

Erik D. Demaine

Academic Curriculum Vitæ

MIT Computer Science and Artificial Intelligence Lab
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USA

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URL: <http://erikdemaine.org/>

Canadian and U.S. Citizen

EDUCATIONAL BACKGROUND

Ph.D. University of Waterloo, 1996–2001. Advisors: Anna Lubiw and J. Ian Munro
M.Math. University of Waterloo, 1995–1996. Advisor: David Taylor
B.Sc. Dalhousie University, 1993–1995. Advisor: Sampalli Srinivas

POSITIONS HELD

July 2011–present Professor, Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology
July 2007–June 2011 Associate Professor with tenure, Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology
July 2005–June 2007 Associate Professor, Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology
July 2005–June 2008 Esther and Harold E. Edgerton Professor, Massachusetts Institute of Technology
Sept. 2001–June 2005 Assistant Professor, Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology
Sept. 2001–present Member, Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology

TEACHING

Fall 2014 MIT 6.890, Algorithmic Lower Bounds: Fun with Hardness Proofs. 37 MIT students.
Spring 2014 MIT 6.851, Advanced Data Structures. 60 MIT students. Rated 6.5/7.0.
Nov. 2013 The University of the Arts, Philadelphia, Computer-Aided Design of Glass Cane, with Martin Demaine.
Fall 2013 MIT 6.006, (New) Introduction to Algorithms. 221 MIT students. Rated 6.5/7.0.
July 2013 Haystack Mountain School of Crafts, Deer Isle, Maine, Computer-Aided Design of Glass Cane, with Martin Demaine and Peter Houk.
Spring 2013 MIT 6.046, Design and Analysis of Algorithms. 158 MIT students. Rated 6.3/7.0.
Spring 2013 MIT 6.S080, Mechanical Invention through Computation. 27 MIT/Harvard students. Rated 5.1/7.0.
Fall 2012 MIT 6.849, Geometric Folding Algorithms: Linkages, Origami, Polyhedra. 30 MIT students. Rated 6.6/7.0.
Spring 2012 MIT 6.851, Advanced Data Structures. 69 MIT students. Rated 6.6/7.0.
Fall 2011 MIT 6.006, (New) Introduction to Algorithms. Rated 6.2/7.0.
Fall 2011 MIT 6.889, Algorithms for Planar Graphs and Beyond. 16 MIT students. Rated 7.0/7.0.
Spring 2011 MIT 6.006, (New) Introduction to Algorithms. 163 MIT students. Rated 5.7/7.0.
Fall 2010 MIT 6.849, Geometric Folding Algorithms: Linkages, Origami, Polyhedra. 39 MIT students. Rated 6.5/7.0. According to the *Underground Guide to Course 6*, “Demaine had a casual yet engaging style of presentation . . . had good blackboard technique and explained the concepts of the class clearly . . . [and] was very enthusiastic and knowledgeable about the material.” One student wrote “this class was one of the reasons I came to MIT!”
Spring 2010 MIT 6.851, Advanced Data Structures. 26 MIT students. Rated 6.4/7.0.
Spring 2010 Supervisor for MIT ESG SP.268, Topics in the Mathematics of Toys and Games, by Melissa Gymrek and Jing Li. 6 MIT students.

IAP	2007	MIT A433, Cool Algorithms: Video Recording for Future Generations, with Martin Demaine and Jean-Jacques Quisquater. 21 students.
Fall	2009	MIT 6.046, Design and Analysis of Algorithms. 109 MIT students. Rated 6.3/7.0.
Aug.	2008	MADALGO Summer School on Cache-Oblivious Algorithms. MADALGO, University of Aarhus, Denmark. Several lectures on cache-oblivious data structures and geometric algorithms.
Spring	2008	MIT 6.006, (New) Introduction to Algorithms. 75 MIT students. According to the <i>Underground Guide to Course 6</i> , “Demaine ... was very enthusiastic and passionate ... [and] related well to students.” Rated 6.2/7.0.
Fall	2007	MIT 6.885, Geometric Folding Algorithms: Linkages, Origami, Polyhedra. 20 MIT students, 44 listeners. According to the <i>Underground Guide to Course 6</i> , “Demaine ... is an enthusiastic and fun lecturer. ... Several students took the class because of the professor.” Rated 6.6/7.0.
Spring	2007	MIT 6.851, Advanced Data Structures. 25 MIT students, 11 listeners. According to the <i>Underground Guide to Course 6</i> , “Some [students] took it specifically because Erik Demaine was lecturing.” Rated 6.7/7.0.
IAP	2007	MIT 6.096, Knot Language: Recreating Inca Quipu/Khipu, with Martin Demaine and Jean-Jacques Quisquater. 23 credit MIT students, 20 listeners.
Fall	2006	MIT 6.046J/18.410J, Introduction to Algorithms, with Madhu Sudan. 90 MIT students, 2 listeners. According to the <i>Underground Guide to Course 6</i> , “Demaine ... was funny and gave clear lectures ... [has] a thorough understanding of the subject and was enthusiastic ... very personable and available outside of class for help.” Rated 5.7/7.0.
Fall	2005	MIT 6.046J/18.410J/SMA5503, Introduction to Algorithms, with Charles Leiserson. 85 MIT students, 2 listeners, 6 SMA students. According to the <i>Underground Guide to Course 6</i> , “Demaine ... was praised for being clear, enthusiastic, and funny. Students thought his lectures were fun, that he had a great presentation style, and they also appreciated his nerdy humor.” Rated 6.2/7.0.
Spring	2005	MIT 6.897, Advanced Data Structures. 12 MIT students, 7 listeners. Rated 6.7/7.0.
IAP	2005	MIT IAP 6451, Junkyard Art: The Art of Recycling, with Jeff Smith, Justin Adams, and Martin Demaine.
Fall	2004	MIT 6.885, Folding and Unfolding in Computational Geometry. 12 MIT students, 7 listeners. According to the <i>Underground Guide to Course 6</i> , “Demaine ... was universally praised as an excellent, clear lecturer who made good use of the blackboard and projector. ... No CS student should leave MIT without taking an Erik Demaine class.” Rated 6.5/7.0.
Fall	2004	MIT 4.491, Form-Finding and Structural Optimization, with Barb Cutler, Martin Demaine, Simon Greenwold, Axel Kilian, and John Ochsendorf.
Spring	2004	MIT 6.046J/18.410J, Introduction to Algorithms, with Shafi Goldwasser. 103 MIT students. According to the <i>Underground Guide to Course 6</i> , “Demaine ... was widely considered to be an excellent lecturer. He was interesting and funny while giving clear explanations.” Rated 6.3/7.0.
Spring	2004	MIT 4.493, 3-D Design Tools for Equilibrium: Exploring Gaudi’s World, with Barb Cutler, Martin Demaine, Axel Kilian, and John Ochsendorf.
April	2004	2004 Novartis IT Excellence Program MIT, MIT Office of Professional Education Programs. Lecture on algorithms.
IAP	2004	MIT IAP 5804, Building with Books, with Martin Demaine, Chris Dewart, Stephanie Hartman, Wendy Jacob, and John Ochsendorf.
Fall	2003	MIT 6.854/18.415J, Advanced Algorithms, with David Karger. 58 MIT students. According to the <i>Underground Guide to Course 6</i> , “Demaine was lively, charismatic, knowledgable. ... His lectures were entertaining. ... insightful, interesting. ...” Rated 6.0/7.0.

Spring 2003	MIT 6.897, Advanced Data Structures. 37 MIT students, 10 listeners. According to the <i>Underground Guide to Course 6</i> , “Demaine was very knowledgeable about the material and gave very clear explanations of complicated material. Demaine created a laid back yet exciting environment to learn and was good at encouraging questions from the students.” Rated 6.2/7.0.
Fall 2002	MIT 6.046J/18.410J, Introduction to Algorithms, with Shafi Goldwasser. 112 MIT students. According to the <i>Underground Guide to Course 6</i> , “Demaine was easy to understand, knowledgeable, well prepared, and had good board technique. He was appreciated as a strong lecturer overall, with a good choice of topics presented in the class and well structured presentations.” Rated 5.7/7.0.
June 2002	EEF Summer School on Massive Data Sets. BRICS, University of Aarhus, Denmark. Several lectures on cache-oblivious algorithms and data structures.
Fall 2001	MIT 6.046J/18.410J/SMA5503, Introduction to Algorithms, with Charles Leiserson. 140 MIT students, 37 SMA students. According to the <i>Underground Guide to Course 6</i> , “A substantial number of students said that [Demaine’s] lectures in this course were among the best at MIT.” Rated 5.7/7.0.
Spring 1999	University of Waterloo CS 360, Introduction to the Theory of Computing. 80 students. Ranked by student evaluations as #2 teacher among 40 course offerings in computer science.

POSTDOCTORAL RESEARCHERS

1. Christian Sommer (2011–2012)
2. Siamak Tazari (2011)
3. André Schulz (2009–2010)
4. MohammadTaghi Hajiaghayi (joint with CMU, 2005–2007)

CURRENT STUDENTS

Ph.D. candidates:

1. Zachary Abel (Math) — computational geometry
2. Hugo Akitaya (Tufts) — computational geometry
3. Sarah Eisenstat (EECS) — geometric folding
4. Jason Ku (MechE, cosupervised with George Barbastathis) — computational origami
5. Jayson Lynch (EECS) — energy-efficient algorithms
6. Ali Vakilian (combinatorial optimization)

M.Eng. candidates:

7. Quanquan Liu — data structures

Undergraduate researchers:

7. Eli Davis — computational origami
8. Jenny Ramseyer — computational origami
9. Mikhail Rudoy — hardness
10. Kai Xiao — games

I also serve as academic advisor to 21 MIT undergraduates (Sept. 2002–present).

GRADUATED STUDENTS

Ph.D. Theses:

1. Duks Koschitz (Architecture), “Computational Design with Curved Creases: David Huffman’s Approach to Paperfolding”, completed Aug. 2014.

2. Andrew Winslow (Tufts, cosupervised with Diane Souvaine), “Staged Self-Assembly and Polyomino Context-Free Grammars”, completed Feb. 2014.
3. Morteza Zadimoghaddam (EECS), “Online Allocation Algorithms with Applications in Computational Advertising”, completed Jan. 2014.
4. Jelani Nelson (EECS, cosupervised with Piotr Indyk): “Sketching and Streaming High-Dimensional Vectors”, completed Aug. 2011.
5. Nadia Benbernou (Math): “Geometric Algorithms for Reconfigurable Structures”, completed Aug. 2011.
6. Oren Weimann (EECS): “Accelerating Dynamic Programming”, completed Mar. 2009.
7. Mihai Pătraşcu (EECS): “Lower Bound Techniques for Data Structures”, completed Sept. 2008.
8. Dion Harmon (Math): “New Bounds on Optimal Binary Search Trees”, completed May 2006.
9. Robert Hearn (EECS, cosupervised with Gerald Sussman): “Games, Puzzles, and Computation”, completed May 2006.
10. MohammadTaghi Hajiaghayi (Math): “The Bidimensionality Theory and Its Algorithmic Applications”, completed May 2005.
11. Nicole Immorlica (EECS, cosupervised with David Karger): “Computing with Strategic Agents”, completed May 2005.
12. David Liben-Nowell (EECS): “An Algorithmic Approach to Social Networks”, completed May 2005.

