*Curriculum Vitae*

# Diane L. Souvaine

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## Education

**Princeton University**, Ph.D., Computer Science, 1986

**Princeton University**, M.A., Computer Science

**Princeton University**, M.S.E., Electrical Engineering and Computer Science

**Dartmouth College**, A.M.L.S., Mathematical Sciences

**Harvard University**, A.B.c.l., English and American Language and Literature

## Professional Experience

**National Science Foundation**, Washington, DC (2008-2020)

*$8.1 Billion independent federal agency tasked with promoting the progress of science in the U.S.*

**Chair of the National Science Board**, 2018-2020
**Vice Chair of the National Science Board**, 2016-2018

Provided strategic direction and operational guidance to the National Science Foundation Director and Chief Operating Officer, guided members and committee chairs in the exercise of the Board's oversight and advisory functions, served *ex officio* on appointed committees, set strategic agenda/vision for the Board, and communicated on behalf of the NSB and the NSF with Congress, NSF stakeholders, and the media.

- Fostered the first formal adoption of risk management principles, which are now embedded into the oversight and strategic decision-making activities.
- Led the first reorganization of NSB committees in over two decades, a process of defining roles and responsibilities, clarifying agency and Board priorities, and negotiating a structure that would realize those duties. This included the new committee on External Engagement, reflecting recognition of a new imperative.
- Effectively communicated the strategic challenges posed by the changing global context in which R&D is conducted, leading to Congressional appropriations increases and language supporting a "strong investment in basic research" on the basis of Board's report**.**
- Spurred the creation of NSB's first vision in 15 years, fulfilling the responsibility of NSB to look beyond near-term management and to serve as long-term stewards of the S&E enterprise.
- Over the course of a decade, first as Chair of CSB and then as Chair of CPP, Executive Committee member, Vice Chair, and Chair, cultivated the realization by NSF senior management that agency-level strategic budget planning needed to be owned by the Board and Director. This represented a cultural change in an agency where power had always been devolved to the grass roots, and which used to be small enough that central strategic budget planning was unnecessary.
- Together with Dr. Kelvin Droegemeier, Director of the Office of the White House Office of Science and Technology Policy, co-led a joint meeting of the President's Council of Advisors for Science and Technology and the National Science Board.

President-appointed Member of the National Science Board, 2014-2020
Executive Committee: Elected Member, 2015-2020
Task Force on NEON Performance and Plans: Vice Chair, 2015-2016
Committee on Audit and Oversight: Member, 2014-2016
Committee on Strategy and Budget (CSB): Member, 2014-2016
CSB Subcommittee on Facilities: Member, 2014-2016
Working Group on Administrative Burdens, Member, 2014-2016
Nominating Committee for NSB Class of 2016-2020: Member, 2015-2016

President-nominated and Senate-confirmed Member of the National Science Board, 2008-2014
Executive Committee: Elected Member, 2011-2013
Committee on Programs and Plans (CPP): Chair, 2012-2014. Member, 2008-2014
Committee on Strategy and Budget (CSB): Chair, 2010-2012. Member, 2010-2013
Committee on Education and Human Resources (CEH): Member, 2008-2012
Task Force on Administrative Burdens: Member, 2012-2014
CPP Task Force on Mid-Scale Research (MS): Co-Chair, 2010-2012
CPP Task Force on Merit Review: Member, 2010-2012
CEH Task Force on STEM Innovators: Member, 2008-2010

- As CPP Chair, led NSB review and oversight of nearly $3 billion in awards for major facilities
- As a member of the NSB Administrative Burdens task force, helped write a report that led, sequentially, to an NASEM report, a GAO report, legislation (AICA), and thence to a new subcommittee (Coordinating Administrative Requirements for Research) of the National Science and Technology Council's (NSTC's) Joint Committee on the Research Environment (JCORE), producing enhanced coordination among government agencies on grant application and reporting requirements.

**Tufts University**, Medford, MA (1998-present)

**Professor of Computer Science**, 1999-present; Associate Professor, 1998-1999.
**Adjunct Professor of Mathematics**, 2002-present
**Director of Graduate Studies,** Department of Computer Science, 2018-present
**Director of the Post-Baccalaureate Program in Computer Science,** 2018-present

**Vice Provost for Research (VPR)**, 2012-2016
**Senior Advisor to the Provost**, 2016-2017
As VPR, held full scope of responsibilities for research for the University, managing a staff of 115 and budget of $22 Million. Chaired Research and Graduate Program Council. Directed the Office of Research Development, the Office of Research Administration, the Office of Sponsored Program Accounting, the Division of Laboratory Animal Medicine, the Office of Technology Transfer and Industry Collaboration. Co-directed University Government Relations activities. Provided oversight of multi-million-dollar Research Centers. Stepped down as VPR in 2016 to assume role as Vice Chair of the National Science Board, agreeing to serve for an additional year as Senior Advisor to the Provost, continuing to initiate, develop, and/or refine strategic projects that enhanced the mission and goals of the University.

- Created a shared ethos across the Research Deans and the Graduate School Deans that allowed us to develop a cross-school, cross-disciplinary community of postdocs and doctoral students and to develop practices that reduced the administrative burden on researchers.
- Successfully launched cross-cutting interdisciplinary initiatives, crossing the humanities, social sciences, natural sciences, engineering, and the health sciences and enhancing the University's research profile.
- Reorganized the Office of Technology Transfer and Industry Collaboration and recruited a new leader with industry, academic, and foundation experience to enhance translation of Tufts inventions into practice and create partnerships and new sources of support for ongoing research.

- Promoted University research to potential government, industry, and foundation partners.
- Partnered with School Deans to support promising extensions of successful research ventures.

**Chair, Department of Computer Science**, 2002-2009

- During service as CS Department Chair, achieved 50-50 ratio of female to male faculty, as well as 50-50 ratio of female to male tenured faculty, achieved a 40-60 ratio of female to male PhD students in Computer Science, while enhancing ethnic and racial diversity, and increased the success of undergraduates from groups underrepresented in computing.
- Co-founded the **Post-Baccalaureate Program in Computer Science** which allows those who have completed a college degree in some other major at any college or university to complete the equivalent of a minor in Computer Science which suffices for successful entry either to the workforce or to graduate studies related to computing.
- Founded the **Computer Science, Engineering, Mathematics Scholars Program (CSEMS)** with funding from the National Science Foundation to enhance the experience and success of financially needy first and second year undergraduates from groups underrepresented in those fields.
- Founded the **Computing Undergraduate Scholars Program (CUSP)** with funding from the National Science Foundation to provide funded research opportunities for financially needy juniors and seniors from groups underrepresented in computer science, including those transferring to Tufts from community colleges within Massachusetts.
- Developed CS Departmental mentoring programs to contribute to the success of students transferring to Tufts from community colleges withing Massachusetts, both during the completion of their undergraduate degree and during any subsequent graduate studies.
- With the partnership of the Massachusetts Board of Higher Education, the Massachusetts Department of Education, and the Superintendents of Schools Office in Boston, Somerville, and Malden, founded and directed the **Problem Solving and Critical Thinking with Discrete Mathematics** teacher enhancement program predominantly for Gr 5-9 mathematics teachers in the Massachusetts public schools.
- Served on the Ad Hoc Committee on Faculty Retention appointed by the Vice President of Arts, Sciences, and Engineering at Tufts University to examine attrition rates among non-white and female faculty and to submit recommendations.
- Founded a "Borrowing Agents of Change" program designed for any department in which the only faculty member of a group underrepresented in that field is an assistant professor in years 1-3 to bring a tenured faculty member of the same "affinity group" as a year-long visitor to Tufts to serve as both role-model and change-agent.

