Curriculum Vitae Radmila Sazdanovic

Department of Mathematics
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Education

2010 **Ph.D., The George Washington University**
Advisor: Jozef Przytycki

2005 **Dipl.Mat.** University of Belgrade, Department of Mathematics, Serbia

Professional Experience

2021 – · · · · **Associate professor** NC State

Fall 2022 **Visitor** DIOSCURI Cenere in Topological Data Analysis, Max Planck Society and Mathematical Institute, Polish Academy of Sciences, Warsaw, Poland

2013 – 2020 **Assistant Professor** NC State

2014 **Vistor** Institute for Mathematics and Applications UMN, Minneapolis, MN

Summer 2012 **Vistor** Kavli Institute for Theoretical Physics, UCSB, CA

Summer 2011 **Vistor** Simons Center for Geometry and Physics, Stony Brook, NY

2010 – 2013 **Postdoctoral Fellow**, University of Pennsylvania

2010 **Postdoctoral Fellow** Mathematical Sciences Research Institute in Berkeley Special program on Homology Theories of Knots and Links

Honors and Awards

2020–· · · **Academy of Outstanding Faculty in Extension and Engagement** NC State

2023 **1st place, Envisioning Research Image contest** Graphics and data visualization category for faculty and staff, NC State

2020 **Outstanding Extension Award** NC State

2016, 2018–19 **Thank a Teacher Letter**, NC State

2009 **James H. Taylor Graduate Mathematics Prize** George Washington University

2006 **Marvin Green Prize** George Washington University

2005–2010 **Presidential Merit Fellowship** George Washington University

2000 **Scholarships for a promising generation** Scholarship of the Royal Norwegian Embassy in Belgrade

Scholarship: grants

2019–2024 **NSF DMS– grant #1854705** Collaborative research: Computational topology and categorification of cancer genomic data: theory and algorithms" PI $200,000

2022–2024 **American Institute of Mathematics SQuaRE grant** Topological applications of Khovanov homology

American Institute of Mathematics SQuaRE grant Landscapes of knots 2022-2024

2019–2024 **Simons Foundation Collaboration Grant** $42,000 (declined)

2023 **1st place, Envisioning Research Image contest** Graphics and data visualization category for faculty and staff.

Scholarship: grants (continued)

2020–2022 **NSF DMS – grant #1953892** Expanding Research and Professional Opportunities for Early-Career Female Mathematicians, $36,550 2020-2021 PI

Summer 2022 **Collaborate@ICERM grant** "Topological applications of Khovanov homology and related link homology theories"

2021-2022 **Mathematical Sciences Research Institute (MSRI) Summer Research for Women in Mathematics (SWiM) Program**

2020 **O**kinawa Institute of Science and Technology Mini-symposium: Knot Theory in Okinawa travel grant

Reviewer 36th International Symposium on Computational Geometry (SoCG 2020), Zurich, Switzerland

2017–2019 **American Institute of Mathematics SQuaRE grant** Persistence-Based Topological Summaries of Metric Graphs

2019 **Collaborate@ICERM grant** "A broken circuit model for chromatic symmetric homology"

2014–2019 **Simons Foundation Collaboration Grant** $35,000

2016 **I**nternational Scientific Committee Member Applied Topology: Methods, Computation, and Science, Torino, Italy

2014–2015 **N**SF DMS Conference grant International Conference on Knots, Low-Dimensional Topology and Applications, Ancient Olympia, Greece Co-PI $34,000

2015–2018 **N**SF DMS Conference grant "Knots in Washington" – A Conference Series on Knot Theory and its Ramifications, Co-PI $83,998

2014–2015 **N**CSU Faculty Research and Professional Development (FRPD) grant $4,000

2015 **N**SF DMS conference grant Conference on Knot Theory and its Applications to Physics and Quantum Computing Co-PI $37,060

2013 **A**ssociation for Women in Mathematics-NSF Travel Grant $3,000

2012-2014 **A**MS Simons Foundation Travel Grant $4000

2011 **I**nternational Center for Theoretical Physics, Trieste, Italy Travel grant $2,500

2007 **R**esearch Institute for Mathematical Sciences RIMS Kyoto, Japan Travel grant $3,000,

Membership in Professional Organizations

2007– **AMS**. American Mathematical Society

AWM. Association for Women in Mathematics.

2016–2018 **SIAM**. Society of Industrial and Applied Mathematics

Scholarship: main contributions

- Expertise: Low-dimensional topology, knot theory, categorification, applied algebraic topology, Topological data analysis (TDA) in biological sciences, engineering, knot and graph theory.
- Proof of generalized Bendersky-Gitler conjecture from 1970 and relating Khovanov-like homology theories with factorization homology and configuration spaces; Applications of Khovanov homology in low-dimensional topology; Torsion in link and graph homology theories; 1^{st} topological realizations of the Bernstein-Gelfand-Gelfand reciprocity via diagrammatic categorification of orthogonal polynomials; Stanley symmetric chromatic homology and planarity.
- Comparative methods for breast cancer subtype detection; categorification in cancer genomics

Scholarship: main contributions (continued)

- TDA and ML methods in comparing knot invariants; intrinsic persistent homology for metric spaces, in particular, for metric graphs.

Scholarship Publications

Total: 56 (51 +5 in preparation). In most mathematics papers the authors are listed in alphabetical order and assumed to have approximately equal contributions.