M.Eng. Theses:

13. Kimberly Baldauf (EECS): “A User Interface for Customizing Cane Layouts in Virtual Glass”, completed Sept. 2012.
14. Tom Morgan (EECS): “Map Folding”, completed June 2012.
15. Aviv Ovadya (EECS): “Origami Transformers: Folding Orthogonal Structures from Universal Hinge Patterns”, completed Aug. 2010.
16. Katherine Lai (EECS): “Complexity of Union-Split-Find Problems”, completed May 2008.
17. Ilya Baran: “Adaptive Algorithms for Problems Involving Black-Box Lipschitz Functions”, completed May 2004.

GRANTS

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|----------------------|---|
| Apr. 2013–Mar. 2015 | MIT Energy Initiative Seed Fund, “Energy-Efficient Algorithms for Big Data” (PI) with Martin Demaine (coPI) |
| Sept. 2012–Aug. 2016 | NSF CCF-1161626, “AF: Medium: Collaborative Research: General Frameworks for Approximation and Fixed-Parameter Algorithms” (PI), with MohammadTaghi Hajiaghayi (coPI) |
| Aug. 2012–Jan. 2014 | DARPA/AFOSR FA9550-12-1-0423, “Efficient Algorithmic Frameworks via Structural Graph Theory” (PI) with MohammadTaghi Hajiaghayi (PI) |
| Aug. 2012–July 2016 | NSF ODISSEI EFRI-1240383, “Programmable Origami for Integration of Self-assembling Systems in Engineered Structures” (coPI), with Daniela Rus (PI), Robert Wood (coPI), Sang Bae Kim (coPI) |
| Jan. 2011–Dec. 2011 | DARPA/AFOSR FA8650-11-1-7162, “Frameworks for Efficient Algorithms in Planar Networks and Beyond” (PI) with MohammadTaghi Hajiaghayi (PI) |
| May 2010–May 2012 | MIT Energy Initiative Seed Fund, “Energy-Efficient Algorithms” (PI) with Martin Demaine (coPI) |
| Mar. 2010 | Google AndroidEDU program, “Interactive Fiction” (PI) |
| Jan. 2010–Dec. 2012 | NSF CDI CBET-0941312, “CDI-Type I: Geometric Algorithms for Staged Nanomanufacturing” (PI) with Martin Demaine (coPI), Diane Souvaine (PI), Hyunmin Yi (PI) |
| May 2008–April 2010 | DARPA, “Milli-Biology: Programmed Assembly of Engineered Materials” (coPI) with Neil Gershenfeld (PI), George Church |
| May 2008–April 2010 | DARPA, “Programmable Matter: Creating Systems that Can Think, Talk, and Morph Autonomously” (coPI) with Daniela Rus (PI), Robert Wood (PI) |
| Jan. 2008–Dec. 2010 | DARPA, “Chemical Robots” (coPI) with iRobot, Daniela Rus (PI), Robert Wood (PI) |

- Oct. 2007–Sept. 2008 Google Research Award, “Data Structures” (PI)
 July 2007–June 2008 DARPA/AFOSR FA9550-07-1-0538, “Geometric Folding Algorithms: Bridging Theory to Practice” (PI)
 Nov. 2004–Mar. 2005 NSF NSG CCF-0456026, “Workshop on Computational Geometry with a Focus on Open Problems” (PI) with Joseph Mitchell (coPI)
 Oct. 2004–Sept. 2007 NSF INT OISE-0334653, “US-Belgium Cooperative Research: Retroactive Data Structures” (coPI) with John Iacono (PI)
 Sept. 2004–Aug. 2007 DOE Early Career Principal Investigator Program DE-FG02-04ER25647, “Geometric Folding Algorithms” (PI)
 Aug. 2004–July 2007 NSF Theory CCF-0430849, “Understanding Binary Search Trees” (coPI) with John Iacono (PI)
 June 2004–May 2009 NSF CAREER CCF-0347776, “Fundamental Research in Geometric Folding” (PI)
 Sept. 2002–Aug. 2007 NSF ITR ANI-0205445, “Scalable Location-Aware Monitoring (SLAM) Systems” (coPI) with Hari Balakrishnan (PI), Michael Stonebraker (coPI), and Seth Teller (coPI)
 Aug. 2002 Intel Equipment Grant: “Algorithmic Research Problems on the Internet” (PI)
 Sept. 2001–Aug. 2004 NSF ITR EIA-0112849: “Cache-Oblivious Data Structures” with Lars Arge (PI) and Michael Bender
 July 2001–June 2003 NTT/MIT Research Collaboration MIT2001-09, “Monitoring Network Routing Traffic with Low Space” (PI) with Hisaki Oohara (PI)
 July 2001–June 2002 MIT Project Oxygen, “Algorithmic Problems in Indoor Location Systems” (PI)

EDITORIAL WORK

1. Editorial board, *Journal of Mathematics and the Arts*, 2014–2016.
2. Editorial board, *Journal of Computational Geometry*, 2009–2012.
3. Editorial board, *Discrete & Computational Geometry*, 2006–present.
4. Guest co-editor, Special Issue of Selected Papers from ALENEX 2003, *ACM Journal of Experimental Algorithmics*, volume 8, 2003.
5. Co-editor, *The Open Problems Project* (an up-to-date compilation of important open problems in computational geometry), with Joseph Mitchell and Joseph O’Rourke, 2001–present.

CONFERENCE AND WORKSHOP COMMITTEES

1. Program committee cochair, 7th International Conference on Fun with Algorithms, 2016.
2. Program committee, 16th Encuentros de Geometría Computacional, Barcelona, Spain, July 2015.
3. Program committee, 31st European Workshop on Computational Geometry, Ljubljana, Slovenia, March 2015.
4. Co-organizer, 30th Bellairs Winter Workshop on Computational Geometry, Holetown, Barbados, Mar. 2015.
5. Co-organizer, ICERM Research Cluster: Towards Efficient Algorithms Exploiting Graph Structure, Providence, Rhode Island, Apr.–May 2014.
6. Co-organizer, 29th Bellairs Winter Workshop on Computational Geometry, Holetown, Barbados, Mar. 2014.
7. Co-organizer, FOCS 2013 Tutorial on Bidimensional Structures: Algorithms and Combinatorics, Oct. 2013.
8. Co-organizer, Dagstuhl Seminar 13121 on Bidimensional Structures: Algorithms, Combinatorics and Logic, Wadern, Germany, Mar. 2013.
9. Co-organizer, 28th Bellairs Winter Workshop on Computational Geometry, Holetown, Barbados, Mar. 2013.
10. Program committee, 18th International Conference on DNA Computing and Molecular Programming, Aarhus, Denmark, August 2012.
11. Program committee, 5th International Conference on Fun with Algorithms, Venice, Italy, June 2012.
12. Co-organizer, 27th Bellairs Winter Workshop on Computational Geometry, Holetown, Barbados, Feb. 2012.
13. Program committee, 3rd Workshop on Massive Data Algorithmics, Paris, France, June 2011.
14. Program committee, 23rd Canadian Conference on Computational Geometry, Charlottetown, Canada, Aug. 2011.
15. Co-organizer, 26th Bellairs Winter Workshop on Computational Geometry, Holetown, Barbados, Feb. 2011.
16. Program committee, 2nd Symposium on Innovations in Computer Science, Beijing, China, Jan. 2011.
17. Program committee, 2nd Workshop on Massive Data Algorithmics, Snowbird, Utah, June 2010.

18. Program committee, 5th International Conference on Fun with Algorithms, Ischia, Italy, June 2010.
19. Co-organizer, Seminar on Data Structures, Schloss Dagstuhl, Germany, Feb. 2010.
20. Co-organizer, 25th Bellairs Winter Workshop on Computational Geometry, Holetown, Barbados, Feb. 2010.
21. Co-organizer, Seminar on Parameterized Complexity and Approximation Algorithms, Schloss Dagstuhl, Germany, Dec. 2009.
22. Program committee, Workshop on Massive Data Algorithmics, Aarhus, Denmark, June 2009.
23. Co-organizer, Workshop on Deciphering Inka Khipus and Other Lost Languages, Louvain-la-Neuve, Belgium, Apr. 2009.
24. Co-organizer, Workshop on Algorithmic Folding, Origami and Linkages, Brussels, Belgium, Mar. 2009.
25. Program committee, 25th European Workshop on Computational Geometry, Brussels, Belgium, Mar. 2009.
26. Co-organizer, 24th Bellairs Winter Workshop on Computational Geometry, Holetown, Barbados, Feb. 2009.
27. Program committee, 18th Annual Fall Workshop on Computational Geometry, Troy, NY, Oct. 2008.
28. Program committee, 17th Annual Fall Workshop on Computational Geometry, Hawthorne, NY, Nov. 2007.
29. Program committee, 19th Canadian Conference on Computational Geometry, Ottawa, Canada, Aug. 2007.
30. Program committee, 4th Workshop on Combinatorial and Algorithmic Aspects of Networking, Halifax, Canada, Aug. 2007.
31. Co-organizer, Seminar on Structure Theory and FPT Algorithmics for Graphs, Digraphs and Hypergraphs, Schloss Dagstuhl, Germany, July 2007.
32. Program committee, 13th Symposium on String Processing and Information Retrieval, Glasgow, Scotland, Oct. 2006.
33. Program committee, 2nd International Workshop on Parameterized and Exact Computation, Zürich, Switzerland, Sept. 2006.
34. Program committee, 10th Scandinavian Workshop on Algorithm Theory, Riga, Latvia, July 2006.
35. Program committee, 2nd Workshop on Combinatorial and Algorithmic Aspects of Networking, Waterloo, Canada, August 2005.
36. Program committee chair and organizing committee chair, 14th Annual Fall Workshop on Computational Geometry, Cambridge, MA, Nov. 2004.
37. Program committee, International Workshop on Parameterized and Exact Computation, Bergen, Norway, September 2004.
38. Program committee, 1st Workshop on Combinatorial and Algorithmic Aspects of Networking, Banff, Canada, August 2004.
39. Co-organizer, Seminar on Cache-Oblivious and Cache-Aware Algorithms, Schloss Dagstuhl, Germany, July 2004.
40. Program committee, 44th Annual IEEE Symposium on Foundations of Computer Science, Cambridge, Massachusetts, November 2003.
41. Program committee, 8th Workshop on Algorithms and Data Structures, Ottawa, Canada, July 2003.
42. Program committee, 19th Annual Symposium on Computational Geometry, San Diego, California, June 2003.
43. Video committee chair, 12th Annual Video Review of Computational Geometry, 19th Annual Symposium on Computational Geometry, San Diego, California, June 2003.
44. Program committee, 5th Workshop on Algorithm Engineering and Experiments, Baltimore, Maryland, January 2003.
45. Program committee, 12th Annual Fall Workshop on Computational Geometry, Piscataway, New Jersey, November 2002.
46. Program committee, 13th Annual ACM-SIAM Symposium on Discrete Algorithms, San Francisco, California, January 2002.
47. Co-organizer, Seminar on Algorithmic Combinatorial Game Theory, Schloss Dagstuhl, Germany, February 2002.
48. Program and organizing committee, 13th Canadian Conference on Computational Geometry, Waterloo, Canada, August 2001.
49. Video committee, 9th Annual Video Review of Computational Geometry, 16th Annual ACM Symposium on Computational Geometry, Hong Kong, June 2000.