Adjunct Professor of Tisch College of Citizenship & Public Service, 2008-2012
Chair, Tufts T10 University-wide Strategic Planning, Modes of Research Working Group, 2012

**NSF Science & Technology Center for Discrete Mathematics & Theoretical Computer Science (DIMACS)**

*DIMACS comprised 135 permanent scientists from Rutgers University, Princeton University, Bell Communications Research, and AT&T Bell Laboratories.*

Convenor, 1996 DIMACS Research and Education Institute (DREI)
Acting Director, 1993-1994
Acting Associate Director, 1992-1993
Permanent Member, 1989-present
Instructor, Leadership Program in Discrete Mathematics, 1990

- While Acting Associate Director and Acting Director, completed a reorganization, modernization, and revitalization of the Center that allowed it successfully to navigate approval of the second half of its NSF STC funding and position it to succeed following graduation from the NSF STC program.

- Created an Industry-Academic Postdoc Program and an Education-Academic Postdoc Program to expand the size of the postdoc program and create new partnerships.
- Founded the multi-year the NSF DIMACS Research & Education Institute (DREI) funded under the NSF RIMS (Regional Institutes in Mathematical Sciences) program to provide vertical integration of high school teachers, graduate students, college and university faculty, and industrial researchers. Served as the first Convenor.

**Rutgers University**, New Brunswick, NJ (1986-1998)

Associate Professor, Department of Computer Science, 1992-1998
Executive Council, Graduate School of Arts and Sciences, 1994-1996

Assistant Professor, Department of Computer Science, 1986-1992

**Princeton University**, Princeton, NJ (1984-1987)

Co-Assistant Master, Butler College, 1985-1987
Research Assistant, Department of Computer Science, 1985-1986
Instructor of Mathematics, Freshman Summer Opportunity Program, 1984

Prior experience at Phillips Academy in Andover, MA as Instructor of Mathematics and at St. Paul's School in Concord, NH as Instructor of English and Mathematics

### Visiting Appointments and Professional Development

**The Research Council of the Sultanate of Oman (TRC)** and **COACh**: "Partnership Workshops on Successful Publishing and Proposal Writing," Trainer, October 2015 (Muscat, Nizwa, Sohar, and Salalah)

**Université libre de Bruxelles** (ULB), Belgium: Visiting Research Scientist, March-May, 2012

**Harvard Kennedy School** Executive Education Program: "Women and Power: Leadership in a New World," Participant, May 2010.

**Higher Education Resources Services**: "Bryn Mawr Summer Institute for Women in Higher Education Administration," Participant, June 2010

**Massachusetts Institute of Technology**, Cambridge, MA Visiting Scientist, 2005-2006; Visiting Research Affiliate, 2004-2005, 2006-2014

**Radcliffe Institute for Advanced Study**, Cambridge, MA: Fellow, 2005-2006

**Institute for Advanced Study**, School of Mathematics, Princeton, NJ: Member, 1994-1995

**Princeton University**, Visiting Research Fellow, Department of Computer Science, 1993-1998; Visiting Associate Professor, Department of Computer Science, 1992-1993

**NSF Geometry Science and Technology Center**, University of Minnesota, Instructor, Summer Institute for Undergraduates and High School Teachers, 1993

**Fellowships, Honors, and Awards**

**Association for Women in Mathematics:** Fellow, 2020.

**American Association for the Advancement of Science**:  Fellow, 2016.

**National Science Board**:  Chair, 2018; Vice Chair, 2016; Presidential Appointment, 2014; Presidential Nomination and Senate Confirmation, 2008.

**Association for Computing Machinery**:  Fellow, 2011; Senior Member, 2006; Recognition of Service Award, 2001.

**Tufts University**: Lillian and Joseph Leibner Award for Outstanding Teaching and Mentoring, 2008; Multicultural Award, 2002; Faculty Recognition Award, 2000; EECS Department Chair's Award, 2000.

**Harvard University/Radcliffe**:  Radcliffe Institute for Advanced Study, Fellow, 2005-2006; Bunting Institute of Radcliffe College Science Scholar Fellowship, 1991 (declined).

**Rutgers University**:  Merit Awards: 1989, 1991, 1992, 1993, 1997; Henry Rutgers Research Fellowship, 1987-1988.

**Princeton University**:  Exxon Foundation Merit Fellowship, 1982-1985.


**Grants**
**Raised over $11 Million in research and outreach grants, as follows:**

NSF grants:
"AF: Small: Collaborative Research: Reconfiguration Algorithms," #CCF-1422311: 2014-2019, $251,788. PI.
"CDI-Type I: Geometric Algorithms for Staged Nanomanufacturing," #CBET-0941538: 2010-2013, $355,556.  Co-PI.
"Geometric Data Structures," #CCF-0830734: 2009-2013, $240,871.  PI.
"Impact of Computational Geometry on Depth-Based Statistics," #CCF-0431027: 2004-2008, $224,723. PI.
"Computer Science, Engineering, and Math Scholarship Program," #DUE-0631054: 2006-2010, $499,560. PI.
"Teaching Through Outreach: The Institutionalized GK-12 Model," #DGE-0538556: 2006-2007, $450,000. Co-PI.
"Tufts Engineering the Next Steps (TENS)" GK12 project, #DGE-0230840: 2003-2006, $1,613,846. Co-PI.
"Bridging the Gap," #EIA-0314231: 2003-2004, $32,300. Co-PI.
"Tufts-CSEMS Scholars Program," #DUE-0220651: 2002-2006, $385,000. PI.
"GK-12 Engineering Fellows: A K-12 Resource for Integrating Engineering, Math and Science," #DGE-9979593: 1999-2002, $887,919. Co-PI.
"Geometric Computation and Applications," #EIA-99-96237: 1999-2001, $70,000. PI.
"Multidisciplinary Research:  Simulations of Integrated Communications Systems," #NCR-9527163: 1995-1998, $1,499,810. Co-PI.
"DIMACS Regional Institute in the Mathematical Sciences," (DREI) #DMS-9412914: 1995-1999, $1,950,000. Founding Principal Investigator.
"Center for Discrete Mathematics and Theoretical Computer Science, #STC-9119999: 1992-1997, $2,100,000 per year. Principal Investigator from 9/1/93-6/1/94.
"DIMACS Fellowship Program in Research and Education," #ESI-9353750: 1993-1994, $50,000. PI.
"Algorithms for Geometric Problems of Practical Interest," #CCR-9104732: 1991-1994, $54,000. PI.
"Topics in Computational Geometry:  Curved Objects, Restricted-orientation Objects, Grasping, and Arrangements," #CCR-8803549: 1988-1990, $38,000. Principal Investigator.

