# Mahir Bilen Can

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## EDUCATION

| | | |
|---|---|---|
| Ph.D. in Mathematics | University of Pennsylvania | 2006 |
| B.Sc. in Mathematics | METU (Turkey) | 2001 |

## EMPLOYMENT

| | | |
|---|---|---|
| Professor | Tulane University | 2020–Present |
| Associate Professor | Tulane University | 2014–2020 |
| Assistant Professor | Tulane University | 2008–2014 |
| Postdoctorate | Western University (Canada) | 2006–2008 |

## VISITING POSITIONS

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|---|---|
| NOVA FCT, Portugal (as a Fulbright US scholar) | May–August, 2024 |
| Okinawa Institute of Science and Technology, Japan | June–September, 2023 |
| Indian Institute of Technology Bombay, India | January 2023; December 2023 |
| NOVA FCT, Portugal | December 2021 |
| University of California, San Diego | Spring 2017 |
| Yale University | 2012–2013 |
| The Chinese University of Hong Kong | February 2013 |

## GRADUATE STUDENT ADVISING

| | | |
|---|---|---|
| Zafar Iqbal (PhD, coadvising with A. Casimiro at NOVA FCT) | 2024 – **Present** | |
| Naufil Sakran (PhD) | 2021 – **Present** | |
| Dillon Montero (PhD) | 2021 – 2025 | Analogs of NRT Reed Solomon Codes in Bottleneck Metrics |
| Nestor Diaz Morera (PhD) | 2018 – 2024 | Torus Actions, Spherical Varieties, Dyck paths, and Shellability |
| Hayden Houser (PhD) | 2017 – 2024 | Signature Quantization of the Classical Groups |
| Corey Wolfe (PhD) | 2017 – 2024 | On the Borel Submonoid and Nilpotent Subsemigroup of a Symplectic Monoid |
| Aram Bingham (PhD) | 2015 – 2021 | Clans, Sects, and Symmetric Spaces of Hermitian Type |

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|---|---|---|
| Yiyang She (PhD) | 2016 – 2021 | Strong Gelfand Subgroups of $\mathbb{Z}/p \wr S_n$ |
| Tien Le (PhD) | 2015 – 2020 | Orbits in Double Flag Varieties |
| Özlem Uğurlu (PhD) | 2013 – 2018 | Counting Borel Orbits in Classical Symmetric Varieties |
| Tim Twelbeck (PhD) | 2008 – 2013 | Shellability of Bruhat Order on Borel Orbit Closures |

*Masters Thesis:*

Dejun Zhang (**Ms**) 2020 Topological Galois Theory of Riemann Surfaces

## UNDERGRADUATE STUDENT ADVISING

Honor's Theses (HT) and Senior Theses (ST). Co-advising (CA).

| | | |
|---|---|---|
| Benjamin Horowitz | 2025 | – |
| Batu El (CA, HT) | 2022 | Parametrizing Chains in Generalized FPFIs |
| Alex Caione (ST) | 2022 | Moment Map |
| Ellen Calais (ST) | 2020 | Count Your Conics |
| Rachel Ryley (ST) | 2014 | Affine Coxeter Groups and Applications |
| Melanie Jensen (HT) | 2013 | Combinatorial Interpretations of Lucas Polynomials |
| Jordan Martin (ST) | 2012 | Properties and Applications of Involutions Under Bruhat Order |

## UNIVERSITY-LEVEL SERVICE

Promotion and Tenure Committee
Curriculum Committee
Honors and Awards Committee

## PATENTS

*International (PCT) Application*

| | |
|---|---|
| Title: | QUANTUM ERROR CORRECTING CODES FROM HIGHER GRASSMANN CODES |
| International Application No.: | PCT/US2023/018890 |
| International Publication No.: | WO 2024/058827 (A2) |
| Publication Date: | March 21, 2024 |
| Applicant: | Ohio State Innovation Foundation |
| Inventors: | Mahir Bilen Can; Roy Joshua; Ravindra Grivaru |
| Attorney Docket: | 103361-172WO1 |