UNIVERSITY COMMITTEES

1. CSAIL Computer Science 2040 Study Group (2013)
2. CSAIL-QCRI Steering Committee (2013–present)
3. EECS Faculty Search (2012–2013)
4. CSAIL Director Search Committee (2011, 2012)
5. EECS Curriculum Committee (2011)
6. EECS Education Working Group (2011)
7. MIT CSAIL Theory Group space czar (2010–present)
8. MIT 150 Curatorial Board (2010–2011)
9. Theory of Computing Colloquium Committee (2005–present)
10. CSAIL Executive Committee (2005–2006, 2009–2011)
11. Editorial board of MIT Faculty Newsletter (2004–present)
12. Curator of CSAIL Collection (2003–present)
13. Graduate student admissions for MIT EECS, 2004.
14. Graduate student admissions for MIT EECS, 2003.
15. Graduate student admissions for MIT EECS, 2002.

BOARDS

1. Advisory board, Museum of Mathematics (2011–present)
2. Support Board, Center for Graduate Education Initiative, Japan Advanced Institute of Science and Technology (2010–present)

VISITORS HOSTED

1. Micah Adler (U. Massachusetts, Amherst): Mar. 2005
2. Nancy Amato (Texas A&M): Apr. 2007
3. Nina Amenta (U.C. Davis): Apr. 2007
4. Lars Arge (U. Aarhus): Dec. 2006
5. Esther Arkin (SUNY Stony Brook): May 2005, Mar. 2005
6. Boris Aronov (Polytechnic U.): Oct. 2006
7. Tetsuo Asano (JAIST): Jan. 2010
8. Brad Ballinger (Davis School for Independent Study): Aug. 2008
9. Alex Bateman (Wellcome Trust Sanger Institute): Oct. 2003, Oct. 2002
10. sarah-marie belcastro (Xavier U.): July 2006, May 2006, Apr. 2006, Mar. 2006, Feb. 2006, Jan. 2006, Dec. 2005
11. Michael Bender (SUNY Stony Brook): July 2007, Oct. 2002, Sept. 2001
12. Piotr Berman (Penn State U.): July 2010
13. Prosenjit Bose (Carleton U.): Apr. 2004
14. David Bremner (U. New Brunswick, Fredericton): July 2006, Dec. 2004, Mar. 2004
15. Kevin Buchin (U. Utrecht): Feb. 2010
16. Maike Buchin (U. Utrecht): Feb. 2010
17. Jason Cantarella (U. Georgia, Athens): Dec. 2002
18. Barry Cipra (Minnesota): July 2006, Apr. 2004, Jan. 2004, Aug. 2003
19. Sébastien Collete (U. Libre de Bruxelles): Jan. 2008
20. Robert Connelly (Cornell U.): Dec. 2002
21. Satyan Devadoss (Williams College): Nov. 2006
22. Vida Dujmović (Carleton U.): Oct. 2009
23. Martin Farach-Colton (Rutgers U.): Apr. 2005, Oct. 2004, May 2004, Oct. 2003, Aug. 2003, Feb. 2003
24. Sándor Fekete (Technische U. Braunschweig): May 2010, May 2005, Aug. 2002
25. Mauro Ferrari (U. Texas Houston): Dec. 2009
26. Paula Ferrari (Houston): Dec. 2009
27. Jo Fleischhauer (Houston): Jan. 2010, Oct. 2009
28. Saul Griffith (SQUID Labs): Mar. 2006
29. George Hart (SUNY Stony Brook): June 2008, Nov. 2004, Feb. 2004, Oct.–Nov. 2003 (artist-in-residence)
30. Michael Hoffmann (ETH Zürich): Nov. 2006

31. Elise Huffman (Huffman Designs): Oct. 2012, July 2010
32. Thomas Hull (Merrimack College): July 2006, May 2006, Apr. 2006, Mar. 2006, Feb. 2006, Jan. 2006, Dec. 2005, Sept. 2004
33. Ferran Hurtado (U. Politècnica de Catalunya): July 2007
34. Takehiro Ito (Tohoku U.): Sept.–Oct. 2012, Mar. 2007, June–Oct. 2005
35. Jin-ichi Itoh (Kumamoto U.): Oct.–Nov. 2011
36. John Iacono (Polytechnic U.): Jan. 2006, Oct. 2005, July 2005, Mar. 2005, Nov. 2004, Sept. 2004, June 2004, Mar. 2004, July 2003, Apr. 2002
37. Allan Jørgensen (U. Aarhus): Feb.–June 2008
38. Ken-ichi Kawarabayashi (Tohoku U.): May 2005
39. Robert Lang (Origami Art & Engineering): Apr.–May 2010, Apr. 2008, Aug. 2004, July 2002
40. Stefan Langerman (U. Libre de Bruxelles): Jan. 2008, Jan. 2007, Feb. 2005, Jan. 2004, Apr. 2002
41. Alejandro López-Ortiz (U. Waterloo): Sept. 2008, July 2006, May 2006, Oct. 2002, Jan. 2002
42. Tyler Lu (U. Waterloo): June 2005
43. Anna Lubiw (U. Waterloo): Nov. 2011, Dec. 2010, Sept. 2009–May. 2010
44. Joseph Mitchell (SUNY Stony Brook): May 2005, Mar. 2005, Feb. 2003
45. Ian Munro (U. Waterloo): Jan. 2002
46. Chie Nara (Tokai U.): Oct.–Nov. 2011
47. Joseph O’Rourke (Smith College): Jan. 2006, July 2005, Dec. 2004, Oct. 2004, Sept. 2004, May 2004, Aug. 2003, Feb. 2003, Jan. 2003, Dec. 2002, Nov. 2002, Aug. 2002, Apr. 2002, Dec. 2001
48. Hirotaka Ono (Kyushu U.): Sept.–Oct. 2012
49. Belén Palop (U. Valladolid): Nov. 2007
50. Matthew Patitz (U. Arkansas): July 2011
51. Jean-Jacques Quisquater (Catholic U. Louvain): Jan. 2011, Dec. 2010, June 2010, Apr. 2007, Dec. 2006, July 2006
52. Robert Schweller (U. Texas Pan American): July 2011, Aug. 2009, May 2006
53. Diane Souvaine (Tufts U.): July 2005–June 2006
54. Scott Summers (U. Wisconsin Platteville): July 2011
55. Tomohiro Tachi (U. Tokyo): Aug. 2012, Dec. 2010–Jan. 2011, July 2009, June–Aug. 2008
56. Lino Tagliapietra: Oct. 2012, Sept. 2011, Oct. 2010
57. Ennio Tasciotti (U. Texas Houston): Dec. 2009
58. Perouz Taslakian (McGill U.): Dec. 2006, Dec. 2005, Apr. 2005
59. Dimitrios Thilikos (U. Politècnica de Catalunya): Nov. 2002
60. Mikkel Thorup (AT&T Research): Sept. 2004
61. Godfried Toussaint (McGill U.): Dec. 2012, May 2012, July 2008, Apr. 2005
62. Ryuhei Uehara (JAIST): Jan. 2010, Dec. 2005–Jan. 2006
63. Yushi Uno (Osaka Prefecture U.): Dec. 2012, Jan. 2006
64. Zhong You (Oxford U.): Oct. 2005–Apr. 2006
65. Stefanie Wuhler (Carleton U.): May 2007

COLLABORATORS

I have published papers with the following 406 co-authors: Scott Aaronson (MIT), Timothy G. Abbott (MIT), Zachary Abel (MIT), Aaron B. Adcock (Stanford U.), Aviv Adler (MIT), Micah Adler (U. Massachusetts, Amherst), Hee-Kap Ahn (Pohang U. Science & Technology), Oswin Aichholzer (TU Graz), Hugo A. Akitaya (Tufts U.), Noga Alon (Tel Aviv U.), Greg Aloupis (McGill U.), Stephen Alstrup (IT U. Copenhagen), Byoung Kwon An (MIT), Lars Arge (U. Aarhus), Esther Arkin (SUNY Stony Brook), Boris Aronov (Polytechnic Inst. NYU), Will Arora (MIT), Tetsuo Asano (JAIST), Daniel M. Aukes (Harvard U.), Franz Aurenhammer (TU Graz), Jonathan Bachrach (U. California, Berkeley), Mihai Bădoiu (Google), Sang Won Bae (Pohang U. Science & Technology), Hari Balakrishnan (MIT), Devin Balkcom (Dartmouth), Brad Ballinger (U. California, Davis), Ziv Bar-Joseph (Carnegie Mellon U.), Ilya Baran (MIT), George Barbastathis (MIT), Gill Barequet (Technion), MohammadHossein Bateni (Sharif U. Technology), Aaron Becker (U. Houston), Nadia M. Benbernou (MIT), Carl Bender (Washington U.), Michael Bender (SUNY Stony Brook), David Benoit (InfoInteractive Inc.), Piotr Berman (Penn State U.), Marshall Bern (PARC), Therese Biedl (U. Waterloo), Michael Biro (Swarthmore College), Glencora Borradaile

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316. “Zipper Unfolding of Domes and Prismoids” (joint work with Martin L. Demaine and Ryuhei Uehara), in *Proceedings of the 25th Canadian Conference on Computational Geometry*, to appear, Waterloo, Canada, Aug. 2013.
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319. “Convexifying Polygons Without Losing Visibilities” (joint work with Oswin Aichholzer, Greg Aloupis, Martin L. Demaine, Vida Dujmović, Ferran Hurtado, Anna Lubiw, Günter Rote, André Schulz, Diane L. Souvaine, and Andrew Winslow), in *Proceedings of the 23rd Canadian Conference on Computational Geometry*, to appear, Toronto, Canada, Aug. 2011.