Additional Grants:

Le Fonds de la Recherche Scientifique - FNRS: Mission Scientifiques, March 10, 2012 - May 10, 2012, € 5,000. Visiting research scientist, Université Libre de Bruxelles (ULB).

Massachusetts Board of Higher Education: Problem Solving with Discrete Mathematics Gr5-9, March 1, 2008 - December 31, 2010, $385,000. Principal Investigator.

Radcliffe Institute for Advanced Study: Workshop on Computational Aspects of Statistical Data Depth Analysis, July 7-10, 2006, $18,000. Principal Investigator.

Massachusetts Board of Higher Education: Problem Solving and Critical Thinking with Discrete Mathematics K12, January 1, 2005 - December 31, 2007, $432,495. Principal Investigator.

Pfizer Research, Cambridge, MA: "Characterization and prediction of protein binding sites". $38,824, 9/01/03-5/31/04. Principal Investigator.

"Tufts-Clare Booth Luce Graduate Fellowships Program," Luce Foundation #PV1717, 2002-2005. $158,000. Principal Investigator.

Problem Solving and Critical Thinking with Discrete Mathematics K12, Massachusetts Board of Higher Education, January 1, 2004 - December 31, 2004, $186,707. Principal Investigator.

Leadership Program in Discrete Mathematics, Massachusetts Board of Higher Education, 06/01/03- 12/31/03. $50,000. Principal Investigator.

Summer Content Workshop in Discrete Mathematics, Massachusetts Department of Education, Malden Public Schools 06/01/02-8/31/02. $30,000. Co-Principal Investigator.


## Professional Service

**American Academy of Arts and Sciences** – *Challenges for International Science Partnerships* (CISP)**:** Working Group on Large-Scale Science, Member, 2019-2021.

**American Association for the Advancement of Science (AAAS) –** Electorate Nominating Committee (ENC) for Information, Computing and Communication (T), Member, 2018-2021.

**Computer History Museum –** Board of Trustees, Member, 2018-present.  Education & Learning Advisory Committee, Chair, 2018-2021 & 2023.  Executive Committee, Elected Member, 2020-2024.  Compensation Committee, Chair, 2020-2024.

**TERC –** Board of Trustees, Member, 2017-2023.  Finance Committee, Member, 2017-2023.   Presidential Review Committee, 2020-2023.

**Association for Computing Machinery (ACM)** - Athena Award Committee, Chair, 2016-2017; Member, 2015-2018; SIGACT Committee for the Advancement of Theoretical Computer Science (CATCS), 2011-2013; Program Committee, Symposium on Computational Geometry, 2008; Video Program Committee, Symposium on Computational Geometry, 2003; Conference Chair, Symposium on Computational Geometry, 2001

**National Science Foundation** - Chair, Head of Office of Integrative Activities Search Advisory Committee, 2015; Board of Governors, NSF STC on Computation and Visualization of Geometric Structure, 1995-98; NSF Site Team Member, Mathematical Sciences Research Institute (MSRI), 1997 & 1994; Committee of Visitors, NSF Division of Computer and Computation Research, 1996; NSF Panel on Computer Science Challenges in Multidisciplinary Research, 1995; NSF Panel on a Center for Ecological Analysis and Synthesis; NSF Women's Mentoring Program Oversight Committee, Institute for Advanced Study; Committee of Visitors, Computing and Communication Foundations, NSF CISE Directorate, 2006; NSF Proposal Panels in CISE Directorate and/or EHR Directorate, 2002, 2003, 2004; Committee of Visitors, NSF Division of Experimental and Integrative Activities, 2001.

**Tufts University** - Presidential Council on Diversity, 2012-2013; Co-founder and Steering Committee member, Program in Cognitive and Brain Science, 2006-2010; Provost's 5-year Review Committee, 2006-2007; Search Committee for Vice President of Information Technology, 2004-2005; Graduate  Committee,  Program  in

Mathematics, Science, Technology, & Engineering Education, 2004-2012; Chair, Office of Equal Opportunity Hearing Panel, 2004; Chair, Search Committee for Dean of Engineering, 2002-2003; Presidential Advisory Committee for Provost Search, 2001-2002; Vice Presidential *Ad Hoc* Faculty Retention Committee, 2000-2001; Equal Educational Opportunity Commission, Schools of Arts & Sciences & Engineering, 1999-2002.

Lehigh University - CSE Departmental Advisory Board, 2009-2014.
University of Vermont - Board of Advisors, Department of Computer Science, 2006-2009.

Union College Department of Computer Science - External Review Committee, May 2012.
Wesleyan University Dept. of Mathematics & Computer Science - External Review Committee, May 2005.

Computing Research Association (CRA) – Organizing Committee, Conference at Snowbird, 2006;

Canadian Conference on Computational Geometry (CCCG) - Program Committee, 2008, 2011, 2012; Fall Workshop on Computational Geometry - Program Committee, 2004, 2006, 2007, 2009; Co-chair, 2009.

New England Computer Science Chairs Association - Founding Member, 2008-2009; New England Undergraduate Computing Symposium (NEUCS) - Co-founder, 2009; Keynote Speaker, 2011.

Harvard/Radcliffe Institute Workshop on Computational Aspects of Statistical Data Depth Analysis – Proposer and Organizer, July 2006.
36th Symposium on the Interface: Computational Biology and Bioinformatics, Invited Session Organizer, 2004.
DIMACS Workshop, "Data Depth: Robust Multivariate Analysis, Computational Geometry and Applications," Co-chair, May 2003.

Educational Testing Service - Mathematics Reasoning Advisory Board; GRE Technical Advisory Committee.

Rutgers University - Executive Council, Graduate School of Arts and Sciences, 1994-1996; Center for Advanced Information Processing (CAIP), 1995-1996; Executive Committee, Rutgers Center for Mathematics, Science and Computer Education, 1992-1994.

New Jersey State Commission on Science and Technology, Center Director, 1993-1994.

Dartmouth College - Executive Council, Master of Arts in Liberal Studies Program, 1978-1980.

Pfizer Research, Cambridge, MA – Consultant, 2003-2004.
M.J. Meehan and Company, New York, NY– Consultant, 1995-1997.
Hammond Map Co., Maplewood, NJ – Consultant, 1996.
Exxon Chemical Research, Linden, NJ – Consultant, 1992.
IBM Thomas J. Watson Research Center, Yorktown Heights, NY– Consultant, 1990-1991.

Referee for NSF CISE and EHR grant proposals, for computational geometry tenure/promotion cases internationally, and for the following journals: *Algorithmica*, *Discrete and Computational Geometry*, *Computational Geometry: Theory and Applications*, *Transactions on Graphics*, *International Journal on Computational Geometry and Applications*, *Information and Control*, *Information Processing Letters*, *Journal of the ACM*, *Journal of Algorithms*, *Journal on Symbolic Computation*, *SIAM Journal on Computing*, and *SIGGRAPH*.

