Michigan Celebration of Women in Computing, Hickory Corners, MI.
2004 – present	Reviewer for ACM SIGCSE Technical Symposium.
2004 – present	Reviewer for Consortium for Computing Sciences in Colleges (CCSC) Midwest Conference.
2004	Member of the Conference Committee (Student Activities Committee, Programming Contest Administrator) for the

Consortium for Computing Sciences in Colleges (CCSC) Midwest Conference.

Summer 2003 Co – Organized and Instructed Summer Workshop for High School CS teachers, “Teaching Data Structures Using Java”, Kalamazoo College (with A. Brady and K. Schultz).

### **Institutional Service (Kalamazoo College)**

- Computer Science Department Co-Chair, 2022 - present
- Member, Institutional Review Board, 2021 - present
- Computer Science Program Director, Department of Mathematics and Computer Science, 2007, 2009, 2010, 2012-2015
- Coach, Two Kalamazoo College student teams in the ACM Intercollegiate Programming Competition, Grand Valley State University, Allendale, MI, 2011 - present
- Member, Computer Science Search Committee, 2003, 2013, 2014, 2017, 2021
- Member, Mathematics Search Committee, 2017
- Member and Chair, Teaching and Learning Committee, Kalamazoo College, 2018-2019
- Faculty Athletics Representative, Athletic Advisory Committee, Kalamazoo College, 2017-2018
- Member, Kalamazoo College Benefits Review Group, 2016-2017
- Member, Mathematics Search Committee, 2017
- Member, Kalamazoo College Harassment Appeals Board, 2015-2016
- Member, Circulation and Systems Librarian Search Committee, 2014
- Member and Chair (2013-2015), Educational Policies Committee, Kalamazoo College, 2011-2015
- Member and Chair (2009-2010) Academic Standards Committee, Kalamazoo College, 2007-2010
- Mentor, Kalamazoo College – University of Michigan Mentorship Program, Fall 2008
- Member, ERP Implementation Committee as the Academic Standards Committee representative on the Curriculum Team, 2008-2009
- Member, Howard Hughes Medical Institute (HHMI) Steering Committee, Kalamazoo College, 2005-present
- Member, Faculty Development Committee, Kalamazoo College, 2003-2006
- Member, Jennifer Mills Lecture Committee, Kalamazoo College, 2003-present
- Participant, Faculty Summer Conversations, sponsored by Provost, Kalamazoo College, Summer 2005
- Participant, Organizing group to explore faculty/staff/administrator association to promote community within the campus, Summer 2003.

## Other Professional Service

July 2020	Participant, Math-in-CS Virtual Workshop, Discussion groups focusing on topics supporting the teaching of Math in Computer Science
2019 – 2020	Facilitator, Supervisor, Girls Who Code Club, Millwood Middle School, Kalamazoo Public Schools.
2017 – present	Co-Facilitator, Supervisor, Kalamazoo College Girls Who Code club (for local high school students).
2012 – 2018	Judge, ACM Student Research Competition Grand Finals.
2015 – 2018,	Poster Reviewer, Grace Hopper Celebration of Women in Computing.
Nov 2011	Poster Judge & Attendant, Grace Hopper Celebration of Women in Computing, Portland, OR.
March 2003, Nov 2013, 2017	Session Leader, GISMO (Girls Investigate Science and Math Opportunities), Kalamazoo, MI. 2013, 2017 Sessions titled “Magic 8-Ball App with AppInventor, 2003 Sessions titled “Flashcodes”.
2003 – 2007	Member of the GLCA/ACM Project Team for Developing and Deploying a Database to Increase the Usefulness of the ETS Major Field Test for Computer Science Department Program Assessment.
2007, 2008	Participant in the ETS AP Computer Science Pretest Study.
Fall 2003	Participant in the ETS AP Computer Science Comparability Study.
2003, 2018	Invited Participant, Summer meeting, Liberal Arts Computer Science Consortium, Calvin College.
January 2001, 2002,2012	Grader, Michigan Math Prize Competition.