Journal Articles

1. J. Aslam and R. Sazdanovic, "Categorifying the chromatic polynomial of a hypergraphand the coloring complex," *Arxiv preprint*, Under revision.
2. J. Brown, R. Sazdanovic, and D. Scoefield, "Data science approach to the tutte polynomial," *Preprint*, In preparation.
3. C. Caprau, N. González, C. R. S. Lee, R. Sazdanović, and M. Zhang, "A whittled complex for the khovanov homology of torus links," *Preprint*, In preparation.
4. M. Khovanov and R. Sazdanovic, "Bilinear pairings on two-dimensional cobordisms and generalizations of the deligne category," *Fundamenta Mathematicae*, To appear.
5. D. Paweł, D. Gurnari, and R. Sazdanovic, "Knot invariants and their relations: A topological perspective," *arXiv preprint arXiv:2109.00831*, Under revision.
6. M. Poukam, J. Aslam, R. Sazdanovic, and J. Arsuaga, "Topological data analysis identifies new cancer driver genes in luminal a patients," *Preprint*, In preparation.
7. S. Sheth, J. Aslam, R. Sazdanovic, and J. Arsuaga, "Categorification of the aberration multigraph," *Preprint*, In preparation.
8. "A topological data analysis study on murine pulmonary arterial trees with pulmonary hypertension," *Mathematical Biosciences*, vol. 364, p. 109 056, 2023, ISSN: 0025-5564.
9. A. Chandler, R. Sazdanovic, S. Stella, and M. Yip, "On the strength of chromatic symmetric homology for graphs," *Advances in Applied Mathematics*, vol. 150, p. 102 559, 2023.
10. J. Aslam, S. Ardanza-Trevijano, J. Xiong, J. Arsuaga, and R. Sazdanovic, "TAaCGH suite for detecting cancer—specific copy number changes using topological signatures," *Entropy*, vol. 24, no. 7, p. 896, 2022.
11. A. Chandler, A. M. Lowrance, R. Sazdanović, and V. Summers, "Torsion in thin regions of khovanov homology," *Canadian Journal of Mathematics*, vol. 74, no. 3, pp. 630–654, 2022.
12. A. Chandler and R. Sazdanovic, "A broken circuit model for chromatic homology theories," *European Journal of Combinatorics*, vol. 104, p. 103 538, 2022.
13. J. S. Levitt, M. Hajij, and R. Sazdanovic, "Big data approaches to knot theory: Understanding the structure of the jones polynomial," *Journal of Knot Theory and Its Ramifications*, vol. 31, no. 13, p. 2 250 095, 2022.
14. R. Sazdanović and D. Scofield, "Extremal khovanov homology and the girth of a knot," *Journal of Knot Theory and Its Ramifications*, vol. 31, no. 13, p. 2 250 083, 2022.
15. J. A. Baldwin, N. Dowlin, A. S. Levine, T. Lidman, and R. Sazdanovic, "Khovanov homology detects the figure-eight knot," *Bulletin of the London Mathematical Society*, vol. 53, no. 3, pp. 871–876, 2021.
16. M. Khovanov and R. Sazdanovic, "Diagrammatic categorification of the chebyshev polynomials of the second kind," *Journal of Pure and Applied Algebra*, vol. 225, no. 6, p. 106 592, 2021.
17. R. Sazdanovic and V. Summers, "Torsion in the magnitude homology of graphs," *Journal of Homotopy and Related Structures*, vol. 16, no. 2, pp. 275–296, 2021.

18 M. Adamaszek, H. Adams, E. Gasparovic, *et al.*, "On homotopy types of vietoris–rips complexes of metric gluings," *Journal of Applied and Computational Topology*, vol. 4, pp. 425–454, 2020.

19 A. A. Cooper, V. de Silva, and R. Sazdanovic, "On configuration spaces and simplicial complexes," *New York J. Math*, vol. 25, pp. 723–744, 2019.

20 S. Nelson, N. Oyamaguchi, and R. Sazdanovic, "Psyquandles, singular knots and pseudoknots," *Tokyo Journal of Mathematics*, vol. 42, no. 2, pp. 405–429, 2019.

21 E. Gasparovic, M. Gommel, E. Purvine, *et al.*, "A complete characterization of the one-dimensional intrinsic čech persistence diagrams for metric graphs," *Research in Computational Topology*, pp. 33–56, 2018.

22 E. Gasparovic, M. Gommel, E. Purvine, *et al.*, "The relationship between the intrinsic čech and persistence distortion distances for metric graphs," *arXiv preprint arXiv:1812.05282*, 2018.

23 R. Sazdanovic and D. Scofield, "Patterns in khovanov link and chromatic graph homology," *Journal of Knot Theory and Its Ramifications*, vol. 27, no. 03, p. 1 840 007, 2018.

24 R. Sazdanovic and M. Yip, "A categorification of the chromatic symmetric function," *Journal of Combinatorial Theory, Series A*, vol. 154, pp. 218–246, 2018.

25 A. Lowrance and R. Sazdanovic, "Khovanov homology, chromatic homology, and torsion," *Topology and its Applications*, vol. 222, pp. 77–99, 2017.

26 L. Radović, P. Gerdes, S. Jablan, and R. Sazdanovic, "Plaited polyhedra: A knot theory point of view," *Journal of Knot Theory and Its Ramifications*, vol. 25, no. 09, p. 1 641 006, 2016.

27 A. Zeković, S. Jablan, L. Kauffman, R. Sazdanovic, and M. Stošić, "Unknotting and maximum unknotting numbers," *Journal of Knot Theory and Its Ramifications*, vol. 25, no. 09, p. 1 641 010, 2016.

28 M. Khovanov and R. Sazdanovic, "Categorifications of the polynomial ring," *Fundamenta Mathematicae*, vol. 3, no. 230, pp. 251–280, 2015.

29 J. Przytycki and R. Sazdanović, "Torsion in khovanov homology of semi-adequate links," *Fundamenta Mathematicae*, vol. 225, no. 1, pp. 277–303, 2014.

30 L. H. Kauffman, S. Jablan, L. RADOVIĆ, and R. SAZDANOVIĆ, "Reduced relative tutte, kauffman bracket and jones polynomials of virtual link families," *Journal of Knot Theory and Its Ramifications*, vol. 22, no. 04, p. 1 340 003, 2013.

31 V. Baranovsky and R. Sazdanovic, "Graph homology and graph configuration spaces," *Journal of Homotopy and Related Structures*, vol. 7, pp. 223–235, 2012.

32 S. Jablan, L. Radović, and R. Sazdanović, "Knots and links in architecture," *Pollack Periodica*, vol. 7, no. Supplement-1, pp. 65–76, 2012.

33 S. Jablan, L. Radović, R. Sazdanović, and A. Zeković, "Mirror-curves and knot mosaics," *Computers & Mathematics with Applications*, vol. 64, no. 4, pp. 527–543, 2012.

34 R. Sazdanovic, "Diagrammatics in art and mathematics," *Symmetry*, vol. 4, no. 2, pp. 285–301, 2012.

35 S. Jablan, L. Radović, and R. Sazdanović, "Knots and links derived from prismatic graphs," *MATCH Commun. Math. Comput. Chem*, vol. 66, no. 1, pp. 65–92, 2011.

36 S. Jablan, L. Radović, and R. Sazdanović, "Pyramidal knots and links and their invariants," *MATCH Commun. Math. Comput. Chem*, vol. 65, no. 3, pp. 541–580, 2011.

37 S. Jablan, L. Radović, and R. Sazdanović, "Nonplanar graphs derived from gauss codes of virtual knots and links," *Journal of mathematical chemistry*, vol. 49, pp. 2250–2267, 2011.

38. M. D. Pabiniak, J. H. Przytycki, and R. Sazdanović, "On the first group of the chromatic cohomology of graphs," *Geometriae Dedicata*, vol. 140, no. 1, pp. 19–48, 2009.