**Publications**

"Reconfiguration of polygonal subdivisions via recombination," with Hugo A. Akitaya, Andrei Gonczi, Diane L. Souvaine, Csaba D. Tóth, and Thomas Weighill, *Proc. 31st European Symposium on Algorithms (Amsterdam, 2023)*, LIPIcs 274, Schloss Dagstuhl, 6:1-16.

"Reconfiguration of connected graph partitions," with Hugo A. Akitaya, Matthew D. Jones, Matias Korman, Christopher Meierfrankenfeld, Michael J. Munje, Michael Thramann, and Csaba D. Tóth, J. Graph Theory 102(1) (2023), 35-66.

"Reconfiguration of connected graph partitions via recombination," with Hugo A. Akitaya, Matias Korman, Oliver Korten, and Csaba D. Tóth, in *Proceedings of the 12th International Conference on Algorithms and Complexity, Larnaca, 2021.* LNCS 12701, Springer, pp. 61-74. **Theoretical Computer Science** 923, 2022, 13-26**.**

"Circumscribing polygons and polygonizations for disjoint line segments," with Hugo Akitaya, Matias Korman, Oliver Korten, Mikhail Rudoy, and Csaba D. Tóth. Preliminary version in *Proceedings of the 35th Symposium on Computational Geometry (Portland, OR, 2019),* **Leibniz International Proceedings in Informatics,** 2019, 9:1-17**.** Discrete and Computational Geometry. 68 (2022), 218-254.

"Minimum Weight Connectivity Augmentation for Planar Straight-Line Graphs," with Hugo A. Akitaya, Rajasekhar Inkulu, Torrie L. Nichols, Csaba D. Tóth, Charles R. Winston. WALCOM: Algorithms and Computation. *Proceedings of the 11th International Workshop,* Hsinchu, Taiwan. Springer-Verlag, 2017. Theoretical Computer Science 789, 2019, 50-63.

"Diffuse reflection diameter in simple polygons," with Gill Barequet, Sarah Cannon, Eli Fox-Epstein, Benjamin Hescott, Csaba D. Tóth, and Andrew Winslow. *Discrete Applied Mathematics 210*, 2016, 123-132.

"The Flip Diameter of Rectangulations and Convex Subdivisions," with Eyal Ackerman, Michelle M. Allen, Gill Barequet**,** Maarten Löffler, Joshua Mermelstein, Csaba D. Tóth. *Discrete Mathematics & Theoretical Computer Science (DMTCS) 18*, 3, 2016, 4:1-17.

"Isoperimetric Enclosures," with Luis Barba, Stefan Langerman, Greg Aloupis, and Jean-Lou De Carufel. *Graphs and Combinatorics*, 31, 2015, 361-392.

"Bichromatic compatible matchings," with Greg Aloupis, Luis Barba, Stefan Langerman. *Computational Geometry*, 48, 2015, 622-633.

"The Flip Diameter of Rectangulations and Convex Subdivisions," with Eyal Ackerman, Michelle M. Allen, Gill Barequet, Maarten Löffler, Joshua Mermelstein, Csaba D. Tóth. *LATIN 2014*, 478-489.

"Disjoint Compatible Geometric Matchings," with Mashhood Ishaque and Csaba Tóth. *Discrete and Computational Geometry*, 49, 2013, pp. 89-131.

"Isoperimetric Enclosures," with Luis Barba, Stefan Langerman, Greg Aloupis, and Jean-Lou De Carufel. *Proceedings of the Mexican Conference on Discrete Mathematics and Computational Geometry,* 2013, 47-56.

"Diffuse Reflections in Simple Polygons," with Gill Barequet, Sarah M. Cannon, Eli Fox-Epstein, Benjamin Hescott, Csaba D. Tóth, and Andrew Winslow. *Proceedings of the VII Latin-American Algorithms, Graphs, and Optimization Symposium*: *Electronic Notes in Discrete Mathematics*, 44, 2013, 345-350.

"Bounded-Degree Polyhedronization of Point Sets," with Gill Barequet, Nadia Benbernou, David Charlton, Erik D. Demaine, Martin L. Demaine, Mashhood Ishaque, Anna Lubiw, André Schultz, Godfried T. Toussaint, and Andrew Winslow. *Computational Geometry: Theory and Applications*, 46, 2, 2013, pp. 148-153.

"Coverage with k-Transmitters in the Presence of Obstacles," with Brad Ballinger, Nadia Benbernou, Prosenjit Bose, Mirela Damian, Vida Dujmovic, Robin Flatland, Ferran Hurtado, John Iacono, Anna Lubiw, Pat Morin, Vera Sacristan, and Ryuhei Uehara. *Journal of Combinatorial Optimization*, 25, 2, 2013, pp. 208-233.

"Bichromatic compatible matchings," with Greg Aloupis, Luis Felipe Barba Flores, and Stefan Langerman. *Proceedings of the 29th Annual ACM Symposium on Computational Geometry*, 2013, pp. 267-276.

"Simultaneously Flippable Edges in Triangulations," with Csaba D. Tóth and Andrew Winslow. In *Computational Geometry: XIV Spanish Meeting on Computational Geometry, Dedicated to Ferran Hurtado on the Occasion of His 60th Birthday, Revised Selected Papers*, LNCS 7579, Springer-Verlag, 2012, pp. 138-145.

"Constrained tri-connected planar straight line graphs," with Marwan Al-Jubeh, Gill Barequet, Mashhood Ishaque, Csaba Tóth, and Andrew Winslow. *Thirty Essays on Geometric Graph Theory* (J. Pach, ed.), vol. 29 of *Algorithms and Combinatorics*, Springer, ISBN 978-1-4614-0109-4, 2012, pp. 49-70.

"Algorithms for Designing Pop-up Cards," with Zachary Abel, Erik D. Demaine, Martin L. Demaine, Sarah Eisenstat, Anna Lubiw, André Schultz, Giovanni Viglietta and Andrew Winslow. *Proceedings of the Symposium on Theoretical Aspects of Computer Science (STACS)*, 2013, pp. 269-280.

"Hidden Mobile Guards in Simple Polygons," with Sarah Cannon and Andrew Winslow. Full paper: <http://arxiv.org/abs/1206.1803>, June 2012. Extended abstract (6-page): *Proceedings of the 24th Canadian Conference on Computational Geometry*, Prince Edward Island, Canada, 2012, pp. 161-166.

"Augmenting the Edge Connectivity of Planar Straight Line Graphs to Three," with Marwan Al-Jubeh, Mashhood Ishaque, Kristóf Rédei, Csaba Tóth, and Pavel Valtr. *Algorithmica, 61*, 971-999, 2011.