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321. “Edge-Unfolding Orthogonal Polyhedra is Strongly NP-Complete” (joint work with Zachary Abel), in *Proceedings of the 23rd Canadian Conference on Computational Geometry*, to appear, Toronto, Canada, Aug. 2011.
322. “A Topologically Convex Vertex-Ununfoldable Polyhedron” (joint work with Zachary Abel and Martin L. Demaine), in *Proceedings of the 23rd Canadian Conference on Computational Geometry*, to appear, Toronto, Canada, Aug. 2011.
323. “Open Problems from CCCG 2010” (joint work with Joseph O’Rourke), in *Proceedings of the 23rd Canadian Conference on Computational Geometry*, to appear, Toronto, Canada, Aug. 2011.
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328. “Conveyer Belt Puzzle Font” (joint work with Martin L. Demaine and Belén Palop), in *Exchange Book of the 9th Gathering for Gardner*, to appear, Atlanta, GA, Mar. 2010.
329. “Origami Maze Puzzle Font” (joint work with Martin L. Demaine and Jason Ku), in *Exchange Book of the 9th Gathering for Gardner*, to appear, Atlanta, GA, Mar. 2010.
330. “Reconfigurable Asynchronous Logic Automata” (joint work with Neil Gershenfeld, David Dalrymple, Kailiang Chen, Ara Knaian, Forrest Green, Scott Greenwald, and Peter Schmidt-Nielsen), in *Proceedings of the 37th ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages*, pages 1–6, Madrid, Spain, Jan. 2010.
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336. “Curved Crease Origami” (joint work with Duks Koschitz and Martin L. Demaine), in *Abstracts from Advances in Architectural Geometry*, pages 29–32, Vienna, Austria, Sept. 2008.
337. “Computational Balloon Twisting: The Theory of Balloon Polyhedra” (joint work with Martin L. Demaine and Vi Hart), in *Proceedings of the 20th Canadian Conference on Computational Geometry*, Montréal, Canada, Aug. 2008. Invited to special issue of *Computational Geometry: Theory and Applications*.
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346. “Origami, Linkages, and Polyhedra: Folding with Algorithms”, in *Proceedings of the 14th Annual European Symposium on Algorithms*, pages 1, Zürich, Switzerland, Sept. 2006.
347. “Curves in the Sand: Algorithmic Drawing” (joint work with Mirela Damian, Martin L. Demaine, Vida Dujmović, Dania El-Khechen, Robin Flatland, John Iacono, Stefan Langerman, Henk Meijer, Suneeta Ramaswami, Diane L. Souvaine, Perouz Taslakian, and Godfried T. Toussaint), in *Proceedings of the 18th Canadian Conference on Computational Geometry*, pages 11–14, Aug. 2006.
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357. “Refolding Planar Polygons” (joint work with Hayley N. Iben and James F. O’Brien), in *Technical Sketches of the 31st International Conference on Computer Graphics and Interactive Techniques*, Los Angeles, CA, Aug. 2004.
358. “Optimizing a 2D Function Satisfying Unimodality Properties” (joint work with Stefan Langerman), in *Abstracts from the 20th European Workshop on Computational Geometry*, pages 107–110, Seville, Spain, Mar. 2004.
359. “Open Problems at the 2002 Dagstuhl Seminar on Algorithmic Combinatorial Game Theory” (joint work with Rudolf Fleischer, Aviezri S. Fraenkel, and Richard J. Nowakowski), *Theoretical Computer*

- Science*, volume 313, number 3, pages 539–543, Feb. 2004. Special issue on algorithmic combinatorial game theory.
360. “Hinged Dissection of Polygons is Hard” (joint work with Robert A. Hearn and Greg N. Frederickson), in *Proceedings of the 15th Canadian Conference on Computational Geometry*, pages 98–102, Halifax, Canada, Aug. 2003.
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 362. “Open Problems from CCCG 2002” (joint work with Joseph O’Rourke), in *Proceedings of the 15th Canadian Conference on Computational Geometry*, pages 178–181, Halifax, Canada, Aug. 2003.
 363. “Quartering a Square Optimally” (joint work with Prosenjit Bose, John Iacono, and Stefan Langerman), in *Abstracts from the Japan Conference on Discrete and Computational Geometry*, pages 5–6, Tokyo, Japan, Dec. 2002.
 364. “Open Problems from CCCG 2001” (joint work with Joseph O’Rourke), in *Proceedings of the 14th Canadian Conference on Computational Geometry*, Lethbridge, Canada, Aug. 2002.
 365. “Tighter Bounds on the Genus of Nonorthogonal Polyhedra Built from Rectangles” (joint work with Therese Biedl, Timothy M. Chan, Martin L. Demaine, Paul Nijjar, Ryuhei Uehara, and Ming-wei Wang), in *Proceedings of the 14th Canadian Conference on Computational Geometry*, pages 105–108, Lethbridge, Canada, Aug. 2002.
 366. “Push-2-F is PSPACE-Complete” (joint work with Robert A. Hearn and Michael Hoffmann), in *Proceedings of the 14th Canadian Conference on Computational Geometry*, pages 31–35, Lethbridge, Canada, Aug. 2002.
 367. “Flat-State Connectivity of Chains with Fixed Acute Angles” (joint work with Greg Aloupis, Henk Meijer, Joseph O’Rourke, Ileana Streinu, and Godfried Toussaint), in *Proceedings of the 14th Canadian Conference on Computational Geometry*, pages 27–30, Lethbridge, Canada, Aug. 2002.
 368. “Open Problems from CCCG 2000” (joint work with Joseph O’Rourke), in *Proceedings of the 13th Canadian Conference on Computational Geometry*, pages 185–187, Waterloo, Canada, Aug. 2001.
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 370. “The CCCG 2001 Logo” (joint work with Martin L. Demaine and Anna Lubiw), in *Proceedings of the 13th Canadian Conference on Computational Geometry*, pages iv–v, Waterloo, Canada, Aug. 2001.
 371. “PushPush and Push-1 are NP-hard in 2D” (joint work with Martin L. Demaine and Joseph O’Rourke), in *Proceedings of the 12th Annual Canadian Conference on Computational Geometry*, pages 211–219, Fredericton, Canada, Aug. 2000.
 372. “Computational Geometry Column 37” (joint work with Joseph O’Rourke), *International Journal of Computational Geometry and Applications*, volume 10, number 1, pages 103–107, Feb. 2000. Also appears in SIGACT News, volume 30, number 3, issue #112, September 1999, pages 39–42.
 373. “Open Problems from CCCG’99” (joint work with Joseph O’Rourke), in *Proceedings of the 11th Canadian Conference on Computational Geometry*, Vancouver, Canada, Aug. 1999.
 374. “Metamorphosis of the Cube” (joint work with Martin Demaine, Anna Lubiw, Joseph O’Rourke, and Irena Pashchenko), in *8th Annual Video Review of Computational Geometry, Proceedings of the 15th Annual ACM Symposium on Computational Geometry*, pages 409–410, Miami Beach, FL, June 1999.
 375. “Hiding Disks in Folded Polygons” (joint work with Therese C. Biedl, Martin L. Demaine, Anna Lubiw, and Godfried T. Toussaint), in *Proceedings of the 10th Canadian Conference on Computational Geometry*, Montréal, Canada, Aug. 1998.
 376. “Unfolding Some Classes of Orthogonal Polyhedra” (joint work with Therese Biedl, Martin Demaine, Anna Lubiw, Mark Overmars, Joseph O’Rourke, Steve Robbins, and Sue Whitesides), in *Proceedings of the 10th Canadian Conference on Computational Geometry*, Montréal, Canada, Aug. 1998.

PATENTS

377. “Reconfigurable Logic Automata” (joint work with David Allen Dalrymple, Neil Gershenfeld, Forrest Green, and Ara Knaian), US 8,013,629 B2, Sept. 2011.

PLENARY TALKS

- Sept. 2016 “Fun with Fonts: Algorithmic Typography”, Plenary talk, 19th Japan Conference on Discrete and Computational Geometry, Graphs, and Games, Tokyo, Japan.
- May 2016 “Geometric Puzzles: Algorithms and Complexity”, Plenary talk, Japan Advanced Institute of Science and Technology, Kanazawa, Japan.
- May 2016 “New Results in Computational Origami: Physical and Theoretical Limits”, Plenary talk, Meiji University, Tokyo, Japan.
- Mar. 2016 “Replicators, Transformers, and Robot Swarms: Science Fiction through Geometric Algorithms”, Plenary talk, Kavli Lecture, Cornell University, Ithaca, NY.
- Mar. 2016 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, Kieval Lecture, Cornell University, Ithaca, NY.
- Mar. 2016 “Fun with Fonts: Mathematical Typography”, Plenary talk, The 2016 AMS Einstein Public Lecture in Mathematics, University of Georgia, Athens, GA.
- Mar. 2016 “Mathematical Magic”, Plenary talk, Math Encounters, Museum of Mathematics, New York, NY.
- Jan. 2016 “Fun with Fonts: Mathematical Typography”, Plenary talk, Networked Life: Celebrating the life and career of Fan Chung and Ron Graham, La Jolla, CA.
- Jan.–Feb. 2016 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, 2016 Information Theory and Applications Workshop, La Jolla, CA.
- Dec. 2015 “Playing with Art and Science: Origami, Glass, and Mathematics”, Plenary talk, MoSAIC Fest: Math of Science, Art, Industry & Culture, Cambridge, MA.
- June 2015 “Fun with Fonts: Mathematical Typography”, Plenary talk, Connections in Discrete Mathematics: A celebration of the work of Ron Graham, Vancouver, Canada.
- June 2015 “Playing with Art and Science: Origami, Glass, and Mathematics” (presented with Martin L. Demaine), Plenary talk, Above the Fold: Artist Lecture, Hermitage Museum and Gardens, Norfolk, VA.
- June 2015 “Folding Paper: Visual Art Meets Mathematics” (presented with Martin L. Demaine), Plenary talk, Museum of Science and Industry, Chicago, IL.
- Apr. 2015 “Folding: Science Fiction to Science”, Plenary talk, Active Matter Summit, Cambridge, MA.
- Apr. 2015 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, Computer Science Colloquium, Tufts University, Medford, MA.
- Apr. 2015 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, 7th Annual Marvin I. Freedman Memorial Colloquium, Boston University, Boston, MA.
- Jan. 2015 “Playing with Art and Science: Origami, Glass, and Mathematics” (presented with Martin L. Demaine), Plenary talk, Detroit Institute of Arts, Detroit, MI.
- Nov. 2014 “Computational Origami: from Science to Sculpture” (presented with Martin L. Demaine and Shandra McLane), Plenary talk, Museum of Glass, Tacoma, WA.
- Oct. 2014 “Folding Paper: Visual Art Meets Mathematics” (presented with Martin L. Demaine), Plenary talk, 10th Annual Center Institute, Boston, MA.
- Aug. 2014 “Replicators, Transformers, and Robot Swarms: Science Fiction through Geometric Algorithms”, Plenary talk, ICE-TCS Theory Day 2014, Reykjavik, Iceland.
- Aug. 2014 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, Crossroads of Art and Science, Icelandic Centre of Excellence in Theoretical Computer Science, Reykjavik University, Reykjavik, Iceland.
- Aug. 2014 “Playing with Art and Science: Origami, Glass, and Mathematics”, Plenary talk, 20th Origami Tanteidan Convention, Tokyo, Japan.
- Aug. 2014 “Computational Origami: from Science to Sculpture”, Plenary talk, 38th ASME Mechanisms & Robotics Conference, Buffalo, NY.
- July 2014 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- July 2014 “Fun with Fonts: Algorithmic Typography”, Plenary talk, 7th International Conference on Fun with Algorithms, Lipari Island, Italy.
- June 2014 “Playing with Art and Science: Origami, Glass, and Mathematics”, Plenary talk, OrigamiUSA