39. S. Jablan and R. SAZDANOVIĆ, "Braid family representatives," *Journal of Knot Theory and Its Ramifications*, vol. 17, no. 07, pp. 817–833, 2008.

40. S. Jablan and R. Sazdanovic, "Knots, links, and self-avoiding curves," *Forma*, vol. 22, no. 1, pp. 5–13, 2007.

41. S. Jablan and R. Sazdanović, "Unlinking number and unlinking gap," *Journal of Knot Theory and Its Ramifications*, vol. 16, no. 10, pp. 1331–1355, 2007.

42. S. V. Jablan, L. Radovi, and R. Sazdanovi, "Basic polyhedra in knot theory," *Kragujevac J. Math*, vol. 28, pp. 155–164, 2005.

Books and Chapters

1. R. Sazdanovic, "Khovanov link homology," in *Encyclopedia of Knot Theory*, Chapman and Hall/CRC, 2021, pp. 669–680.

2. S. V. Jablan and R. Sazdanovic, "From Conway notation to LinKnot," in *Knot Theory and Its Applications*, vol. 670, American Mathematical Soc., 2016, p. 63.

3. V. Nanda and R. Sazdanović, "Simplicial models and topological inference in biological systems," in *Discrete and topological models in molecular biology*, Springer, 2013, pp. 109–141.

4. S. V. Jablan and R. Sazdanovic, *LinKnot: knot theory by computer*. World Scientific, 2007, vol. 21.

Conference Proceedings

1. R. Sazdanović and D. Scofield, "Structure of the chromatic polynomial," in *Contemporary Mathematics*, AMS, 2024.

2. E. Gasparovic, M. Gommel, E. Purvine, *et al.*, "Local versus global distances for zigzag persistence modules," in *Research in Computational Topology*, Springer, 2022, pp. 63–76.

3. R. Sazdanovic, "Khovanov homology and torsion," in *New Directions in Geometric and Applied Knot Theory*, P. Reiter, S. Blatt, and A. Schikorra, Eds., Warsaw, Poland: De Gruyter Open Poland, 2022, pp. 125–137, ISBN: 9783110571493. DOI: doi:10.1515/9783110571493-006.

4. C. Caprau, N. González, C. R. S. Lee, A. M. Lowrance, R. Sazdanović, and M. Zhang, "On khovanov homology and related invariants," in *Research Directions in Symplectic and Contact Geometry and Topology*, Springer, 2021, pp. 273–292.

5. G. Gonzalez, A. Ushakova, R. Sazdanovic, and J. Arsuaga, "Prediction in cancer genomics using topological signatures and machine learning," in *Topological Data Analysis: The Abel Symposium 2018*, Springer, 2020, pp. 247–276.

6. M. Adamaszek, H. Adams, E. Gasparovic, *et al.*, "Vietoris-rips and cech complexes of metric gluings," in *34th International Symposium on Computational Geometry (SoCG 2018)*, Schloss Dagstuhl-Leibniz-Zentrum fuer Informatik, 2018.

7. H. Guan, W. Tang, H. Krim, J. Keiser, A. Rindos, and R. Sazdanovic, "A topological collapse for document summarization," in *2016 IEEE 17th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2016, pp. 1–5.

8. R. Sazdanović and M. Yip, "A categorification of the chromatic symmetric polynomial," Proceedings, Episciences. org, 2015.

9. S. V. Jablan and R. Sazdanovic, "Diagram dependent knot invariants and properties," in *Introductory lectures on knot theory: selected lectures at the Advanced School and Conference on Knot Theory and its Applications to Physics and Biology, ICTP, Trieste, Italy 2009*, vol. 46, World Scientific, 2012.

10 J. Kappraff, S. Jablan, G. Adamson, and R. Sazdanovic, "Golden fields, generalized fibonacci sequences, and chaotic matrices," in *Renaissance Banff: Mathematics, Music, Art, Culture*, 2005, pp. 369–378.

Scholarship: Google scholar citations

Total	712 (431 since 2018)
h-index	15 (13 since 2018)
i-10 index	24 (16 since 2018)

Scholarship: Software

Knotinfo	Unknotting numbers of 11 and 12 crossing knots by S. Jablan R. Sazdanovic, available in Knot Tables by C. Livingston
Knot Theory	D. Bar-Natan, S. Morrisson, R. Sazdanovic, "Making the best out of Knot Theory and LinKnot combination"
LinKnot	Wolfram Mathematica package on Knot theory developed jointly with S. Jablan to accompany our book.
Tess	R. Sazdanovic, M. Sremcevic, Tessellations of the Euclidean, Elliptic and Hyperbolic Plane Wolfram Demo 4540

Scholarship: Invited Research Presentations

Total = 168

Scholarship: Plenary lectures and colloquium talks

1. GEOTOP-A International Conference, Applications of Geometry and Topology, Merida, Mexico 01/24
2. Mathematics and Machine learning, Caltech, Pasadena, CA 12/23
3. Group actions and low-dimensional topology", US-Spain Conferencem El Barco de Ávila, Spain 07/23
4. Distinguished April 1st talk, The George Washington University, Washington, DC 04/23
5. Colloquium, UNC Greensboro, Greensboro, NC 10/22
6. Fall Workshop on Computational Geometry, NC State Computer Science Department 10/22
7. Georgia Topology Conference, Athens, GA 05/22
8. Discrete and Topological Models in Molecular Biology, Tampa, FL 05/22
9. Optimal Transport, Topological Data Analysis and Applications to Shape and Machine Learning MBI Ohio State University, Columbus OH 07/20
10. Using Quantum Invariants to do Interesting Topology, CMO Oaxaca, Mexico (postponed) 05/20
11. Knot Theory on Okinawa, Okinawa Institute of Technology, Okinawa, Japan 02/20
12. Biology, Analysis, Geometry, Energies, Links: A Program on Low-dimensional Topology, Geometry, and Applications, Institute for Mathematics and its Applications, UMN, Minneapolis, MN 06/19
13. Catalina Retreat in Mathematics: University of Southern California Wrigley Institute for Marine Science, Catalina Island CA 01/19
14. Higher Structures 2, University of Pennsylvania, Philadelphia PA 03/18
15. Quantum topology and categorified representation theory, Isaac Newton Institute, Cambridge, UK 06/17
16. Contemporary aspects, Overview, and Outlook on Knots: International Early Summer school mini-course on Link homology theories, Freiburg, Germany 06/17
17. BIRS Topological Methods in Brain Network Analysis, Banff, Canada 05/17
18. Colloquium College of Charleston 05/17