"Convexifying Monotone Polygons while Maintaining Internal Visibility," with Oswin Aichholzer, Greg Aloupis, Erik D. Demaine, Martin L. Demaine, Vida Dujmovic, Ferran Hurtado, Anna Lubiw, Guenter Rote, André Schultz, and Andrew Winslow. *Proceedings of the 23rd Canadian Conference on Computational Geometry*, 2011, Toronto, Canada, 2011, pp. 229-234.

"Simultaneously Flippable Edges in Triangulations," with Csaba D. Tóth and Andrew Winslow. *XIV Spanish Meeting on Computational Geometry*, 2011, Alcal de Henares, Spain, pp. 137-140.

"Face Guards for Art Galleries," with Raoul Veroy and Andrew Winslow. *XIV Spanish Meeting on Computational Geometry*, 2011, Alcal de Henares, Spain, pp. 39-42.

"Disjoint Compatible Geometric Matchings," with Mashhood Ishaque and Csaba Tóth. *Proceedings of the 27nd Annual ACM Symposium on Computational Geometry (SoCG)*, Paris, 2011, ACM Press, pp. 125-134.

 "Coverage with k-Transmitters in the Presence of Obstacles," with Brad Ballinger, Nadia Benbernou, Prosenjit Bose, Mirela Damian, Vida Dujmovic, Robin Flatland, Ferran Hurtado, John Iacono, Anna Lubiw, Pat Morin, Vera Sacristan, and Ryuhei Uehara. *Proceedings of the 4th Annual International Conference on Combinatorial Optimization and Applications (COCOA 2010). Lecture Notes in Computer Science*, 6509: 1-15, 2010.

"Bounded-Degree Polyhedronization of Point Sets," with Gill Barequet, Nadia Benbernou, David Charlton, Erik D. Demaine, Martin L. Demaine, Mashhood Ishaque, Anna Lubiw, André Schultz, Godfried T. Toussaint, and Andrew Winslow. *Proceedings of the 22nd Canadian Conference on Computational Geometry (CCCG 2010)*, Winnipeg, Manitoba, 2010, pp. 99-102.

"Cuttings for disks and axis-aligned rectangles in three-space," with Eynat Rafalin and Csaba D. Tóth. *Discrete and Computational Geometry,* 43 (2)(2010), pp. 221-241. Conference version appeared in *Proceedings of the 10th Workshop on Algorithms and Data Structures*, Halifax, NS, 2007, vol. 4619 of LNCS, Springer, pp. 470-482.

"Connecting Obstacles in Vertex-Disjoint Paths," with Marwan Al-Jubeh, Gill Barequet, Mashhood Ishaque, Csaba Tóth, and Andrew Winslow. *Proceedings of the 26th European Workshop on Computational Geometry*, Dortmund, Germany, 2010, pp. 26-29.

"Tri-Edge-Connectivity Augmentation for Straight Line Graphs," with Marwan Al-Jubeh, Mashhood Ishaque, Kristof Redei, and Csaba D. Tóth. *Proceedings of the 20th International Symposium on Algorithms and Computation*, Honolulu, HI, 2009, vol. 5878 of LNCS, Springer, pp. 902-911.

"Convex Partitions with 2-Edge Connected Dual Graphs," with Marwan Al-Jubeh, Michael Hoffmann, Mashhood Ishaque, and Csaba D. Tóth. *Proceedings of the 15th International Computing and Combinatorics Conference (COCOON 2009)*, Buffalo, NY, 2009, vol. 5609 of LNCS, Springer, pp. 192-204. Full version: *J. Combinatorial Optimization, 22,* 2010, pp. 409-425.

"Topologically Sweeping the Complete Graph in Optimal Time and Space," with Eynat Rafalin. *Discrete Applied Mathematics, 156, 17*, 2008, p. 3276-3290.

"Deflating The Pentagon," with Erik D. Demaine, Martin L. Demaine, Thomas Fevens, Antonio Mesa, Michael Soss, Godfried Toussaint, and Perouz Taslakian. *Lecture Notes in Computer Science, 4535: Revised Papers from the 2007 Kyoto International Conference on Computational Geometry and Graph Theory (KyotoCGGT 2007)*, Springer-Verlag, 2008, pp. 56-67.

"Staged Self-Assembly: Nanomanufacture of Arbitrary Shapes with $O(1)$ Glues," with Erik D. Demaine, Martin L. Demaine, Sándor P. Fekete, Mashhood Ishaque, Eynat Rafalin, and Robert T. Schweller. *Journal of Natural Computing, 7, 3*, 2008, 347-370.

"A Tight Bound for Connecting Sites Across Barriers," with David Krumme, Eynat Rafalin and Csaba D. Tóth. *Discrete and Computational Geometry, 40, 3*, Springer New York, 2008, 377-394.

"Compatible Geometric Matchings," with Oswin Aichholzer, Sergey Bereg, Adrian Dumitrescu, Alfredo Garcia, Clemens Huemer, Ferran Hurtado, Mikio Kano, Alberto Marquez, Shakhar Smorodinsky, Jorge Urrutia, and David Wood. *Computational Geometry: Theory and Applications 42*, 2009, 617-626. Preliminary version appeared in *Elsevier Electronic Notes in Discrete Mathematics: Abstracts of the 2008 Topological & Geometric Graph Theory Conference*, Paris, 2008.

"Data Structures for Restricted Triangular Range Searching," with Mashhood Ishaque and Nadia Benbernou. *Proceedings of the 20th Canadian Conference on Computational Geometry*, Montreal, 2008, 15-18.

"A Vertex-Face Assignment for Plane Graphs," with Csaba D. Tóth. *Computational Geometry: Theory and Applications 42*, 2009, 388-394. Preliminary version appeared in *17th Annual Canadian Conference on Computational Geometry*, Windsor, Ontario, August, 2005.

"Disjoint Segments Have a Convex Partition with a 2-edge Connected Dual Graph, (Erratum)," with Nadia M. Benbernou, Erik D. Demaine, Martin L. Demaine, Michael Hoffmann, Mashhood Ishaque, and Csaba D. Tóth, in *Proc. 19th Canadian Conf. Comp. Geom.*, Ottawa, ON, 2007 pp. 13-16.

"Disjoint Segments Have Convex Partitions with 2-edge Connected Dual Graphs," with Nadia Benbernou, Erik D. Demaine, Martin L. Demaine, Michael Hoffmann, Mashhood Ishaque, Csaba D. Tóth. *Proceedings of the 18th Canadian Conference on Computational Geometry*, 2007, 13-16.

"Staged Self-Assembly: Nanomanufacture of Arbitrary Shapes with $O(1)$ Glues," with Erik D. Demaine, Martin L. Demaine, Sándor P. Fekete, Mashhood Ishaque, Eynat Rafalin, and Robert T. Schweller. *Proceedings of the 13th International Meeting on DNA Computing, June, 2007, Lecture Notes in Computer Science 4848*, Springer-Verlag, 2008, 1-14.