*U.S. Provisional Application*

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|---|---|
| Title: | SYSTEMS AND METHODS FOR SECURE AND RELIABLE DATA STORAGE AND TRANSMISSION |
| U.S. Provisional Application No.: | 63/783,638 |
| Filing Date: | April 4, 2025 |
| Applicant: | The Administrators of the Tulane Educational Fund |
| Inventors: | Can, Mahir Bilen; Montero, Dillon |

## AWARDS AND GRANTS

| Sponsor / Program | Project / Notes | Years | Amount |
|---|---|---|---|
| Faculty Mentor Award https://gssa.tulane.edu/faculty-award/ | GSSA Faculty Award | 2024–2025 | — |
| Provost's Proof of Concept (SPARC) | *Shortest Path and Antichain Metrics* | 2025–2026 | $50,000 |
| Louisiana Board of Regents | *Applications of Representation Theory to Quantum Error Correction* (Contract No. LEQSF(2023-25)-RD-A-21) | 2023–2025 | $106,000 |
| Fulbright U.S. Scholar Program | Scientific visit to Portugal (NOVA FCT), May–Aug 2024 | 2024 | — |
| Louisiana Board of Regents | *Targeted Enhancement Research Grant*; Co-PIs: Tai Huy Ha, Rafal Komendarczyk, Kalina Mincheva; Award No. 090ENH-21 | 2021–2022 | $102,840 |
| Louisiana Board of Regents | *Enhance Research*; Co-PI: Tai Huy Ha | 2017–2020 | $109,956 |
| NSA | *Algebra and Combinatorics of Symmetric Varieties and Their Embeddings*; Co-PI: Michael Joyce | 2014–2015 | $33,226 |
| Louisiana Board of Regents | *Combinatorics of Variety of Complete Quadrics* | 2011–2014 | $146,658 |
| NSF | *Workshop on Algebraic Monoids, Algebraic Group Embeddings and Algebraic Combinatorics* | 2012–2013 | $16,000 |
| NSF | *Clifford Lectures on Algebraic Groups: Structure and Actions* | 2015–2016 | $12,000 |

## EDITORIAL SERVICE

Semigroup Forum
Journal of Gökova Geometry-Topology (GGT)

## RECENT SEMINARS, CONFERENCES, LECTURE SERIES

Lecture series, seminars, colloquia, and conferences are abbreviated to **Lec**, **Sem**, **Col**, and **Conf**, respectively.

| Type | Venue / Details | Date(s) |
|---|---|---|
| Conf | Fulbright Panel Moderator at Mathematical Association of America | August 7, 2025 |
| Conf | Southern Regional Algebra Conference | April 4–6, 2025 |
| Sem | Sectional Meetings of the AMS, University of Kansas (Lawrence) | March 29–30, 2025 |

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|---|---|---|
| Sem | (Zoom) Bilkent University Algebraic Geometry Seminar | March 28, 2025 |
| Sem | Joint Meetings of the AMS, Seattle | Jan 8–11, 2025 |
| Sem | (Zoom) Sabanci University Information Theory Seminar | December 18, 2025 |
| Lec | Universidade de Lisboa, FCT | May 27; June 21, 24, 26, 2024 |
| Lec | Universidade Nova de Lisboa, FCT | May 27; June 3, 2024 |
| Sem | Emmy Noether Seminar at Friedrich-Alexander-Universität (Erlangen-Nürnberg) | May 17, 2024 |
| Conf | Southern Regional Algebra Conference (keynote), University of Houston–Downtown | March 21–23, 2024 |
| Col | Saint Louis University | March 8, 2024 |
| Conf | International Conference on Algebraic Geometry, Coding Theory and Combinatorics, Hyderabad, India | December 4–8, 2023 |
| Conf | 6th Annual Meeting of the SIAM Texas–Louisiana Section | November 3–5, 2023 |
| Sem | (Online) Geometry Seminar, University of Rochester | October 6, 2023 |
| Col | Okinawa Institute of Technology | July 16, 2023 |
| Sem | The Combinatorics, Algebra, and Geometry Seminar, Drexel University | April 2023 |
| Col | Lehigh University Mathematics Department Colloquium | April 2023 |
| Sem | Algebra Seminar, University of South Alabama, Mobile | April 2023 |
| Sem | (Online) Universidade Nova de Lisboa, Portugal | January 2023 |
| Col | Indian Institute of Technology Bombay | January 2023 |