19. Colloquium Vassar College 12/16
20. International Conference on Knots, Low Dimensional Topology and Applications (Knots in Hellas), Ancient Olympia, Greece 07/16
21. GELATO: Geometric Energies with Links to Applications, Topology and Open problems, Basel University, Switzerland 08/15
22. Journées Solstice d'été 2015, Colloque International, Noeuds, représentations et catégorification, Institut de Mathematiques de Jussieu, Paris, France 06/15
23. Algebraic Topology- Methods, Computation and Science (ATMCS), PIMS and University of British Columbia, Vancouver, CA 05/14
24. Colloquim, Carleton College 05/14
25. Lloyd Roeling UL Lafayette Mathematics Conference, Lafayette, LA 11/13
26. Quantum topology and related topics, Nha Thang, Vietnam 05/13
27. Colloquium, University of South Florida, Tampa FL 02/13
28. Colloquium, University of Iowa, Iowa City IA 02/13
29. Colloquium, George Mason University, Fairfax VA 02/13
30. Colloquium, University of Oregon, Eugene OR 01/13
31. Colloquium, North Carolina State University, Raleigh NC 01/13
32. Colloquium, University of Massachusetts Amherst, Amherst MA 12/12
33. Claremont Colleges Mathematics Colloquium, Claremont, CA 10/12
34. KITP Knotted Fields program, University of California, Santa Barbara CA 06/12
35. Colloquium, Bryn Mawr College, Bryn Mawr, PA 10/10
36. Swiss Knots Conference: Knot Theory and Algebra, Lake Thun, Switzerland 05/11
37. Colloquium, University of San Francisco, San Francisco, CA 04/10

Scholarship: Seminar talks

1. New Frontiers in Algebra, Geometry and Topology, VCU, Richmond, VA 12/22
2. Algebra and Combinatorics seminar, NC State. Raleigh NC 10/22
3. DIOSCURI Centre for Topological Data Analysis, Warsaw, Poland 10/22
4. Online Seminar: Knots and representation theory Moscow, Russia 07/22
5. Topological Quantum Field Theory Seminar, Lisbon, Portugal 07/22
6. Northeastern topology seminar 04/22
7. Michigan State TDA seminar, East Lansing, MI 11/21
8. EPSRC Centre for Doctoral Training in Topological Design, University of Birmingham, UK 11/21
9. Topology and geometry: extremal and typical, "Big data and applied topology methods in knot theory", Santa Barbara, CA 09/20
10. Categorification Seminar, University of Southern California, Los Angeles, CA 01/19
11. Topology, Geometry and Data Seminar, The Ohio State University, Columbus, OH 03/18
12. Topology Seminar, Claremont Colleges, Claremont, CA 11/17
13. Discrete Combinatorics, Algebra, Topology & Statistics seminar, University of Kentucky, Lexington, KY 11/17
14. Topology Seminar, Claremont Colleges, Claremont, CA 04/17
15. Topology and Geometry Seminar, Universtität Bern, Bern, Switzerland 08/15
16. TopData Seminar, Inria Saclay, Paris, France 06/15
17. Geometry seminar, University of Virginia, Charlottesville, VA 04/15
18. Carleton College, Northfield, MN 05/14
19. Scientific and Engineering Applications of Algebraic Topology Seminar, Institute for Mathematics and its Applications, Minneapolis, MN 04/14

20. Combinatorics seminar, University of Minnesota, Minneapolis, MN 04/14
21. Topology seminar, Duke University, Durham NC 04/14
22. Discrete Geometry Seminar, Freie Universtität, Berlin, Germany 03/14
23. Phylogenetic and Evolutionary Biology Seminar, NCSU, Raleigh, NC 11/13
24. Algebra and Combinatorics Seminar, NCSU, Raleigh, NC 11/13
25. Lafayette College REU, Lafayette, PA 07/13
26. Lafayette-Lehigh Geometry-Topology Seminar, Lafayette College, Evanston PA 03/12
27. Deformation theory seminar, University of Pennsylvania, Philadelphia PA 02/12
28. Algebra Seminar, Syracuse University, Syracuse, NY 10/11
29. Topology seminar, University of Miami, Miami, FL 08/11
30. Topology Seminar, Temple University, Philadelphia, PA 11/10
31. Graduate student seminar, University of Pennsylvania, Philadelphia, PA 11/10
32. Claremont Topology Seminar, Pomona College, Claremont, CA 11/10
33. Algebra seminar, UC Irvine, Irvine, CA 05/10
34. Graduate student seminar, UC Berkeley, CA 04/10
35. Postdoctoral Seminar, MSRI, Berkeley, CA 04/10
36. Virtual Topology Seminar Joint between LSU, U Iowa, Rice, GWU, U Miami, UN Omaha, Boise State, Cornell 04/09
37. Graduate Student Topology Seminar, George Washington University, DC 04/08
38. Quantum Topology-Hopf Algebra Seminar, University of Illinois at Chicago, Chicago IL 01/06
39. Topology Seminar, Indiana University Bloomington, Bloomington, IN 01/06

Scholarship: Invited Conference talks

1. AMS Sectional meeting, Omaha, NE 10/23
2. Society for Mathematical Biology, Minisymposium on Algebra, Combinatorics, and Topology in Modern Biology, Columbus, OH 07/23
3. AISC, "AISC TDA in Statistics and Machine Learning" 10/22
4. AWM Research Symposium, Minneapolis, "Women, Art, and Mathematics, AWM Research Symposium, Minneapolis". 06/22
5. AWM Research Symposium, Minneapolis, "Mathematics of Materials, AWM Research Symposium, Minneapolis". 06/22
6. AMS Spring Western Sectional Meeting, Computational Topology and Applications, 05/22
7. AMS Sectional Meeting (Spring western), "Special Session on Computational Topology and Applications". 05/22
8. Joint Mathematics Meetings, "Topology applied to cancer genomics" 04/22
9. AMS Sectional Meeting, Special Session on "Optimization, Complexity, and Real Algebraic Geometry" (03/22
10. AMS Sectional Meeting, Special Session on Quantum algebra and quantum topology". 03/22
11. Knots in Washington 49.5, Washington, DC 12/21
12. Fall Southeastern Sectional Meeting AMS Special Session Geometric and Algebraic Aspects of Quantum Groups and Related Topics 11/21
13. CMO Workshop Using Quantum Invariants to do Interesting Topology, Oaxaca, Mexico 05/20-22
14. AMS Special Session Purdue Knots and Links in 3-Manifolds, Purdue University 04/20
15. AMS Special Session Quantum algebra and topology, Purdue University (cancelled) 04/20
16. AMS Special Session Knot Theory and its Applications, Sectional Meeting at the University of Virginia, Charlottesville, VA 03/20
17. AMS Special Session Categorical Representation Theory and Beyond, Sectional Meeting at the University of Virginia, Charlottesville, VA(cancelled) 03/20