"Efficient Many-To-Many Point Matching in One Dimension," with Justin Colannino, Mirela Damian, Ferran Hurtado, Stefan Langerman, Henk Meijer, Suneeta Ramaswami, and Godfried Toussaint. *Graphs and Combinatorics*, Volume 23, Supplement 1: *Akiyama-Chvátal Festschrift*, 2007, 169-178. *Proceedings of the 20th European Workshop on Computational Geometry (EWCG'07)*, Graz (Austria), 2007, pp. 14-17.

"Computing the Tool Path of an Externally Monotone Polygon in Linear Time," with Prosenjit Bose, David Bremner. *Proceedings of the 18th Canadian Conference on Computational Geometry*, 2006, 85-88.

"Depth Explorer – A Software Tool for the Analysis of Depth Measures," with John Hugg and Eynat Rafalin. *Abstracts of the International Conference on Robust Statistics (icors06)*, Portugal, July 2006, 60-61.

"Medians in Multimodal Data and the New Proximity Graph Data Depth," with Eynat Rafalin and Kathryn Seyboth. *Abstracts of the International Conference on Robust Statistics (icors06)*, Portugal, July 2006, 103-104.

"Curves in the Sand: Algorithmic Drawing," with Mirela Damian, Erik D. Demaine, Martin L. Demaine, Vida Dujmović, Dania El-Khechen, Robin Flatland, John Iacono, Stefan Langerman, Henk Meijer, Suneeta Ramaswami, Perouz Taslakian and Godfried T. Toussaint. *Proceedings of the 18th Canadian Conference on Computational Geometry*, 2006, 11-14.

"A Tight Bound for Connecting Sites Across Barriers," with David Krumme, Eynat Rafalin and Csaba D. Tóth. *Proceedings of the 22nd Annual ACM Symposium on Computational Geometry (SoCG)*, Arizona, 2006, 439-448.

"An Experimental Study of Old and New Depth Measures," with John Hugg, Eynat Rafalin, and Kathryn Seyboth. *Proceedings of the Eighth Workshop in Algorithms Engineering and Experiments (ALENEX)*, 2006, 51-64.

*Data Depth: Robust Multivariate Analysis, Computational Geometry, and Applications*, ed. with Reginia Liu and Robert Serfling. AMS/ DIMACS: Series in Discrete Mathematics and Theoretical Computer Science, 2006.

"Simplicial Depth: An Improved Definition, Analysis, and Efficiency for the Finite Sample Case," with Michael Burr and Eynat Rafalin. *Data Depth: Robust Multivariate Analysis, Computational Geometry, and Applications*,

ed. by Reginia Liu, Robert Serfling, Diane Souvaine, and Yehuda Vardi, *AMS/DIMACS Book Series*, 2006, pp. 195-209.

"An Intuitive Approach to Measuring Protein Surface Curvature," with Ryan G. Coleman, Michael A. Burr, and Alan C. Cheng. *Proteins: Structure, Function, and Bioinformatics*, 61:4, 2005, pp. 1068-1074.

"Planar Minimally Rigid Graphs and Pseudo-Triangulations," with Ruth Haas, David Orden, Günter Rote, Francisco Santos, Brigitte Servatius, Hermann Servatius, Ileana Streinu, and Walter Whiteley. *Computational Geometry: Theory and Applications*, Volume 31, Issues 1-2, May 2005, pp. 31-61.

"Path Length in Proximity Graphs as a Data Depth Measure," with K. Seyboth and E. Rafalin. *Tufts CS Technical Report 2005-05*, Tufts University, November 2005. Abstract appeared in *Proceedings of the 15th Annual Fall Workshop on Computational Geometry*, UPenn, 2005, 11-12.

"Depth Explorer - A Software Tool for Analysis of Depth Measures" with J. Hugg and E. Rafalin. *Tufts CS Technical Report 2005-06*, Tufts University, November 2005. Abstract appeared in *Proceedings of the 15th Annual Fall Workshop on Computational Geometry*, UPenn, 2005, 9-10.

"Hinged Dissection of Polypolyhedra," with Erik Demaine, Martin Demaine, and Jeff Lindy. *Lecture Notes in Computer Science: Proceedings of the Workshop on Algorithms and Data Structures* 3608, Springer-Verlag, 2005, 205-217.

"Computational Geometry and Statistical Depth Measures," with Eynat Rafalin. *Theory and Applications of Recent Robust Methods,* edited by M. Hubert, G. Pison, A. Struyf and S. Van Aelst. Series: *Statistics for Industry and Technology*, Birkhauser, Basel, 2004, 283-296.

"Transformations and Algorithms for Least Sum of Squares Hypersphere Fitting," with Ryan Coleman, Michael Burr, and Alan Cheng. *Proceedings of the 16th Canadian Conference on Computational Geometry*, 2004, 104-107.

"Dynamic Update of Half-space Depth Contours," with Michael Burr and Eynat Rafalin. Abstract appears in *Proceedings of the 14th Annual Fall Workshop on Computational Geometry*, MIT, 2004, pages 3-4.

"Model for mentoring and retaining engineering students from underrepresented groups," with Horn, M., C.G.L Cao, M.E. Kilmer, L. Baise, S. Hassoun. In *Proceedings of the ASEE New England Section* 2004 Annual Conference, ASEE (2004).

"Efficient computation of location depth contours by methods of combinatorial geometry," with K. Miller, S. Ramaswami, P. Rousseeuw, T. Sellares, I. Streinu, A. Struyf. *Statistics and Computing*, 2003, 153-162.

"Planar Minimally Rigid Graphs and Pseudo-Triangulations," with Ruth Haas, David Orden, Günter Rote, Francisco Santos, Brigitte Servatius, Hermann Servatius, Ileana Streinu, and Walter Whiteley. *Proceedings of the Nineteenth Annual ACM Symposium on Computational Geometry*, 2003, 154-163.

"Topological Sweep in Degenerate Cases," with Eynat Rafalin, Ileana Streinu. *Algorithms Engineering and Experiments (ALENEX 2002)*. *Springer-Verlag Lecture Notes in Computer Science 2409*, 2002, 155-165.

"Fast implementation of depth contours using topological sweep," with K. Miller, S. Ramaswami, P. Rousseeuw, T. Sellares, I. Streinu, A. Struyf. *Proceedings of the Twelfth ACM-SIAM Symposium on Discrete Algorithms*, Washington, DC, January, 2001, pp. 690-699.

"Illumination of the Plane with Floodlights," with P. Bose, L. Guibas, A. Lubiw, M. Overmars, and J. Urrutia. *International Journal of Computational Geometry & Applications* 7, 1997, 153–163. Preliminary version appeared in *Proceedings of the Fifth Canadian Conference on Computational Geometry*, University of Waterloo, 1993, 399-404.

"Testing Simple Polygons," with E. Arkin, P. Belleville, J. Mitchell, D. Mount, K. Romanik, and D. Salzberg. *Computational Geometry: Theory and Applications* 8, 2, 1997, 97-114. Preliminary version appeared in *Proceedings of the Fifth Canadian Conference on Computational Geometry*, University of Waterloo, 1993, 387-392.