## RECENTLY TAUGHT COURSES

*Tulane University*

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|---|---|
| Consolidated Calculus (Math 1310) | Undergraduate |
| Linear Algebra (Math 3060/6060) | Undergraduate & Graduate |
| Abstract Algebra I (Math 3110/6110) | Undergraduate & Graduate |
| Abstract Algebra II | Undergraduate |
| Honors Linear Algebra | Undergraduate Honors |
| Topics in Algebra: Lie Groups and Representation Theory | Graduate Topics |
| Topics in Algebra: Lie Algebras and Representation Theory | Graduate Topics |
| Topics in Algebra: Coding Theory I | Undergraduate & Graduate |
| Topics in Algebra: Coding Theory II | Undergraduate & Graduate |
| Topics in Algebra: Algebraic Geometry I | Graduate |
| Topics in Algebra: Algebraic Geometry II | Graduate |
| Combinatorics | Undergraduate |

*Other Institutions*

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|---|---|
| Vector Calculus (Math 20E), University of California, San Diego | Undergraduate |
| Geometry of Coxeter Groups, Yale University | Graduate |

## RECENTLY ORGANIZED CONFERENCES AND MEETINGS

| Event | Venue / Notes | Date(s) |
|---|---|---|

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|---|---|---|
| Coding Theory and Cryptography | Fall Southeastern AMS Sectional Meeting, New Orleans; Coorganizers: Henry Chimal Dzul (UT San Antonio), Emily McMillon (Rice University) | October 2025 |
| Generalized Numerical Semigroups (thematic session) | Conference on Theoretical and Computational Algebra 2024, Aveiro (Portugal) | July 3, 2024 |
| Southern Regional Algebra Conference 2023 | Tulane University; Coorganized with Kalina Mincheva and Naufil Sakran | March 24–26, 2023 |

## PUBLICATIONS

1. Horospherical Schubert Varieties (with S. Kannan, P. Saha).
   Submitted.
2. Evaluation Codes in Bottleneck Metrics (with D. Montero, F. Özbudak).
   Submitted.
3. Double Coset Schur Rings and Diagonal Subgroups (with J. Rainbolt).
   Submitted.
4. Hyperderivative Reed–Solomon Codes (with B. Horowitz).
   Submitted.
5. *MDS Stabilizer Poset Codes.*
   Submitted.
6. On the Homogeneous Space of a Pair of Associative Composition Algebras (with A. Casimiro, F. Özbudak).
   Submitted.
7. Error correcting codes from general linear groups.
   *Journal of Algebra and Its Applications*, 2025. DOI: 10.1142/S0219498825410324.
8. Higher Grassmann codes III: their decoding and quantum variants (with R. Joshua).
   *IEEE Transactions on Information Theory*, 2025. DOI: 10.1109/TIT.2025.3596479.
9. Corrigendum to "Higher Grassmann codes II" [Finite Fields Appl. 89 (2023) 102211] (with R. Joshua, G. V. Ravindra).
   *Finite Fields and Their Applications*, 2026. DOI: 10.1016/j.ffa.2025.102700.
10. K-Orbit Closures and Hessenberg Varieties (with M. Precup, J. Shareshian, Ö. Uğurlu).
    *Forum of Mathematics, Sigma* **13** (2025), e103. DOI: 10.1017/fms.2025.103.
11. Shortest-Path and Antichain Metrics (with D. Montero).
    *Finite Fields and Their Applications* **108** (2025), 102658. DOI: 10.1016/j.ffa.2025.102658.
12. Toric Richardson Varieties (with P. Saha).
    *Communications in Algebra* **53** (2025), no. 5, 1770–1790. DOI: 10.1080/00927872.2024.2422028.
13. Nearly Toric Schubert Varieties of Type A (with N. Diaz Morera).
    *Turkish Journal of Mathematics* **49** (2025), Article 6. DOI: 10.55730/1300-0098.3574.
14. Bounding the Sum of $\mu$-Invariants on Pair Symbol Weights over Some Irreducible Codes (with F. Özbudak).
    In: *26th International Symposium on Mathematical Theory of Networks and Systems (MTNS)*, Cambridge, UK, Aug 19?23, 2024.
15. Irreducible Unipotent Numerical Monoids (with N. Sakran).
    *Semigroup Forum* **109** (2024), no. 2, 243–278. DOI: 10.1007/s00233-024-10442-5.
16. Defects of Codes from Higher Dimensional Algebraic Varieties (with R. Joshua, G. V. Ravindra).
    *Designs, Codes and Cryptography* **92** (2024), no. 2, 477–494. DOI: 10.1007/s10623-023-01317-2.