- Annual Convention, New York, NY.
- June 2014 “Recent Results in Recreational Computer Science”, Plenary talk, Workshop on Geometric Puzzles and Games, Computational Geometry Week, Kyoto, Japan.
- June 2014 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Vienna Gödel Lecture, Vienna University of Technology, Vienna, Austria.
- Apr. 2014 “Replicators, Transformers, and Robot Swarms: Science Fiction through Geometric Algorithms”, Plenary talk, Centre College, Danville, KY.
- Apr. 2014 “Playing with Art and Science: Origami, Glass, and Mathematics” (presented with Martin L. Demaine), Plenary talk, Humana Lecture Series, Centre College, Danville, KY.
- Apr. 2014 “The Art and Mathematics of Origami” (presented with Martin L. Demaine), Plenary talk, Lunch with the Arts, Community Arts Center, Danville, KY.
- Apr. 2014 “Folding Paper: Visual Art Meets Mathematics” (presented with Martin L. Demaine), Plenary talk, Dallas Contemporary, Dallas, TX.
- Apr. 2014 “Art & Science through Craft” (presented with Martin L. Demaine), Plenary talk, Make/Speak, Boston, MA.
- Feb. 2014 “Replicators, Transformers, and Robot Swarms: Science Fiction through Geometric Algorithms”, Plenary talk, Theory Seminar Series, North Carolina State University, Raleigh, NC.
- Feb. 2014 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Triangle Computer Science Distinguished Lecturer Series, North Carolina State University.
- Jan. 2014 “MIT Glass Lab” (presented with Martin L. Demaine and Peter Houk), Plenary talk, Hot Gatherings, Cool Conversations, Museum of Fine Arts, St. Petersburg, FL.
- Nov. 2013 “Playing with Art and Science” (presented with Martin L. Demaine), Plenary talk, University of the Arts, Philadelphia, PA.
- Nov. 2013 “Replicators, Transformers, and Robot Swarms: Science Fiction through Geometric Algorithms”, Plenary talk, Simons Foundation, New York, NY.
- Oct. 2013 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, event for exhibit “Intersection”, Edwards Art Gallery, Holderness School, Plymouth, NH.
- Oct. 2013 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, Lafayette College, Easton, PA.
- Sept. 2013 “Geometric Folding Algorithms: Linkages, Origami, Polyhedra”, Plenary talk, University of Electro-Communications, Tokyo, Japan.
- Sept. 2013 “Robot Swarms, Transformers, and Algorithms”, Plenary talk, 12th Japan Conference on Discrete and Computational Geometry and Graphs, Tokyo, Japan.
- Sept. 2013 “Computational Origami: How to Fold (Almost) Anything”, Plenary talk, event for exhibit “Form of Computational Origami”, Komaba Museum, University of Tokyo, Tokyo, Japan.
- Aug. 2013 “How Hard Are Puzzles? (computationally)”, Plenary talk, Mathematics of Various Entertaining Subjects (MOVES), New York, NY.
- July 2013 “Playing with Art and Science” (presented with Martin L. Demaine), Plenary talk, Haystack 2013 Summer Conference, Haystack Mountain School of Crafts, Deer Isle, ME.
- June 2013 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- June 2013 “Folding Glass” (presented with Martin L. Demaine), Plenary talk, GlassBoston, Cambridge, MA.
- June 2013 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Canadian Mathematical Society Summer Meeting, Halifax, Canada.
- Apr. 2013 “Geometric Puzzles”, Plenary talk, Creative Intelligence Lecture Series, Transylvania University, Lexington, KY.
- Apr. 2013 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, University of Kentucky, Lexington, KY.
- Apr. 2013 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Friends of Mathematics Lecture, Kansas State University, Manhattan, KS.
- Apr. 2013 “From Transformers to Star Trek Replicators”, Plenary talk, Friends of Mathematics Lecture, Kansas State University, Manhattan, KS.
- Apr. 2013 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, AMS Arnold Ross Lecture, Museum

- of Mathematics, New York, NY.
- Jan. 2013 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, Renwick Gallery, Smithsonian American Art Museum, Washington, DC.
- Dec. 2012 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, National Tsing Hua University, Hsinchu, Taiwan.
- Dec. 2012 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Academia Sinica, Taipei, Taiwan.
- Dec. 2012 “Origami Robots and Star Trek Replicators”, Plenary talk, 23rd International Symposium on Algorithm and Computation, Taipei, Taiwan.
- Dec. 2012 “What’s the Best Way to Wrap a Krembo?”, Plenary talk, Teacher Day, Israeli Origami Center, Tel Aviv, Israel.
- Dec. 2012 “Beyond Planar Graphs: Minors, Bidimensionality, & Decomposition”, Plenary talk, Thailand-Japan Joint Conference on Computational Geometry and Graphs, Bangkok, Thailand.
- Nov. 2012 “Mathematical and Puzzle Fonts”, Plenary talk, 3rd Annual Gathering for Gardner Celebration of Mind, Boston, MA.
- Nov. 2012 “Modern Graph and Network Algorithms: Minors, Bidimensionality, & Decomposition”, Plenary talk, National Institutes of Health, Washington, DC.
- Nov. 2012 “Geometric Folding Algorithms: Linkages, Origami, Polyhedra”, Plenary talk, National Institutes of Health, Washington, DC.
- Oct. 2012 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, New York University Abu Dhabi, Abu Dhabi, United Arab Emirates.
- Oct. 2012 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, Khalifa University, Abu Dhabi, United Arab Emirates.
- Aug. 2012 “How Hard Are Puzzles? (computationally, in the limit)”, Plenary talk, International Puzzle Party 2012, Arlington, VA.
- July 2012 “Folding Paper: Visual Art Meets Mathematics” (presented with Martin L. Demaine), Plenary talk, event for exhibit “(Un)folding Patterns”, Dorsky Gallery, Long Island City, NY.
- July 2012 “Geometric Folding Algorithms: Linkages, Origami, Polyhedra”, Plenary talk, Symposium on Geometry Processing, Tallinn, Estonia.
- July 2012 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- May 2012 “Origami from Science to Sculpture”, Plenary talk, Cairo Science Festival, Cairo, Egypt.
- Apr. 2012 “Origami from Science to Sculpture”, Plenary talk, Big Ideas for Busy People, Cambridge Science Festival, Cambridge, MA.
- Mar. 2012 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Pólya Lecture, Kentucky Section Meeting of the Mathematical Association of America, Louisville, KY.
- Mar. 2012 “Geometric Puzzles: Algorithms and Complexity”, Plenary talk, William Marshall Bullitt Lecture, Department of Mathematics, University of Louisville, Louisville, KY.
- Mar. 2012 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Pólya Lecture, Southeastern Section Meeting of the Mathematical Association of America, Atlanta, GA.
- Mar. 2012 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Pólya Lecture and Anderson Distinguished Lecture, Louisiana/Mississippi Section Meeting of the Mathematical Association of America, Natchitoches, LA.
- Feb. 2012 “Folding Paper: Visual Art Meets Mathematics”, Plenary talk, opening event for exhibit “Mens et Manus: Folded Paper of MIT”, Fuller Craft Museum, Brockton, MA.
- Jan. 2012 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Carnegie Capital Science Evenings, Carnegie Institution for Science, Washington, DC.
- Jan. 2012 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Mathematics Colloquium, National Security Agency, Washington, DC.
- Jan. 2012 “Recent Results in Computational Geometry”, Plenary talk, SIAM Minisymposium on Vistas in Applied, Computational, and Discrete Mathematics, 2012 Joint Mathematics Meetings, Boston, MA.
- Jan. 2012 “Geometric Puzzles: Algorithms and Complexity”, Plenary talk, Gerald and Judith Porter Public Lecture, 2012 Joint Mathematics Meetings, Boston, MA.

- Oct. 2011 “Constructing Strings at the Nano Scale via Staged Self-Assembly”, Plenary talk, 18th Symposium on String Processing and Information Retrieval, Pisa, Italy.
- Oct. 2011 “Geometric Puzzles: Algorithms and Complexity”, Plenary talk, Distinguished Lecture Series, Fields Institute, Toronto, Canada.
- Oct. 2011 “Linkage Folding: From Erdős to Proteins”, Plenary talk, Distinguished Lecture Series, Fields Institute, Toronto, Canada.
- Oct. 2011 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Distinguished Lecture Series, Fields Institute, Toronto, Canada.
- July 2011 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- June 2011 “Geometric Puzzles: Algorithms and Complexity”, Plenary talk, 14th Spanish Meeting on Computational Geometry: In honor of Ferran Hurtado’s 60th Birthday, Alcalá de Henares, Spain.
- May 2011 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Pólya Lecture, Michigan Section Meeting of the Mathematical Association of America, Kalamazoo, MI.
- Apr. 2011 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Pólya Lecture, 79th Annual Wisconsin Section Meeting of the Mathematical Association of America, Menomonie, WI.
- Apr. 2011 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Pólya Lecture, Missouri Section Spring Meeting of the Mathematical Association of America, Columbia, MO.
- Mar. 2011 “The Geometry of Origami, from Science to Sculpture”, Plenary talk, Math Encounters, Museum of Mathematics, New York, NY.
- Feb. 2011 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Pólya Lecture, Northern California, Nevada and Hawaii Section Meeting of the Mathematical Association of America, Santa Rosa, CA.
- Jan. 2011 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, Distinguished Lecture Series, University of British Columbia, Vancouver, Canada.
- Nov. 2010 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, 55th Annual Fall Sectional Meeting, Northeastern Section, Mathematical Association of America, Providence, RI.
- Nov. 2010 “Geometric Puzzles: Algorithms and Complexity”, Plenary talk, China-Japan Joint Conference on Computational Geometry, Graphs and Applications, Dalian, China.
- Oct. 2010 “Origami Transformers and Star Trek Replicators”, Plenary talk, 20th Annual Fall Workshop on Computational Geometry, Stony Brook, NY. Also part of Distinguished Lecture Series, Stony Brook University.
- Sept. 2010 “Magic, Origami and Puzzles: The Art of Mathematics”, Plenary talk, Richard and Louise Guy Lecture, University of Calgary, Calgary, Canada.
- July 2010 “Computational Origami from Science to Sculpture”, Plenary talk, 5th International Conference on Origami in Science, Mathematics and Education, Singapore.
- July 2010 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- June 2010 “Algorithmic Graph Minors and Bidimensionality”, Plenary talk, 36th International Workshop on Graph-Theoretic Concepts in Computer Science, Crete, Greece.
- June 2010 “Staged Assembly Algorithms”, Plenary talk, 16th International Meeting on DNA Computing and Molecular Programming, Hong Kong, China.
- Apr. 2010 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, 17th Annual Hudson River Undergraduate Mathematics Conference, Keene, NH.
- Apr. 2010 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, 26th British Colloquium for Theoretical Computer Science, Edinburgh, Scotland.
- Jan. 2010 “Mathematics Is Art: Art Is Mathematics” (presented with Martin L. Demaine), Plenary talk, The Entertainment Gathering, Monterey, CA.
- Nov. 2009 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, 7th Japan Conference on Computational Geometry and Graphs, Kanazawa, Japan.
- Sept. 2009 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, 17th Annual European Symposium on Algorithms, Copenhagen, Denmark.
- Aug. 2009 “Algorithms Meet Art, Puzzles, and Magic”, Plenary talk, 11th Algorithms and Data Structures