"Constructing Piecewise Linear Homeomorphisms of Polygons with Holes," with Rephael Wenger and Mark Babikov. *Proceedings of the 9th Canadian Conference on Computational Geometry,* 1997, 6-10.

"An Efficient Algorithm for Placing Guards in Polygons with Holes," with I. Bjorling-Sachs. *Discrete and Computational Geometry*, 13, 1995, 77-109. A preliminary version appeared as "A Tight Bound for Guarding Polygons with Holes," Rutgers University Technical Report LCSR-TR-165, May, 1991. An abstract appeared in *Final Report of the MSI Stony Brook Workshop on Computational Geometry*, October 25-26, 1991, 17.

"Combinatorial Complexity of Signed Discs," with C.-K. Yap. *Computational Geometry: Theory and Applications*, 5, 1995, 207-223. Conference version appeared in *Lecture Notes in Computer Science: Proceedings of the Workshop on Algorithms and Data Structures* 709, Springer-Verlag, 1993, 577-588.

"Localizing an Object with Finger Probes," with R. Freimer, S. Khuller, J.S.B. Mitchell, C. Piatko, and K. Romanik. *Proceedings of Vision Geometry III*, SPIE - The International Society for Optical Engineers, 1994, 272-283.

"Clamping a Polygon," with C. J. Van Wyk. *The Visual Computer*, 10, Special issue on computational geometry, 1994, 484-494.

"On Compatible Triangulations of Simple Polygons," with Boris Aronov and Raimund Seidel. *Computational Geometry: Theory and Applications*, 1993, 27-35.

"The Contour Problem for Restricted-Orientation Polygons," with I. Bjorling-Sachs. Invited paper. *Proceedings of the IEEE* 80, 9, 1992, 1449-1470.

"Shortest Paths Help Solve Geometric Optimization Problems on Planar Regions," with E. A. Melissaratos. *SIAM J. Computing*, 1992, 601-638.

"Tight Bounds for Edge Guards in Monotone Polygons and Rectilinear Monotone Polygons," with I. Bjorling-Sachs. *Proceedings of the Fourth Canadian Conference on Computational Geometry*, Memorial University of Newfoundland, August, 1992, 93-98. Complete reports on this work appeared: "A Tight Bound for Edge Guards in Monotone Polygons," *DIMACS Technical Report 92-52*, November, 1992; "A Tight Bound for Edge Guards in Rectilinear Monotone Polygons," *DIMACS Technical Report 93-12*, February, 1993.

"Coping with Inconsistencies: A New Approach to Produce Quality Triangulations of Polygonal Domains with Holes," with E. A. Melissaratos. *Proceedings of the Eighth Annual ACM Symposium on Computational Geometry*, 1992, 202-211.

"Detecting the Intersection of Convex Objects in the Plane," with D. P. Dobkin. *Computer Aided Geometric Design* 8, 1991, 181-199.

"Illuminating Squares on a Transversal," with H. Everett, K. Lyons, and B. Reed. *Proceedings of the Third Canadian Conference on Computational Geometry*, Simon Fraser University, August, 1991, 118-121.

"The Aquarium Keeper's Problem," with J. Czyzowicz, P. Egyed, H. Everett, D. Rappaport, T. Shermer, G. Toussaint, and J. Urrutia. *Proceedings of the ACM/SIAM Symposium on Discrete Algorithms*, January, 1991.

"Separating Bi-Chromatic Points by Parallel Lines," with T. Asano, J. Hershberger, J. Pach, E. Sontag, and S. Suri. *Proceedings of the Second Canadian Conference on Computational Geometry*, University of Ottawa, 1990, 46-49.

"Computing Median-of-Squares Regression Lines and Guided Topological Sweep," with H. Edelsbrunner. *Journal of the American Statistical Association*, 85, 1990, 115-119.

"Computational geometry in a curved world," with D. P. Dobkin. *Algorithmica* 5, 3, 1990, 421-457.

"How Hard Can It Be to Draw a Pie Chart?" with C. J. Van Wyk. *Mathematics Magazine*, 63, 1990, 165-172.

"Shortest Paths, Visibility, and Optimization Problems in Planar Curvilinear Objects," with E. A. Melissaratos. *Proceedings of Second Canadian Conference on Computational Geometry*, University of Ottawa, 1990, 337-342.

"On Solving Geometric Optimization Problems Using Shortest Paths," with E. A. Melissaratos. *Proceedings of the Sixth Annual ACM Symposium on Computational Geometry*, 1990, 350-359.

"Decomposition and Intersection of Simple Splinegons," with D. P. Dobkin and C. J. Van Wyk. *Algorithmica* 3, 4, 1988, 473-486.

"Efficient time and space algorithms for least median of squares regression," with J. M. Steele. *Journal of the American Statistical Association* 82, 1987, 794-801

"Computational Geometry – A User's Guide," with D. P. Dobkin. *Chapter 2* of *Advances in Robotics 1: Algorithmic and Geometric Aspects of Robotics*, J. T. Schwartz and C. K. Yap, eds., Lawrence Erlbaum Associates, 1987, 43-93.

**Invited Talks at Research Workshops and Meetings**

CSE Distinguished Speaker Series, University at Buffalo. Colloquium, April 11, 2024.

Invited Speaker: "Reconfiguration Algorithms". Canadian Conference on Computational Geometry (CCCG), Montreal, August 3, 2023.

Annual Research Symposium, Dakota State University, Keynote Address, March 28, 2019.

The Research Council—COACh Partnership Workshops on Successful Publishing & Proposal Writing, Muscat, Nizwa, Sohar and Salalah, Oman, October 2015.

Eminent Women in Science Series, Rutgers University, "Exploring Geometric Reconfigurations," March 1, 2012.

Special Session on Graph Theory and Combinatorics with Emphasis on Geometric and Topological Aspects, Eighth Joint International Meeting of the American Mathematical Society (AMS) and the Sociedad Matemática Mexicana (SMM), Berkeley, CA: "Geometric Connectivity Augmentation," June 3, 2010.

Scientific Session on Geometric and Combinatorial Aspects of Convex Optimization, 2010 Canadian Mathematics Society Summer Meeting, University of New Brunswick: "Computational Geometry and Statistical Depth Functions," June 5, 2010.

18*th* Fall Workshop on Computational Geometry, RPI: "Points, Obstacles, Spanning-Trees, and Matchings," November 1, 2008.

Discrete Mathematics Days in the Northeast Conference Series: Discrete Mathematics Day at Smith College: "Points, Obstacles, Spanning-Trees, and Matchings," April 5, 2008.

Discrete Mathematics Days in the Northeast Conference Series: Discrete Mathematics and Computer Science Day at Albany, University of Albany: "Computational Geometry and Depth-Based Statistics," March 18, 2006.

International Conference on Robust Statistics (ICORS 2003), University of Antwerp, Antwerp, Belgium: "Computational Geometry and Statistical Depth Measures," July 13-18, 2003.

7*th* Annual Carleton Algorithmic Theory Symposium: "Connecting Points Across Obstacles Cheaply," September, 1999.