18. AMS Special Session Applied Topology, JMM Denver, CO 01/20
19. AMS Special Session Applications and Computations in Knot Theory, JMM Denver, CO 01/20
20. AMS Special Session Self-Distributive Structures, Knot Theory, and the Yang Baxter Equation, JMM Denver, CO 01/20
21. Fall Western Sectional Meeting, AMS Special Session Algebraic and Combinatorial Structures in Knot Theory, Riverside, CA 11/19
22. AMS Special Session Applied Topology: Theory and Applications, University of Florida, Gainesville, FL 11/19
23. Modeling the Living Embryo Cluster Retreat, JC Raulston Arboretum, Raleigh, NC 09/19
24. AWM Research Symposium, Rice University, Houston, TX 04/19
25. AMS Sectional Meeting at the University of Connecticut, Hartford, CT 04/19
26. BIRS Workshop Topology of Nucleic Acids: Research at the Interface of Low-Dimensional Topology, Polymer Physics and Molecular Biology, Banff, Canada 03/19
27. AMS Spring Central and Western Joint Sectional Meeting at the University of Hawaii at Manoa, Honolulu, HI 03/19
28. AMS Special Session Algebraic Structures Motivated by Knot Theory, Joint Mathematics Meeting Baltimore, MD 01/19
29. MAA Special Session Mathematics and the Arts, Joint Mathematics Meeting, Baltimore, MD 01/19
30. AMS Special Session Non-Associative Algebraic Structures and their (Co)homology Theories, Fall Southeastern Sectional Meeting, Fayetteville, AR 11/18
31. AMS Special Session The Geometry of Curves and Applications, Fall Southeastern Sectional Meeting, Fayetteville, AR 11/18
32. AMS Special Session Combinatorial and Categorical Aspects of Representation Theory, Fall Western Sectional Meeting, San Francisco, CA 10/18
33. AMS Special Session Applied Algebraic Topology, Fall Eastern Sectional Meeting, Newark DE 09/18
34. 33rd Summer Conference on Topology and its Applications, Western Kentucky University, Bowling Green, KY 08/18
35. AMS Special Session Algebraic, Combinatorial, and Quantum Invariants of Knots and Manifolds, The Ohio State University, Columbus, OH 03/18
36. Geometric Topology Special Session at the 52nd Annual Spring Topology and Dynamics Conference, Auburn, AL 03/18
37. Joint Mathematical Meeting, AMS Special Session on Topological Data Analysis, San Diego, CA 01/18
38. Joint Mathematical Meeting AMS Special Session on Quantum Link Invariants, Khovanov Homology, and Low-dimensional Manifolds, San Diego, CA 01/18
39. AMS Special Session on Algebraic and Combinatorial Structures in Knot Theory at the Fall Western Sectional Meeting, Riverside, CA 11/17
40. AMS Special Session Knots, 3-manifolds and their Invariants, SUNY Buffalo NY 09/17
41. AMS Special Session Polynomials in Enumerative, Algebraic, and Geometric Combinatorics, SUNY Buffalo NY 09/17
42. AMS Special Session Special Session on Combinatorial and Algebraic Structures in Knot Theory Pullman, WA 04/17
43. AMS Special Session Special Session on Inverse Problems, Pullman, WA 04/17
44. Special Session Applications of Topology and Geometry at the 2017 AWM Research Symposium, UCLA, Los Angeles, CA 04/17
45. AMS Special Session Special Session on Knot Theory and its Applications, Charleston, SC 03/17
46. JMM AMS Special Session on Sheaves in Topological Data Analysis, Atlanta, GA 01/17
47. Joint Mathematical Meeting AMS Special Session on Fusion Categories and Quantum Symmetries, Atlanta, GA 01/17

48. Analysis, Topology, Algebra: Theory and Applications, Cacak, Serbia 07/16
49. AMS special session Algebraic Structures in Knot Theory, Spring Southeastern Sectional Meeting, Athens, GA 03/16
50. AMS special session Algebraic Structures in Knot Theory, Spring Southeastern Sectional Meeting, Athens, GA 03/16
51. Advances in Quantum and Low-Dimensional Topology, Iowa City, Iowa 03/16
52. JMM Special Session on Applied and Computational Topology, Seattle, WA 01/16
53. JMM Special Session on Topological Representation Theory, Seattle, WA 01/16
54. AMS Special Session: Invariants of knots, links and 3-manifolds, AMS Fall Eastern Sectional Meeting, Rutgers, NJ 11/15
55. AMS Special Session: Algebraic and Combinatorial Invariants of Knots, AMS Fall Central Section Meeting, Chicago, IL 10/15
56. 8th Southeastern Lie Theory Workshop on Algebraic and Combinatorial Representation Theory, Raleigh, NC 10/15
57. MAA Math Fest: Invited Session Algebraic Structures Motivated by Knot Theory, Washington DC 08/15
58. MAA Fest Invited Session Mathematics and Art, Washington DC 08/15
59. AMS-EMS-SPM meeting: Categorification of Quantum groups, Representations and Knot Invariants, Porto, Portugal 06/15
60. AMS-EMS-SPM meeting: Mathematics and the Arts, Porto, Portugal 06/15
61. AMS Spring Western Sectional Meeting, Las Vegas, NV 04/15
62. Association for Women in Mathematics Research Symposium, University of Maryland College Park, College Park, MD 04/15
63. AMS Central Spring Sectional Meeting MSU, East Lansing, MI 03/15
64. AMS Spring Eastern Sectional Meeting, Georgetown University, Washington DC 03/15
65. Conference on Knot theory and its applications to physics and quantum computing, University of Texas at Dallas, Richardson, TX 01/15
66. AMS Special Session Knots and Applications, Spring Eastern Sectional Meeting University of Maryland Baltimore County, Baltimore, MD 03/14
67. 48th Spring Topology and Dynamics Conference, University of Richmond, Richmond, VA 03/14
68. Special Session on Algebraic Structures in Knot Theory Fall Western Sectional Meeting, University of California Riverside, Riverside, CA 11/13
69. Special Session on Categorification in Representation Theory, Fall Western Sectional Meeting, University of California Riverside, Riverside, CA 11/13
70. Quantum topology and related topics, Nha Thang, Vietnam 07/13
71. Program for Women in Mathematics, IAS and Princeton University, Princeton, NJ 05/13
72. Special Session on Combinatorial methods in Knot theory AMS Southeastern Fall Section Meeting, Tulane University, New Orleans, LA 10/12
73. 21st Century Geometry, Program for Women in Mathematics, IAS and Princeton University, Princeton NJ 05/12
74. Association for Women in Mathematics Workshop, Joint Mathematics Meeting Boston MA 01/12
75. ESF, EMS, and CRM-Pi Conference "Knots and Links: From Form to Function", Mathematical Research Center 'Ennio De Giorgi', Pisa, Italy 07/11
76. DAAD Center of Excellence for Applications of Mathematics: Symmetry in Science and Arts, Vrnjacka Banja, Serbia 05/11
77. AMS Central Section Meeting Special Session on Representations of Algebras University of Iowa, Iowa City, IA 03/11
78. Topological Problems in Molecular Biology, Special Session and Lead-in Workshop, AMS Central Section University of Iowa, Iowa City, IA 03/11