17. Applications of Homogeneous Fiber Bundles to the Schubert Varieties (with P. Saha).
*Geometriae Dedicata* **217** (2023), Paper 103. DOI: 10.1007/s10711-023-00786-1.
18. On Generalized Wilf Conjectures (with N. Sakran).
*Portugaliae Mathematica* **81** (2024), no. 1?2, 21–55. DOI: 10.4171/pm/2192.
19. Locally Semialgebraic Superspaces and Nash Supermanifolds.
In: *Contemporary Mathematics* **804** (2024), 53–86. DOI: 10.1090/conm/804/16111.
20. Higher Grassmann Codes, II (with R. Joshua, G. V. Ravindra).
*Finite Fields and Their Applications* **89** (2023), 102211. DOI: 10.1016/j.ffa.2023.102211.
21. Idempotent Varieties of Incidence Monoids and Bipartite Posets (with A. Casimiro, A. Malheiro).
*Algebras and Representation Theory* **26** (2023), no. 5, 1975–2000. DOI: 10.1007/s10468-022-10162-1.
22. Asymptotic Semigroups and Two-sided Weak Orders.
*Journal of Algebra* **610** (2022), 338–365. DOI: 10.1016/j.jalgebra.2022.07.021.
23. A Catalanization Map on the Symmetric Group (with L. Nelson, K. Treat).
*Enumerative Combinatorics and Applications* **2**:4 (2022), Article S4PP7. DOI: 10.54550/ECA2022V2S4PP7.
24. Algebraic Groups in Action.
*Proceedings of the Gökova Geometry?Topology Conference 2021* (GGT), 2022. ISBN 978-1-57146-415-6.
25. Higher Grassmann Codes (with R. Joshua, G. V. Ravindra).
*Finite Fields and Their Applications* **76** (2021), 101905. DOI: 10.1016/j.ffa.2021.101905.
26. Incidence Monoids: Automorphisms and Complexity.
*Semigroup Forum* **103** (2021), no. 2, 414–438. DOI: 10.1007/s00233-021-10199-6.
27. Strong Gelfand Subgroups of $F \wr S_n$ (with Y. She, L. Speyer).
*International Journal of Mathematics* **32** (2021), no. 2, 2150010. DOI: 10.1142/S0129167X21500105.
28. Diagonal Orbits in a Type A Double Flag Variety of Complexity One (with T. Le).
*Order* **38** (2021), 97–110. DOI: 10.1007/s11083-020-09530-7.
29. On the Borel Submonoid of a Symplectic Monoid (with H. Houser, C. Wolfe).
*Advances in Applied Mathematics* **120** (2020), 102073. DOI: 10.1016/j.aam.2020.102073.
30. Toroidal Schubert Varieties (with R. Hodges, V. Lakshmibai).
*Algebras and Representation Theory* **23** (2020), no. 5, 1927–1943.
31. Stirling Posets (with Y. Cherniavsky).
*Israel Journal of Mathematics* **237** (2020), no. 1, 185–219. DOI: 10.1007/s11856-020-2004-1.
32. The Bruhat-Chevalley-Renner order on the set partitions (with Y. Cherniavsky)
*Sém. Lothar. Combin.* 84B (2020), Art. 64, 11 pp.
33. Adjoint Representations of the Symmetric Group (with Miles Jones).
Proceedings of the 12th ISAAC Congress (Trends in Mathematics)
Birkhäuser; (April 8, 2022)
34. Sects (with Aram Bingham).
*Journal of Algebra* 560 (2020), 192–218.
35. Remarks on Enveloping Semigroups
*Communications in Algebra* 48 (2020), no. 5, 2092–2109.
36. A Filtration on Equivariant Borel-Moore Homology (with Aram Bingham and Yıldıray Ozan)
*Forum Math. Sigma* 7 (2019), e18.
37. The rook monoid is lexicographically shellable
*European J. Combin.* 81 (2019), 265–275.
38. A Geometric Interpretation of the Intertwining Number (with Y. Cherniavsky and M. Rubey)
*Electronic Journal of Combinatorics* Volume 26, Issue 2 (2019)
39. The genesis of involutions (polarizations and lattice paths) (with Özlem Uğurlu).
*Discrete Mathematics* 342 (2019) 201–216.
40. Monoid Embeddings of Symmetric Varieties (with R. Howe and L. Renner).
*Colloq. Math.* 157 (2019), no. 1, 17–33.
41. Classification of Reductive Monoid Spaces Over an Arbitrary Field.
*Advances in algebra* 67–94, Springer Proc. Math. Stat., 277, Springer, Cham, 2019.