- Symposium, Banff, Canada.
- July 2009 “Mathematics Is Art”, Plenary talk, 12th Annual Conference of BRIDGES: Mathematical Connections in Art, Music, and Science, Banff, Canada.
- July 2009 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- July 2009 “Actuator Nets: Folding, Reconfiguring, and Deploying Sensors”, Plenary talk, 5th International Workshop on Algorithmic Aspects of Wireless Sensor Networks, Rhodes, Greece.
- May 2009 “Between the Folds: The Art and Science of Origami”, Plenary talk, The Graduate Center, City University of New York, New York, NY.
- Apr. 2009 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, MIT Club of Belgium Gala Honoring Ferdinand Dierkens, Brussels, Belgium.
- Mar. 2009 “Linkage Folding: From Erdős to Proteins”, Plenary talk, International Francqui Chair Lectures, Faculté Universitaire des Sciences Agronomiques de Gembloux, Gembloux, Belgium.
- Feb. 2009 “Origami, Linkages, and Polyhedra: Geometric Folding Algorithms”, Plenary talk, International Francqui Chair Lectures, Vrije Universiteit Brussel, Brussels, Belgium.
- Dec. 2008 “(Theoretical) Computer Science is Everywhere”, Plenary talk, International Francqui Chair Lectures, Université Catholique de Louvain, Louvain, Belgium.
- Nov. 2008 “Mathematics meets Art, Puzzles, and Magic: Fun with Algorithms”, Plenary talk, International Francqui Chair Lectures, Université Libre de Bruxelles, Brussels, Belgium.
- Oct. 2008 “Folding Matter”, Plenary talk, DARPA InfoChemistry meeting, Cambridge, MA.
- Sept. 2008 “(Theoretical) Computer Science is Everywhere”, Plenary talk, Microsoft Research New England, Cambridge, MA.
- Aug. 2008 “Fun with Algorithms and Folding III: Transformers: Reconfigurable Robots and Hinged Dissections”, Plenary talk, Earle Raymond Hedrick Lecture Series, MathFest 2008, Madison, WI.
- Aug. 2008 “Fun with Algorithms and Folding II: Origami, Linkages, and Polyhedra: Geometric Folding Algorithms”, Plenary talk, Earle Raymond Hedrick Lecture Series, MathFest 2008, Madison, WI.
- July 2008 “Fun with Algorithms and Folding I: Mathematics Meets Art, Puzzles, and Magic”, Plenary talk, Earle Raymond Hedrick Lecture Series, MathFest 2008, Madison, WI.
- July 2008 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- May 2008 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Katayanagi Prize Lecture, Tokyo University of Technology, Tokyo, Japan.
- May 2008 “Algorithmic Graph Minors and Bidimensionality”, Plenary talk, 3rd International Workshop on Parameterized and Exact Computation, Victoria, Canada.
- Apr. 2008 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Katayanagi Prize Lecture, Carnegie Mellon University, Pittsburgh, PA.
- Apr. 2008 “Computational Origami”, Plenary talk, MIND’08: The Design and the Elastic Mind Symposium, New York, NY.
- Dec. 2007 “Permuting Polygons” (presented with Stefan Langerman), Plenary talk, Japan Advanced Institute of Science and Technology, Kanazawa, Japan.
- Oct. 2007 “Geometric Folding Algorithms: Linkages, Origami, Polyhedra”, Plenary talk, IDEAS Boston, Boston, MA.
- June 2007 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- Apr. 2007 “Linkage Folding: From Erdős to Proteins”, Plenary talk, Cantrell Lecture Series, University of Georgia, Athens, GA.
- Apr. 2007 “Mathematics Meets Art, Puzzles, and Magic: Fun with Algorithms”, Plenary talk, Cantrell Lecture Series, University of Georgia, Athens, GA.
- Apr. 2007 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Cantrell Lecture Series, University of Georgia, Athens, GA.
- Mar. 2007 “Computational Geometry through the Information Lens”, Plenary talk, 23rd European Workshop on Computational Geometry, Graz, Austria.

- Jan. 2007 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Anderson Science Lecture, Denison University, Granville, OH.
- Nov. 2006 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Gerhard Herzberg Lecture, Carleton University, Ottawa, Canada.
- Sept. 2006 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, 14th Annual European Symposium on Algorithms, Zürich, Switzerland.
- Sept. 2006 “The Mathemagic of Origami”, Plenary talk, 4th International Conference on Origami in Science, Mathematics, and Education, Pasadena, CA.
- Aug. 2006 “Linkage Folding: From Erdős to Proteins”, Plenary talk, Paul Erdős Memorial Lecture, 18th Canadian Conference on Computational Geometry, Kingston, Canada.
- July 2006 “Folding Puzzles: Origami, Mathematics, and Algorithms”, Plenary talk, International Puzzle Party 2006, Boston, MA.
- July 2006 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- July 2006 “Adaptive Analysis of Algorithms: Sets and Curves”, Plenary talk, Analysis of Algorithms 2006, Alden Biesen, Belgium.
- June 2006 “Linkage Folding: From Steam Engines to Proteins”, Plenary talk, AMS-IMS-SIAM Joint Summer Research Conference, Discrete and Computational Geometry—Twenty Years Later, Snowbird, UT.
- June 2005 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Women’s Technology Program, Massachusetts Institute of Technology, Cambridge, MA.
- June 2005 “Solving Puzzles with Algorithms: Coins, Telescopes, and Tetris”, Plenary talk, BIRS Combinatorial Game Theory Workshop, Banff, Canada.
- Feb. 2005 “Mathematics Meets Origami, Art, Puzzles, and Magic: Fun with Algorithms”, Plenary talk, Annual Meeting of the American Association for Advancement of Science, Washington, DC.
- Jan. 2005 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Joint Mathematics Meetings of the American Mathematical Society and Mathematical Association of America, Atlanta, GA.
- Dec. 2004 “Puzzles, Art, and Magic with Algorithms”, Plenary talk, 15th Annual International Symposium on Algorithms and Computation, Hong Kong, China.
- Oct. 2004 “Fast Algorithms for Hard Graph Problems: Bidimensionality, Minors, and Local Treewidth”, Plenary talk, 12th International Symposium on Graph Drawing, Harlem, NY.
- Oct. 2004 “Puzzles, Art, and Magic with Algorithms”, Plenary talk, Computer Science Invitational Lecture Series, University of Waterloo, Waterloo, Canada.
- July 2004 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Plenary talk, Distinguished Colloquium Speaker, Oakland University Summer Mathematics Institute, Rochester, MI.
- May 2004 “Puzzles, Art, and Magic with Algorithms”, Plenary talk, 3rd International Conference on Fun with Algorithms, Isola d’Elba, Italy.
- Apr. 2004 “Paper, Polyhedra, and Linkages: Folding with Algorithms” and “Linkages: From Steam Engines to Protein Folding”, Plenary talk, 2004 Arnold Dresden Lectures, Swarthmore College, Swarthmore, PA.
- Dec. 2003 “Folding and Unfolding in Computational Geometry”, Plenary talk, VIGRE Undergraduate Mathematics Colloquium, University of Michigan, Ann Arbor, MI.
- Aug. 2003 “Folding and Unfolding: Linkage Folding” and “Folding and Unfolding: Computational Origami”, Plenary talk, MSRI Introductory Workshop in Discrete and Computational Geometry, Berkeley, CA.
- May 2003 “Origami, linkages, and polyhedra: Folding with algorithms”, Plenary talk, National Science Bowl Science Day, Chevy Chase, MD.
- Dec. 2002 “Folding and Unfolding in Computational Geometry”, Plenary talk, IBM/NYU/Columbia Theory Day, New York, NY.
- Aug. 2002 “Infinitesimally Locked Linkages with Applications to Locked Trees”, Plenary talk, Conference on Discrete, Combinatorial and Computational Geometry, Beijing, China.
- Aug. 2001 “Playing Games with Algorithms: Algorithmic Combinatorial Game Theory”, Plenary talk,

- 26th Symposium on Mathematical Foundations in Computer Science, Mariánské Lázně, Czech Republic.
- June 2001 “Playing Games with Algorithms”, Plenary talk, University of Waterloo Faculty of Mathematics Graduate Student Conference, Waterloo, Canada.
- Nov. 2000 “Folding and Unfolding Linkages, Paper, and Polyhedra”, Plenary talk, Japan Conference on Discrete and Computational Geometry 2000, Tokyo, Japan.
- June 2000 “Research is Fun: A Brief Look at Some Work in Algorithms”, Plenary talk, University of Waterloo Faculty of Mathematics Graduate Student Conference, Waterloo, Canada.