Minisymposium on Combinatorial and Computational Geometry, SIAM Conference on Discrete Mathematics: "Computing Offset Curves and Tool Paths in Linear Time," June, 1996.

*Samedi de Recherche on Computational Geometry,* University of Ottawa: "Constructing Isomorphic Triangulations of Polygons and Point Sets," October, 1994.

American Mathematics Society Regional Meeting, Brooklyn, NY: "Constructing Piecewise Linear Homeomorphisms," April 7-8, 1994.

Army Research Office and MSI Stonybrook Workshop on Computational Geometry, Raleigh, NC: "Floodlight Problems," October 1993.

National Science Foundation Regional Geometry Institute, Northampton, MA: "Guarding a Polygon with Holes," July, 1993.

NJ Chapter of SIAM Spring Meeting: "Finding Maximum Inscribed Triangles and Shortest Aquarium Keeper Tours Using Shortest Paths," April, 1992.

DIMACS Workshop on Practical Issues in Geometry: "The Contour Problem for Restricted-Orientation Polygons," April, 1990.

American Association for the Advancement of Science, 2020 Annual Meeting, Seattle, Washington: "Beyond Complacency: Renewing America's Endless Frontier."  February 15, 2020.

The National Academies Committee on Safeguarding the Bioeconomy, Meeting #1, Washington, DC: "Science and Technology Indicators: Metrics, Scope, and Parameters." January 28, 2019.

 The National Academies Committee on Science, Engineering, Medicine, and Public Policy, Fall Meeting, Washington, DC: "National Science Board 2018 Science & Engineering Indicators." November 8, 2018.

Association of Public and Land-Grant Universities,  CoR & CIMA Joint Summer Meeting, Bozeman, MT: "National Science Board 2018 Science & Engineering Indicators."  July 30, 2018.

Council of Science Society Presidents (CSSP), Spring Leadership Workshop, Washington DC: "The State of Science Research in the U.S."  May 5, 2018.

Council on Governmental Relations (COGR), Winter Meeting, Washington DC: "National Science Board Briefing on the State of U.S. Science."  February 23, 2018.

Thinking about Thinking Lecture Series, Luys Foundation and American University of Armenia, Yerevan, Armenia: "The Importance of Science in our Everyday Life: A Woman Scientist's Perspective." Keynote Speaker. May 22, 2012.

NSF REESE PI Meeting: "STEM EDUCATION: Integrating Policy, Research, and Practice." Keynote Speaker, October 21, 2011.

NSF/BU Artemis Project (a five-week summer program for rising 9th grade girls directed by undergraduate women at Boston University): "A Computational Geometer's Journey." Guest Speaker. July 14, 2011.

New England Undergraduate Computing Symposium: "A Computational Geometer's Journey." Keynote Speaker, April 9, 2011.

CRA Snowbird Conference, Workshop for New Department Chairs: Panelist, June 2008. MIT Career Planning Workshop: "FORWARD to Professorship." Panelist, October 1, 2005.

Virginia Tech ADVANCE Panel: "Women Leaders in Academe: Personal Perspectives and Future Directions." September 30, 2005.

Fulcrum Institute for Leadership in Science Education <http://fulcrum.tufts.edu/>, Invited Speaker, July 14, 2005.

Annual Boston College/Rutgers University Discrete Mathematics Conference for K-12 Teachers, "Searching, Sorting, and Computing". Invited speaker. March 2004.

Tufts/MBHE High School Teachers Workshop on Problem Solving and Critical Thinking with Discrete Mathematics.  "Problems in Computational Geometry." Lead presenter for followup sessions in October and December 2004.

Princeton University School of Engineering Workshop, "The Next Generation: Redefining Excellence in Graduate Education." Keynote speaker, October 2003.

Wentworth Institute of Technology, All-Faculty Initiative:  "Women in Science," December 2001.

Eleventh Annual NJ Conference on Good Ideas in Teaching Precalculus, and Algebra, Calculus, Probability/Statistics, and Discrete Mathematics, with Technology: Plenary lecture entitled "A Problem in Proximity," March 1999.

The Charter School of Wilmington (Delaware) Math/Computer Science Day: "Graphics, Animation, Cartography, and Art Galleries All Need Geometry," February 1998.

DIMACS Research and Education Institute Teacher Followup Sessions: "Ruminations on Voronoi Diagrams I and II," September and November 1996.

Princeton University Teacher Preparation Program Senior Seminar: "Novel Problems and Approaches in Mathematics," April, 1994.

Pi Mu Epsilon Student Conference, Moravian College: "Geometry & Computation," February 1994.

National Science Foundation Regional Geometry Institute Teachers' Program, Northampton, Massachusetts: "Triangulations and Voronoi Diagrams," July 1993.

DIMACS Young Scholars Program: "Voronoi Diagrams," July 1992.

DIMACS Algorithms and Networks Institute, "Convex Hulls," July 1989.

Workshop on Girls and Mathematics, Massachusetts Council of Teachers of Mathematics, March, 1983: Panelist.


Invited Participation in Research Workshops

Bellairs Research Institute Winter Workshops on Computational Geometry:

"Geometry and Graphs," March, 2018, 2016, 2014.
"Self-Assembly," February, 2012.
"Discrete and Computational Geometry," February, 2011.
"Discrete and Computational Geometry," February, 2010.
"Computational Geometry for Music Information Retrieval II," January, 2006.
"Computational Geometry for Music Information Retrieval," January, 2005.
"The Geometry of Modelling Proteins," January, 2004.
"Rigidity and Scene Analysis." January, 2002.
"Computational Geometry and Statistics," February, 1999.
"Immobilizing Geometric Objects," February 1997.
"Geometric & Computational Aspects of Manufacturing Processes," February 1994.
"Computational Geometry and Injection Molding," February 1993.
"Computational Geometry and Graph Theory," February 1992.
"Parallel Algorithms and Computational Geometry," February 1991.
"Workshop on Arrangements," February 1991.
"Illumination of Planar Sets," February 1990.

Greek Workshop on Computational Geometry: "Geometric Graphs," Firá, Santorini, August, 2012.

International Mid-Winter Workshop on Computational Geometry: "Geometric (Hyper)Graphs & Combinatorics of Points and Lines," Fortaleza, Brazil, January, 2011.

AMS-IMS-SIAM Joint Summer Research Conference in the Mathematical Sciences: Discrete and Computational Geometry–Twenty Years Later, Snowbird, June 2006.

National Science Foundation Workshop on Manufacturing and Computational Geometry, Courant Institute, NYU, April 1994.

National Science Foundation Regional Geometry Institute, Smith College, July 1993.

Geometric Probing in Computer Vision Workshops, University of Maryland, College Park: January 1993; August 1992; June 1992; December 1991. Sponsor: Center for Night Vision and Electro-Optics.

AMS-IMS-SIAM Joint Summer Research Conference in the Mathematical Sciences: Discrete and Computational Geometry, Santa Cruz, July 1986.