42. Loop-augmented forests and variant of Foulkes' conjecture (with Jeff Remmel).
*Algebraic Combinatorics* Vol. 1 (2018) no. 5, p. 573–601
43. Wonderful Symmetric Varieties and Schubert Polynomials (with M. Joyce and B. Wyser).
*Ars Mathematica Contemporanea* Vol 15, No 2 (2018)
44. Counting Borel Orbits in Symmetric Varieties of Types BI and CII (with Özlem Uğurlu).
*Arnold Mathematical Journal* 4 (2018), no. 2, 213–250.
45. The Cross-section of a Spherical Double Cone.
*Advances in Applied Mathematics* Volume 101, October 2018, Pages 215–231
46. A representation on labeled rooted forests
*Communications in Algebra* 46 (2018), no. 10, 4273–4291.
47. Complex $G_2$ and associative grassmannian (with S. Akbulut).
*Journal of Gökova Geometry Topology* Volume 11 (2017) 56 –79.
48. Monodromy of torus fibrations and decomposability problem (with M. Topkara).
*Topology and Its Applications* 222 (2017), 165–176.
49. An Analogue of Springer fibers in certain wonderful compactifications (with R. Howe and M. Joyce).
*Journal of Algebra and its Applications* 16 (2017), no. 9.
50. Corrigendum to "Generators of the Hecke algebra of $(S_{2n}, B_n)$" (with Ş. Özden).
*Advances in Math.* Volume 308 (2017), pg 1337–1339
Extended version: http://arxiv.org/pdf/1407.3700v1.pdf
51. Toroidal affine Nash groups
*Journal of Lie Theory* 26 (2016), no. 4, 1069–1077.
52. Chains in Weak Order Posets Associated to Involutions (with M. Joyce and B. Wyser).
*J. Combin. Theory Ser. A* 137 (2016), 207– 225.
53. Lexicographic shellability of the Bruhat-Chevalley order on fixed-point-free involutions (with Y. Cherniavsky and T. Twelbeck).
*Israel J. Math.* 207 (2015), no. 1, 281–299.
54. Divisors and specializations of Lucas polynomials (with T. Amdeberhan and M. Jensen).
*Journal of Combinatorics* 6 (2015), no. 1-2, 69–89.
55. Omitting Parentheses From the Cyclic Notation (with Y. Cherniavsky).
*Mediterr. J. Math.* 12 (2015), no. 4, 1199–1214.
56. Some plethystic identities and Kostka-Foulkes polynomials.
*Ars Combinatoria* 122 (2015), 411–421.
57. SL(2)-regular subvarieties of complete quadrics (with M. Joyce).
*Communication Series of Fields Institute* Book 71 (2014). (Springer.)
58. Bruhat Order on Partial Fixed Point Free Involutions (with Y. Cherniavsky and T. Twelbeck).
*Electronic Journal of Combinatorics* Volume 21, Issue 4 (2014)
59. Lexicographic Shellability of Partial Involutions (with T. Twelbeck).
*Discrete Mathematics* Volume 335, 66–80, November 2014
60. On Bruhat Posets Associated to Composition (with Y. Cherniavsky).
*DMTCS Proceedings* 26th Int. Conference on Formal Power Series and Algebraic Comb. (2014).
61. Calculating Heegaard-Floer Homology by Counting Lattice Points in Tetrahedra (with Ç. Karakurt).
*Acta Mathematica Hungarica* Issue 1, Volume 144, 43–75 (2014)
62. Branching through $G2$ (with Roger Howe).
*Proceedings of the Gökova Geometry-Topology Conference*
2013, 41–75, Gökova Geometry/Topology Conference (GGT), Gökova, 2014.
63. Unipotent invariant matrices (with R. Howe and M. Joyce).
*Linear Algebra and its Applications* 439 (2013), no. 1, 196–210.
64. Weak order on complete quadrics (with M. Joyce).
*Trans. Amer. Math. Soc.* 365 (2013), no. 12, 6269–6282.
65. On the Bruhat-Chevalley order on fixed-point-free involutions (with Y. Cherniavsky, and T. Twelbeck).
*The Seventh European Conference on Combinatorics, Graph Theory and Applications,* 457–462, CRM