79. AMS Central Sectional Meeting, Special Session on Representations of Algebras, University of Iowa, Iowa City, IA 03/11
80. JMM AMS Special Session "Knots, 3-manifolds and physics" New Orleans, LA 01/11
81. AMS Fall Western Sectional Meeting, Special Session on "Algebraic Structures in Knot Theory", Los Angeles, CA 11/10
82. Advanced School and Conference on Knot Theory and its Applications to Physics and Biology, International Centre for Theoretical Physics, Trieste, Italy 05/09
83. DIMACS Workshop on Algorithmic Mathematical Art, Rutgers 05/09
84. Graduate Student Topology and Geometry Conference, Madison, WI 04/09
85. JMM AMS Special Session on "Categorification and Link Homology", Washington, DC 01/09
86. AMS Special session on "Knot and 3-Manifold Invariants", Spring Southeastern AMS Meeting, Baton Rouge, LA 03/08
87. Workshop on Knots and Quantum Computing, University of Texas at Dallas, TX 12/07
88. Knotting Mathematics and Art, International Conference in Low Dimensional Topology and Mathematical Art, Tampa, FL 11/07
89. Special session on "Invariants of Links and 3-manifolds" Joint International Meeting between the AMS and the Polish Mathematical Society, Warsaw, Poland 08/07
90. Link Homology and categorification conference RIMS Research Institute for Mathematical Science at Kyoto University, Japan 05/07
91. JMM AMS Special session on "Knots, 3-Manifolds, and Their Invariants", New Orleans, LA 01/07
92. AMS Special session on "Quantum Invariants of Knots and 3-Manifolds", Spring Eastern Section, Durham, NH 04/06
93. Knots in Washington XXI, Washington, DC 12/05
94. Contemporary Geometry and Related Topics, Belgrade, Serbia 07/05

Scholarship: Posters

1. Workshop for Women in Computational Topology, Institute for Mathematics and its Applications, Minneapolis MI 08/16
2. TOPOSYM Conference, Prague, Czech Republic 07/16
3. The 27th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2015), Daejeon, Korea 07/15
4. Association for Women in Mathematics Workshop, Institute for Mathematics and its Applications, Minneapolis MI 03/13

Teaching: Classes taught and teaching effectiveness

- Courses taught at NC State: MA 893, MA 810: Special Topics class on "Categorification", MA 795: Special Topics: Topology, MA 753: Algebraic Topology, MA 693, MA 591: Special Topics "Geometry, Topology, and their applications", MA 551: Intro to Topology, MA 407: Modern Algebra for Majors, MA 305: Introductory Linear Algebra and Matrices, MA 114 Introduction to Finite Mathematics with Applications.
- Courses taught at University of Pennsylvania: MATH 560 Selections in geometry and Topology, MATH 500 Geometry and Topology I, Math 104, Calculus I.
- Summary of evaluations Taught 27 graduate and undergraduate courses with over 500 (find exact) students with both the mean and median teaching effectiveness 4.5.
- Reviewers: MA 753–2020 Jon Doyle, Computer Science, Irina Kogan MA 551–2019, Ernie Stitzinger MA 407–2018 and MA 591–2017, Mithat Unsal, Physics, MA 493/591– 2018, Tom Lada MA 407H–2016.

Teaching: Instructional Development

- **NC State** Special Topics "Topology: theoretical, computational and applied" (MA 591) 2018, 2020, 2023 The course introduces main ideas and techniques in geometry and topology, focusing on how and why they work and their applications in other areas of mathematics, science and engineering. The course uses materials from: "Topology" by J. Munkres, "Algebraic Topology" by A. Hatcher, "Applied Algebraic Topology" by R. Ghrist, and a mixture of survey and research articles. This course was intended both for math majors and for all students in Colleges of Sciences, Education, and Engineering as it provides the foundations, references, and examples of current theoretical and applied topics. See attached peer review by Dr. Mithat Unsal, Physics department, NC State.
- **NC State** Foundations of Data Science (MA326) developed jointly with K. Flores, M. Haider, M. Olufsen, D. Papp consisting of Basics of ML, Unonstrained Optimization, Neural Networks and overfitting, Parameter estimation and Sensitivity analysis for mathematical models, and Topological Data Analysis (2022)
- **International Courses** Contemporary Aspects, Overview and Outlook on Knots: International Early Summer School. Freiburg; Germany (2017);
- **NC State** Graduate special topics class MA 810 "Categorification" 2021 The course is aimed at advanced graduate students and covered a range of recent research topics as well as sufficient background.
- **NC State** Special Topics "Homology Theories for Knots and Links" (MA 591, 2016) Graduate special topics class covered a collection of books and research articles. Three of the students in that class earned their PhDs with me as their advisor and additional 4 did their PhD in topology or related topics.

Advising and Mentoring

Postdocs

- Juanita Pinzon-Caicedo 2017-2019 (Assistant Professor at Notre Dame, 2019- , Visitor Max Plank, Bonn, Germany Spring 2020)

PhD

- **Chair**
  - Matthew Elpers (expected 2027)
  - Matthew Nuyten (expected 2026)
  - Jai Aslam (2023)
  - Megan Chambers, coadvised with M. Olufsen (2022)
  - Alex Chandler, PostDoc at University of Vienna, Austria PostDoc UC Davis (2019)
  - Victor Summers, Assistant Professor at Upstate University South Carolina (2019)
  - Daniel Scofield, Assistant Professor at Francis Marion State (2018)

MS

- **Chair**
  - Tom Blue (expected 2024)
  - Yvonne Chazal, Wake Tech, Girls Rock (2016-2017)
  - Kristina Bender WebAssign (2015-2016)
  - Darren Lipman Teach for America (2015-2016)
  - Sam Krupa, University of Pennsylvania (2013)

Advising and Mentoring (continued)