INVITED TALKS

(excluding contributed talks for the conference papers listed above)

- Aug. 2016 “Why Mario is so Hard/Fun”, Invited talk, University of Electro-Communications, Tokyo, Japan.
- Mar.–Apr. 2016 “Secret Messages in Juggling and Card Shuffling”, Invited talk, Gathering for Gardner 12, Atlanta, GA.
- Feb.–Apr. 2013 “Efficient Algorithms from Graph Structure Theory: Minors, Bidimensionality, and Decomposition”, Invited talk, Special Session on Treewidth: Connecting Fixed-Parameter Tractability, Graphical Models, and Sparse Linear Algebra, SIAM Conference on Computational Science and Engineering, Boston, MA.
- Nov. 2012 “Algorithms Meet Art, Puzzles, and Magic”, Invited talk, Two Sigma Investments, New York, NY.
- Oct. 2012 “My Student and Friend”, Invited talk, Workshop on Data Structures (in memory of Mihai Pătraşcu), 53rd Annual IEEE Symposium on Foundations of Computer Science, New Brunswick, NJ.
- May 2012 “The History of I/O Models”, Invited talk, Tutorial on Algorithms for Memory-Sensitive Computing, 44th ACM Symposium on Theory of Computing, New York, NY.
- Mar.–Apr. 2012 “Rubik’s Cubes and Super Mario Bros.”, Invited talk, Gathering for Gardner 10, Atlanta, GA.
- Feb.–Mar. 2012 “Extreme Folding”, Invited talk, Focus Session: Extreme Mechanics - Origami, Creasing, and Folding, American Physical Society March Meeting, Boston, MA.
- Nov. 2011 “Computational Origami from Science to Sculpture”, Invited talk, OrigamiMIT Convention, Cambridge, MA.
- Nov. 2011 “Algorithms Meet Art, Puzzles, and Magic”, Invited talk, Computer Science Colloquium Series, University of Maryland, College Park, MD.
- Oct. 2011 “Algorithms for Solving Rubik’s Cube”, Invited talk, 2nd Annual Martin Gardner Celebration of Mind, Boston, MA.
- Oct. 2010 “Algorithms Meet Art, Puzzles, and Magic”, Invited talk, Renaissance colloquium, Renaissance Technologies, East Setauket, NY.
- July 2010 “On Re-writing the Order and Border of Biomedicine: The Nano-Looking Glass”, Invited talk, NanoGagliato, Gagliato, Italy.
- July 2010 “On Mathematical Nanomedicine”, Invited talk, NanoGagliato, Gagliato, Italy.
- July 2010 “Computational Origami from Science to Sculpture”, Invited talk, Huamin Primary School, Singapore.
- July 2010 “Algorithms Meet Art, Puzzles, and Magic”, Invited talk, Department of Mathematics, National University of Singapore, Singapore.
- Mar. 2010 “Puzzling Ciphers: Origami Mazes & Elastic Letters”, Invited talk, Gathering for Gardner 9, Atlanta, GA.
- Mar. 2010 “New Models of Computation”, Invited talk, Seminar on Data Structures, Schloss Dagstuhl, Wadern, Germany.
- Feb. 2010 “Bidimensionality”, Invited talk, Graph Theory Meeting, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach-Walke, Germany.
- Jan. 2010 “Folding Matter”, Invited talk, Department of Nanomedicine and Biomedical Engineering, University of Texas Health Science Center, Houston, TX.

- Jan. 2010 “Computational Origami from Science to Sculpture”, Invited talk, MAA Invited Paper Session on The Mathematics of Origami, Joint Mathematics Meetings of the American Mathematical Society and Mathematical Association of America, San Francisco, CA.
- Jan. 2010 “Mathematics Is Art”, Invited talk, MAA Session on Arts and Mathematics, I, Joint Mathematics Meetings of the American Mathematical Society and Mathematical Association of America, San Francisco, CA.
- Jan. 2010 “Algorithms Meet Art, Puzzles, and Magic”, Invited talk, Northwestern University, Chicago, IL.
- Dec. 2009 “Overview of Bidimensionality”, Invited talk, Seminar on Parameterized Complexity and Approximation Algorithms, Schloss Dagstuhl, Wadern, Germany.
- Sept. 2009 “Computational Origami from Science to Sculpture”, Invited talk, Session on “From Flapping Birds to Space Telescopes: The Modern Science of Origami”, British Science Festival, Guildford, England.
- Sept. 2009 “Computational Origami from Science to Sculpture”, Invited talk, British Origami Society Autumn Convention, Winchester, England.
- Aug. 2009 “The Theory and Practice of Origami”, Invited talk, 5th International Fab Lab Forum and Symposium on Digital Fabrication.
- Feb. 2009 “Discussant”, Invited talk, Mathematics of Origami: From the Joys of Recreation to the Frontiers of Research, Annual Meeting of the American Association for Advancement of Science, Chicago, IL.
- Mar. 2008 “Hinged Dissections and Coin-Flipping Magic”, Invited talk, Gathering for Gardner 8, Atlanta, GA.
- Dec. 2007 “Permuting Polygons” (presented with Stefan Langerman), Invited talk, Japan Advanced Institute of Science and Technology, Ishikawa, Japan.
- May 2006 “Linkage Folding: From Steam Engines to Proteins”, Invited talk, Theory Colloquium, Massachusetts Institute of Technology, Cambridge, MA.
- Apr. 2006 “Origami, Polyhedra, and Linkages: Folding with Algorithms”, Invited talk, Université Catholique de Louvain, Louvain-la-Neuve, Belgium.
- May 2005 “Algorithmic Time Travel”, Invited talk, The Time Traveler Convention, Cambridge, MA.
- May 2005 “Computational Origami”, Invited talk, MIT-CSAIL Speaker Series, Museum of Science, Boston, MA.
- Apr. 2005 “Origami as the Shape of Things to Come”, Invited talk, Defense Science Research Council Spring Review, Washington, DC.
- Mar. 2005 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Invited talk, Departmental Seminar Series, Department of Computer and Information Science, Polytechnic University, Brooklyn, NY.
- Jan. 2005 “Origami, Linkages, and Polyhedra: Folding with Algorithms”, Invited talk, Seminar der Theoretischen Informatik, ETH Zürich, Zürich, Switzerland.
- Aug. 2004 “Approximation Algorithms for Embedding with Extra Information and Ordinal Relaxation”, Invited talk, Microsoft Research, Redmond, WA.
- Apr. 2004 “Picture-Hanging and Jigsaw Puzzles”, Invited talk, Gathering for Gardner VI, Atlanta, GA.
- Apr. 2004 “How to Mow Your Lawn or Find a Bridge along a River: Algorithms for Geometric Optimization”, Invited talk, Session on New Trends/Emerging Ideas, INFORMS Conference on OR/MS Practice, Cambridge, MA.
- Mar. 2004 “Logarithmic Lower Bounds in the Cell-Probe Model”, Invited talk, Seminar on Data Structures, Schloss Dagstuhl, Wadern, Germany.
- Mar. 2004 “Paper, Polyhedra, and Linkages: Folding with Algorithms”, Invited talk, Geometry-Algebra-Singularities-Combinatorics Seminar, Northeastern University, Boston, MA.
- Jan. 2004 “Retroactive data structures”, Invited talk, Workshop on Dynamic Algorithms and Applications, New Orleans, LA.
- Nov. 2003 “Folding and Unfolding in Computational Geometry”, Invited talk, Theoretical Computer Science/Discrete Mathematics Seminar, Institute for Advanced Study, Princeton, NJ.
- Oct. 2003 “Open problems in cache-oblivious geometric data structures”, Invited talk, Eindhoven-Carleton

- Workshop on Computational Geometry, Hilversum, Netherlands.
- May 2003 “Online Searching with Turn Cost”, Invited talk, DIMACS Workshop on Geometric Optimization, Piscataway, NJ.
- Mar. 2003 “Instance-optimal algorithms for black-box curve manipulation”, Invited talk, Seminar on Computational Geometry, Schloss Dagstuhl, Wadern, Germany.
- Feb. 2003 “Frequency Estimation of Internet Packet Streams with Limited Space”, Invited talk, Computer Science Colloquium, Boston University, Boston, MA.
- Jan. 2003 “Algorithms for Estimating Trends in a Stream of Network Packets Using Little Memory”, Invited talk, Special Session on Discrete Models, Joint Mathematics Meetings of the American Mathematical Society and Mathematical Association of America, Baltimore, MD.
- Oct. 2002 “An Energy-Driven Approach to Linkage Unfolding”, Invited talk, Special Session on Optimal Geometry of Curves and Surfaces, AMS Fall Central Section Meeting, Madison, WI.
- Sept. 2002 “How Small Can You Make an Index of the Web?”, Invited talk, Dipartimento di Informatica, University of Pisa, Pisa, Italy.
- June 2002 “Competitive Facility Location: The Voronoi Game”, Invited talk, Facility Location Optimization Workshop, Vancouver, Canada.
- Apr. 2002 “Folding and Cutting Paper”, Invited talk, Gathering for Gardner V, Atlanta, GA.
- Apr. 2002 “Folding and Unfolding in Computational Geometry”, Invited talk, College of Computing, Georgia Institute of Technology, Atlanta, GA.
- Apr. 2002 “Folding and Unfolding in Computational Geometry”, Invited talk, EECS Colloquium, Tufts University, Medford, MA.
- Feb. 2002 “PushPush is PSPACE-complete”, Invited talk, Seminar on Algorithmic Combinatorial Game Theory, Schloss Dagstuhl, Wadern, Germany.
- Feb. 2002 “Cache-Oblivious Traversal of a Dynamic List”, Invited talk, Seminar on Data Structures, Schloss Dagstuhl, Wadern, Germany.
- Feb. 2002 “Recent Results in Computational Origami”, Invited talk, Mathematics and Science of Origami: Visualize the Possibilities, Annual Meeting of the American Association for Advancement of Science, Boston, MA.
- Feb. 2002 “Locked and Unlocked Polygonal Chains”, Invited talk, Symposium on Robot Arm Manipulation: Geometric Challenges, Annual Meeting of the American Association for Advancement of Science, Boston, MA.
- Dec. 2001 “History of Geometric Constructions by Paper Folding”, Invited talk, Special Session on History of Mathematics, Canadian Mathematical Society Winter Meeting, Toronto, Canada.
- Dec. 2001 “Folding and Unfolding in Computational Geometry”, Invited talk, EAS Computer Science Colloquium Series, Harvard University, Cambridge, MA.
- Dec. 2001 “Folding and Unfolding in Computational Geometry”, Invited talk, Department of Computer Science, University of Toronto, Toronto, Canada.
- Oct. 2001 “Playing Games with Algorithms: Algorithmic Combinatorial Game Theory”, Invited talk, Combinatorics Seminar, Massachusetts Institute of Technology.
- Oct. 2001 “Folding and Unfolding in Computational Geometry”, Invited talk, Applied Mathematics Colloquium, Massachusetts Institute of Technology.
- Apr. 2001 “Infinitesimally Locked Linkages with Applications to Locked Trees”, Invited talk, Special Session on Physical Knotting and Unknotting, AMS Spring Western Section Meeting, Las Vegas, NV.
- Apr. 2001 “Folding and Unfolding Linkages, Paper, and Polyhedra”, Invited talk, Michigan State University, East Lansing, MI.
- Mar. 2001 “When Can You Fold a Map?”, Invited talk, Seminar on Computational Geometry, Schloss Dagstuhl, Wadern, Germany.
- Jan. 2001 “Cache-Oblivious Search Trees”, Invited talk, Shannon Laboratory, AT&T Labs Research, Florham Park, NJ.
- Jan. 2001 “Flipping Polygons”, Invited talk, Department of Computer Science, State University of New York, Stony Brook, NY.
- Dec. 2000 “Convexifying Polygons and Straightening Polygonal Arcs”, Invited talk, Department of Infor-