PhD — **Committee Member**

- exp Jingwei Xiong (UC Davis), Everett Meike, Michael Baker
- 2022 Robert DeYeso
- 2021 Sanjana Curtis (Physics), Nicholas Grey (Physics), Bo Jiang (Electrical engineering
- 2020 Dustin Leninger
- 2019 Emma Sorrell, Quian Ge (Computer Science) Claire Zajackowski, Suzanne Crifo
- 2018 Kristen Boyle, Alexander Combs, Kathryn Smith (Industrial and systems engineering)
- 2017 Kristen Bugg, Chong Wang (Statistics) , Ashley White, Rachel Townsley (Industrial and systems engineering)
- 2016 Alireza Dirafzoon (Computer science) , Hui Guan (Electrical engineering) , Zinan Yi (Industrial and systems engineering)
- 2015 Noah Daleo

REU — Ian Livengood, Natalie Johnson. Miya Spinela, Summer 2020;

UG — Carina Yining Fu, Spring 2023; Eduardo Bravo-Escudero, Spring 2023; Drew Connelly, Fall 2021; Erik Meekins Summer 2020; Peyton Wood 2019–2020; Benjamin Wendt Spring 2018; Joseph Mueller Spring 2018; Noah Johnson Fall 2017; Christopher Becker Fall 2015; Eric McCabe Fall 2013.

GTA — Graduate teaching assistants: Kylan Shatz (2022), Erik Mainelis (2020), Sarah Strikwerda (2020), Victor Summers(2019), Alex Chandler (2018) Suzanne Crifo (2018), Molly Lynch (2017), Mallory McMahon (2017), Kristen Moody (2016), Nathan Miller (2013)

Professional Service

2023-24 — **Member of the Scientific Committee** GEOTOP-A International Conference Applications of Geometry and Topology, Merida, Mexico

10/23 — AIM Workshop on K3: A new problem list in low-dimensional topology

2017– — **Member and Chair** of the Association for Women (AWM) in Mathematics JMM Committee

2016–· — **Academic Editor** Journal of Knot Theory and its Ramifications

2014–· — **Program Committee Member** International Conference Bridges: Mathematical Connections in Art, Music and Science

Panels — NSF DMS Panels in 2014, 2017, 2018(2), 2019; Netherlands Organization for Scientific Research, Army Research Office (ARO) 2018; NSF Institute Review Panel 2015

2014– — **Refereeing** Algebraic & Geometric Topology, Banach Cen- ter Publications, Discrete Applied Mathematics, Experimental Mathematics, European J. of Combinatorics, Filomat, Fundamenta Mathematicae, Geometry & Topology, Homotopy, homology, and applications, International Journal of Computational Geometry and Applications. J. London Math. Soc., Journal of Topology, Journal of Applied and Computational Topology, Journal of Knot Theory and its Ramifications, Kyungpook Mathematical Journal, Pacific J. Math., PLOS One, PLOS Computational Biology, Proceedings of the Royal Society of Edinburgh (Series A), Quantum Information Processing, Quantum Information Processing, Topology and its Applications, etc.

2012– — **MathSciNet** 4 reviews

2020 — **Scientific Program Committee Member** 36th International Symposium on Computational Geometry (SoCG 2020), Zurich, Switzerland

2019 — **Editor for Knots, Low-Dimensional Topology and Applications Knots in Hellas** International Olympic Academy, Greece, Springer Proceedings in Mathematics and Statistics Vol. 284 (2019) 978-3-030-16030-2, pp. 476

Professional Service (continued)

2015 **International Scientific Committee Member** Applied Topology: Methods, Computation, and Science, Torino, Italy

Profesional Service To Promote Diversity

- Increasing the participation of women and other under-represented groups in the mathematical sciences and nurturing girl's interest in mathematics
- EDGE (Enhancing Diversity in Graduate Education) mentor 2023–
- AWM JMM Committee Chair 2019–
- Topology Student Workshop mentor, Georgia Tech University 07/22
- Wake County Science Fair judge 2021–22
- Women in Symplectic and Contact Geometry and Topology program, Project leader and mentor to 4 junior mathematicians, ICERM Providence RI 07/19
- Catalina Retreat in Mathematics: University of Southern California Wrigley Institute for Marine Science, Catalina Island CA Mentor and Panelist 01/19
- Real Leadership in STEAM panel 11/19
- Goodnight scholar Faculty dinner series 11/18
- SWiM2018 (Summer Workshop in Math) Talk Duke University, Durham, NC 07/18
- Re:Boot Number Theory Intensive research retreat for women in number theory, Panel Duke University, Durham, NC 2017
- State of the Sciences: Live! talk at NC State Hunt Library 04/18
- Graduate Training Seminar job application panel 2014
- NC State SUM Series speaker and organizer 2013, 2016
- Math Circle NC State 2013
- Summer school: Girls in Engineering, Mathematics and Science, University of Pennsylvania, Philadelphia PA 2012-13

Professional Service: Conference, Workshop, and Seminar Organization

2023 GEOTOP-A International Conference Applications of Geometry and Topology, Merida, Yucatan, Mexico

2014– Geometry and Topology seminar, NC State, Raleigh, NC

2023 Tangled in Knot Theory, Workshop, Institute for Computational and Experimental Research in Mathematics (ICERM), Providence, RI entry*[2022] AWM Research Symposium Special Session Women in Computational Topology, Minneapolis, MN

2014–2019 Triangle Geometry and Topology seminar, Duke, NC State, and UNC-Chapel Hill, NC

2009-18 21 Knots in Washington Conference Series, sponsored by the NSF

2014-23 7 TAGMaC Triangle Area Graduate Mathematics Conference NC State

2020 AWM Poster Session, Joint Mathematics Meetings Denver, CO

2019-24 AWM Poster session, Joint Mathematics Meetings

2019 AWM Workshop, Special Session "WinCompTop: Applied and Computational Topology", Joint Mathematics Meetings, Baltimore, MD

2013-18 9 AMS/ Sectional and Joint Mathematics Meeting Special Sessions

Professional Service: Conference, Workshop, and Seminar Organization (continued)

- 2016 International Conference on Knots, Low Dimensional Topology and Applications. Ancient Olympia, Greece
- Knots in the Triangle, NC State, Raleigh, NC
- 2015 Conference on Knot theory and its applications to physics and quantum computing, University of Texas at Dallas, Richardson, TX
- MAA FEST Invited Session, Washington, DC
- 2013 IAS Women in Mathematics Program Panel, IAS Princeton, NJ
- 2009 DIMACS Workshop on Algorithmic Mathematical Art, Rutgers, NJ

Professional Service: NC State

- 2013– Faculty advisor for NC State University- American Mathematical Society Student Chapter
- 2020–2023 DEI Committee
- 2013– Graduate Faculty Member
- 2020- Department Ph.D. Preliminary Exam Committee
- 2022- Department Graduate Recruitment Committee Member
- 2017– Outreach and Publicity Committee
- 2021 General search hiring committee
- 2020 Hiring committee
- 2013–15 Department Webpage Committee Member
- 2013-15 Department Graduate Recruitment Committee Member
- 2014-18 Department Undergraduate Recruitment Committee Member
- Department Ph.D. Preliminary Exam Committee
- 2016-17 Graduate Program for Majors
- MA/AMA Graduate Program

Extension and Outreach: Publications

- H. Russel, R. Sazdanovic, Mathematics and Art: Unifying Perspectives, Handbook of the Mathematics of the Arts and Sciences, ISBN-13. 978-3319570716, Springer 2021, 497–525.
- R. Sazdanovic, Visualizations and visual thinking in mathematics, in "On Visualization. A Multicentric Critique beyond Infographics", E. Fiorentini, J.Elinks (edts) Series "Kultur: Forschung und Wssenschaft", LIT Verlag ISBN 3-643-90535-2 (to appear) 15pp.
- R. Sazdanovic, Fisheye View of Tessellations, Bridges: Mathematical Connections in Art, Music and Science, Conference Proceedings, (2012), 361–364.
- R. Sazdanovic, "Experience-centered approach and Visuality in the Education of Mathematics and Physics" Kaposvar University, Kaposvar, (2012) ISBN 978-963-9821-52-1
- S. Jablan, R. Sazdanovic R. Discovering symmetry of knots by using program LinKnot, Symmetry: Art and Science, The Journal of ISIS-Symmetry (2004) 102–110.
- R. Sazdanovic, M. Sremcevic, Hyperbolic Tessellations by tess, Symmetry: Art and Science, 1-4 (2004) 226-229.
- R. Sarhangi, S.Jablan, R. Sazdanovic, Modularity in Medieval Persian Mosaics: Textual, Empirical, Analytical and Theoretical Considerations, Bridges: Mathematical Connections in Art, Music and Science, Conference Proceedings, (2004) 281-293.

Extension and Outreach: Publications (continued)

- J. Barrallo, R. Sazdanovic, Computer Sculpture: A Journey Through Mathematics, Bridges: Mathematical Connections in Art, Music and Science, Conference Proceedings, (2002) 54.
- R. Sazdanovic, M. Sremcevic, Tessellations of the Euclidean, Elliptic and Hyperbolic Plane, Symmetry: Art and Science, 2 (2002) 229-304.

Extension and Outreach: Media

- **All the Possibilities...Reflections on a Painting by Vernon Pratt** Interview for a Documentary movie in Four Movements on mathematical inspirations of NC artist Vernon Prat for his impressive 256 canvas piece that builds on areas of mathematics related to probability, co-directed by Marsha Gordon, NC State professor of Film studies, and Louis Cherry, 2019.
- **Exploring Math Through Art** NC State Think and do video available at `https://www.youtube.com/watch?v=ONeeDvlSFU0`
- **Girls' Angle Bulletin**Interview and the cover, Volume 6, Number 2,3 2012-2013.
- **Girls Angle Bulletin** "Fun with Triangles, Inscribed Circles, and Angle Bisectors " `http://www.girlsangle.org/page/filmpage.php?num=4`

Extension and Outreach: Exhibitions

2018– **Tesscelestial** Interactive webapp and large-scale and interactive exhibition pairing my research in mathematics and applications and my creative pursuits as an conceptual artist. Collaborative research project with NC State libraries funded by Andrew W. Mellon "Immersive Scholar" grant. Available at: `https://github.com/NCSU-Libraries/tess-celestial`

2023– Laboratoire de Mathématiques Nicolas Oresme, Université de Caen–Normandie, Caen, France

2015– Institute for Mathematics and Its Applications, Minneapolis, MN

2012– David Rittenhouse Labs, University of Philadelphia, Philadelphia, PA

2010– Rome Hall, The George Washington University, Washington DC

2020 "Women Making Art with Math", Dana School of Art, Wellesley, MA

Liquid State, Raleigh, NC

2019 130 Anniversary Celebration, Department of Mathematics, NC State

2013 Fisheye view of Mathematics, Burrison gallery, Philadelphia, PA

2012 International Centre for Mathematical Sciences Edinburgh, UK

2011 University of Basque Country, San Sebastian, Spain

2010 Royal Flemish Academy of Belgium, Brussels, Belgium

Rhythm and Structure: Beyond the Mathematics, International Conference in Low Dimensional Topology and Mathematical Art, Museum of Science and Industry, Tampa, FL

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Extension and Outreach: Conferences and public lecures

1. Fall Technical Conference, Raleigh, NC 2023
2. State of the Sciences: Live! NC Science Festivals 2016–2018, 2021
3. AWM Research symposium, Women, Art, and Mathematics, Minneapolis, MN
4. MAA Paper Session on Mathematics and the Arts, Joint Mathematics Meetings, Baltimore, MD 01/19
5. 130th Math Department Anniversary Celebration, NC State, Raleigh, NC 2019

6. Coffee and Viz series in the Teaching and Visualization Lab, James B. Hunt Jr. Library 2018
7. North Carolina Science Festival: Art & Design and Science, Workshop: "Art through Math: From Plato through Da Vinci to knotted polyhedra." 2016
8. MAA Fest Invited Session Mathematics and Art, Washington DC 08/15
9. MoSAIC: Mathematics of Science, Arts, Industry and Culture Festival, NC State 2015
10. SPM-EMS-AMS Joint Meeting, Porto, Portugal 2015
11. Symposium: Perspectives on Art Education, University of Applied Arts, Vienna, Austria 2015
12. "Visualization. A critical Survey of the Concept", Humboldt-Universität zu Berlin, Institut für Kunst und Bildgeschichte, Germany 2014
13. Math Art Summit Royal Flemish Academy of Belgium, Brussels, Belgium 2012.
14. Bridges: Mathematical Connections in Art, Music and Science 2012.
15. WistKunst, Department for Architecture Sint-Lucas Gent, Belgium 2011.
16. Workshop on Algorithmic Mathematical Art: Special Cases and Their Applications, DIMACS Center, CoRE Building, Rutgers University, Newark, NJ 2009
17. The International Society for the Interdisciplinary Study of Symmetry Conference, Tihany/Budapest, Hungary 2004
18. Matomium, Sint Lucas Institute for Architecture, Brussels, Belgium 2002