- mation Science, University of Tokyo, Tokyo, Japan.
- Dec. 2000 “Straightening Polygonal Arcs and Convexifying Polygonal Cycles”, Invited talk, Department of Computer Science, Hong Kong University of Science and Technology, Hong Kong, China.
- Oct. 2000 “Folding and Unfolding Linkages, Paper, and Polyhedra”, Invited talk, Discrete Geometry and Graph Theory Seminar, Department of Mathematics, Cornell University, Ithaca, NY.
- Oct. 2000 “Cutting Polygons with a Circular Saw”, Invited talk, Department of Applied Mathematics and Statistics, State University of New York, Stony Brook, NY.
- Sept. 2000 “Experience with Adaptive Set Intersection”, Invited talk, Seminar on Experimental Algorithmics, Schloss Dagstuhl, Wadern, Germany.
- Sept. 2000 “Minimum-Turn Milling”, Invited talk, Special Session on Discrete and Applied Geometry, AMS Fall Central Section Meeting, Toronto, Canada.
- Aug. 2000 “Minimum-Turn Milling”, Invited talk, Session on Geometric Instances of Graph Optimization Problems, 17th International Symposium on Mathematical Programming, Atlanta, GA.
- June 2000 “Convexifying Polygons and Straightening Polygonal Arcs”, Invited talk, Minisymposium on Computational Geometry: Folding, 10th SIAM Conference on Discrete Mathematics, Minneapolis, MN.
- May 2000 “Folding and Unfolding Linkages, Paper, and Polyhedra”, Invited talk, Discrete Geometry Meeting, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach-Walke, Germany.
- Apr. 2000 “Convexifying Polygons and Straightening Polygonal Arcs”, Invited talk, Special Session on Discrete Geometry, 2000 AMS Spring Eastern Section Meeting #952, Lowell, MA.
- Apr. 2000 “Convexifying Polygons and Straightening Polygonal Arcs”, Invited talk, Algorithms seminar, Department of Computer Science, University at Stony Brook, Stony Brook, NY.
- Mar. 2000 “Matchings in Cubic Planar Graphs”, Invited talk, Mittagseminals, Institut für Informatik, Freie Universität Berlin, Berlin, Germany.
- Mar. 2000 “Folding and Unfolding Polyhedra”, Invited talk, Informatik-Kolloquiums, Institut für Informatik, Freie Universität Berlin, Berlin, Germany.
- Mar. 2000 “Convexifying Polygons and Straightening Polygonal Arcs”, Invited talk, Tutte Colloquium, Department of Combinatorics and Optimization, University of Waterloo, Waterloo, Canada.
- Mar. 2000 “Folding and Cutting Paper”, Invited talk, Computational Geometry Lecture, Department of Computer Science, Smith College, Northampton, MA.
- Mar. 2000 “PushPush is NP-hard in 2D”, Invited talk, Research Seminar, Department of Computer Science, Smith College, Northampton, MA.
- Feb. 2000 “Adaptive Set Intersections, Unions, and Differences”, Invited talk, Seminar on Data Structures, Schloss Dagstuhl, Wadern, Germany.
- Jan. 2000 “Convexifying Polygons and Straightening Polygonal Arcs”, Invited talk, Geometry Seminar, Courant Institute of Mathematical Sciences, New York University, New York, NY.
- Dec. 1999 “Collapsing Polyhedra”, Invited talk, 4th Geometry Festival, Budapest, Hungary.
- Dec. 1999 “Folding and Cutting Paper”, Invited talk, Algorithmic Discrete Mathematics Graduate Program, Institut für Informatik, Freie Universität Berlin, Berlin, Germany.
- Oct. 1999 “Folding and Unfolding Polyhedra”, Invited talk, Department of Applied Mathematics and Statistics, University at Stony Brook, Stony Brook, NY.
- Oct. 1999 “Straightening Chains and Convexifying Polygons”, Invited talk, School of Computer Science, Carleton University, Ottawa, Canada.
- June 1999 “Straightening Chains and Convexifying Polygons”, Invited talk, Monte Verite Conference on Discrete and Computational Geometry, Ascona, Switzerland.
- Apr. 1999 “Straightening Chains and Convexifying Polygons”, Invited talk, Algorithms and Complexity Seminar, Department of Computer Science, University of Waterloo, Waterloo, Canada.
- Apr. 1999 “Straightening Chains and Convexifying Polygons”, Invited talk, Theory Seminar, Department of Computer Science, University of Illinois, Urbana-Champaign, IL.
- Mar. 1999 “Straightening Chains and Convexifying Polygons”, Invited talk, Department of Applied Mathematics and Statistics, State University of New York, Stony Brook, NY.
- Mar. 1999 “Straightening Chains and Convexifying Polygons”, Invited talk, Algorithms Seminar, School of Computer Science, McGill University, Montréal, Canada.

- Nov. 1998 “Efficient Algorithms for Petersen’s Matching Theorem”, Invited talk, Tutte Colloquium, Department of Combinatorics and Optimization, University of Waterloo, Waterloo, Canada.
- Nov. 1998 “Folding and Cutting Paper”, Invited talk, Department of Applied Mathematics and Statistics, State University of New York, Stony Brook, NY.
- Oct. 1998 “Folding and Cutting Paper”, Invited talk, Algorithms Seminar, School of Computer Science, McGill University, Montréal, Canada.
- May 1998 “Higher-Order Concurrency in Java”, Invited talk, University of New Brunswick, Fredericton, Canada.
- Mar. 1998 “Efficient Algorithms for Petersen’s Matching Theorem”, Invited talk, Data Structures Seminar, Schloss Dagstuhl, Wadern, Germany.
- Jan. 1998 “Folding and Cutting Paper”, Invited talk, Special Session on Mathematical Methods in Paper Folding, Joint Mathematics Meetings of the American Mathematical Society and Mathematical Association of America, Baltimore, MD.
- Sept. 1997 “Higher-Order Concurrency in Java”, Invited talk, Colloquia Series, Department of Computer Science, Rochester Institute of Technology, Rochester, NY.

SERVED AS REFEREE

Journals: Nature, Journal of the ACM, SIAM Journal on Computing, SIAM Review, Journal of Algorithms, Algorithmica, Discrete & Computational Geometry, Computational Geometry: Theory and Applications, International Journal of Computational Geometry and Applications, Information Processing Letters, Discrete Mathematics, Discrete Applied Mathematics, Graphs and Combinatorics, Journal of Combinatorial Mathematics and Combinatorial Computing, INTEGERS: The Electronic Journal of Combinatorial Number Theory, Operations Research Letters, International Journal of Game Theory, Nordic Journal of Computing, Microprocessors and Microsystems.

Conferences: 48th, 50th, 51st Annual IEEE Symposium on Foundations of Computer Science (2007, 2009, 2010), 15th, 17th, 18th, 21st, 25th, 28th Annual ACM Symposium on Computational Geometry (1999, 2001, 2002, 2005, 2009, 2012), 35th–39th, 41st, 43rd ACM Symposium on Theory of Computing (2003–2007, 2009, 2011), 14th–21st, 23rd, 25th Annual ACM-SIAM Symposium on Discrete Algorithms (2003–2010, 2012, 2014), 37th–38th International Conference and Exhibition on Computer Graphics and Interactive Techniques (2010–2011), 10th, 12th, 13th Annual European Symposium on Algorithms (2002, 2004, 2005), 29th, 36th International Colloquium on Automata, Languages and Programming (2002, 2009), 37th International Conference and Exhibition on Computer Graphics and Interactive Techniques (2010), 25th ACM Symposium on Principles of Database Systems (2006), 7th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (2004), 9th Scandinavian Workshop on Algorithm Theory (2004), 19th Annual IEEE Conference on Computational Complexity (2004), Latin American Theoretical Informatics (2000, 2002, 2004, 2008), 6th Workshop on Algorithm Engineering and Experiments (2004), 22nd, 14th Annual International Symposium on Algorithms and Computation (2011, 2003), 6th, 9th, 11th Symposium on Graph Drawing (1998, 2001, 2003), 25th, 18th Canadian Conference on Computational Geometry (2013, 2006), Japan Conference on Discrete and Computational Geometry (1998, 2000, 2002, 2015), 15th Annual ACM Symposium on Parallel Algorithms and Architectures (2003), 22nd Annual Conference on the Foundations of Software Technology and Theoretical Computer Science (2002), 3rd International Conference on Computers and Games (2002), 3rd–4th Annual BRIDGES Conference: Mathematical Connections in Art, Music, and Science (2000–2001).

Book chapters: Akiyama-Chvátal Festschrift (Springer), Discrete and Computational Geometry: The Goodman-Pollack Festschrift (Springer), Physical Knots: Knotting, Linking, and Folding of Geometric Objects in 3-space (American Mathematical Society), Experimental Algorithmics — the State of the Art (Lecture Notes in Computer Science, Springer-Verlag).

Books: A K Peters, Cambridge University Press.

Grants: National Science Foundation.

AWARDS

Rare Craft Fellowship Award, American Craft Council, 2016

Nerode Prize, European Association for Theoretical Computer Science and IPEC, 2015
University of Waterloo Faculty of Mathematics Young Alumni Achievement Medal, 2015
Steven and Renee Finn Innovation Fellow, MIT EECS, 2013–2014
Guggenheim Fellow, John Simon Guggenheim Memorial Foundation, 2013
Presburger Award, European Association for Theoretical Computer Science, 2013
Outstanding Student, Hall of Fame, Science Atlantic, 2012
Sculpture invited to permanent collection of Smithsonian American Art Museum, Washington, DC, 2011
George Pólya Lecturer, Mathematical Association of America, 2010–2012
Université Libre de Bruxelles Gold Medal, 2008
Featured in 56-minute documentary *Between the Folds* about origami, 2008
“Computational Origami” sculpture purchased for permanent collection of Museum of Modern Art (MoMA), New York, 2008
Earle Raymond Hedrick Lecturer, Mathematical Association of America, 2008
Katayanagi Emerging Leadership Prize, Carnegie Mellon University and Tokyo University of Technology, 2008
International Francqui Chair of Belgium and Francqui Gold Medal, 2007
Honorary Doctor of Laws degree, Dalhousie University, 2007
Alfred P. Sloan Research Fellowship, 2006–2008
Esther and Harold E. Edgerton Professor at MIT, 2005–2008
Harold E. Edgerton Faculty Achievement Award, Apr. 2005
DOE Early Career Principal Investigator Award, Sept. 2004
NSF CAREER Award, June 2004
Ruth and Joel Spira Award for Distinguished Teaching in EECS at MIT, May 2004
MacArthur Fellowship, Nov. 2003
NSERC Doctoral Prize and Silver Medal, Mar. 2003 (best PhD thesis & research in Canada, 1 of 4 awards)
Popular Science “Brilliant 10”, Sept. 2003
Boston Magazine “40 Bostonians to Watch”, June 2002
Governor General’s Academic Gold Medal (best PhD at U. Waterloo), June 2002
NSF Mathematical Sciences Postdoctoral Research Fellowship, 2001 (declined)
NSERC Postdoctoral Fellowship, 2001 (declined)

PROFESSIONAL MEMBERSHIPS

Association for Computing Machinery (ACM)
ACM Special Interest Group on Algorithms and Computation Theory (SIGACT)
American Mathematical Society (AMS)
Canadian Mathematical Society (CMS)
Mathematical Association of America (MAA)
Society for Industrial and Applied Mathematics (SIAM)