Series, 16, Ed. Norm., Pisa, 2013.

66. Ordered Bell numbers, Hermite polynomials, skew Young tableaux and Borel orbits (with M. Joyce). *Journal of Comb. Theory, Series A.* Vol. 119, Issue 8, pp. 1798–1810, (2012).
67. Irreducible representations of semisimple algebraic groups and supersolvable lattices. *Journal of Algebra* Volume 351, Issue 1 (2012), 235–250.
68. The Bruhat-Chevalley ordering on the rook monoid (with L.E. Renner). *Turkish Journal of Math.* No. 36 (2012), 499–519.
69. From parking functions to Gelfand pairs (with K. Aker). *Proc. Amer. Math. Soc.* 140 (2012), 1113 - 1124.
70. Generators of the Hecke algebra of $(S_{2n}, B_n)$ (with K. Aker). *Advances in Mathematics* 231 (2012), no. 5, 2465–2483.
71. Partitions, rooks, and symmetric functions in noncommuting variables (with B. Sagan). *Electron. J. Combin.* 18 (2011), no. 2, Paper 3.
72. Broken Bracelets, Molien Series, Paraffin Wax and an Elliptic Curve of Conductor 48 (with T. Amdeberhan and V. Moll). *SIAM Journal on Discrete Math.* 25(4) (2011), pp. 1843-1859.
73. $R$-polynomials of finite monoids of Lie type (with K. Aker, M. Taşkin). *Internat. J. Algebra Comput.* 20 (2010), no. 6, 793–805.
74. $H$-polynomials and rook polynomials (with L.E. Renner). *Internat. J. Algebra Comput.* 18 (2008), no. 5, 935–949.
75. Nested Hilbert schemes and the nested $q,t$-Catalan series. *DMTCS Proceedings* 20th Int. Conference on Formal Power Series and Algebraic Comb. (2008).
76. A Proof of the $q,t$-Square Conjecture (with N. Loehr). *Journal of Comb. Theory, Series A* 113 (2006), no. 7, 1419–1434.

## PREPRINTS AND WORKING PAPERS (ANNOUNCED)

*These are announced preprints; versions may be updated on arXiv.*

| | |
|---|---|
| *On the Fixed Points of a Regular Unipotent Element* | https://arxiv.org/abs/2012.10487 |
| *The Betti Numbers of a Determinantal Variety* | https://arxiv.org/abs/1903.06849 |
| *Ansatz for* $(-1)^{n-1}\nabla p_n$ (with Soumya D Banerjee, Adriano Garsia) | https://arxiv.org/abs/1806.05704 |
| *Sphericity of Smooth Schubert Varieties* (with Reuven Hodges) | https://arxiv.org/abs/1803.05515 |
| *On the Cohomology Rings of Grassmann Varieties and Hilbert Schemes* (with Jeff Remmel) | https://arxiv.org/abs/1706.02713 |
| *Complexity c Pairs in Simple Algebraic Groups* | https://arxiv.org/abs/1703.05076 |
| *Combinatorial Models for the Variety of Complete Quadrics* (with S. Banerjee, Michael Joyce) | https://arxiv.org/abs/1610.02698 |
| *Equivariant K-Theory of Smooth Projective Spherical Varieties* (with S. Banerjee) | https://arxiv.org/abs/1603.04926 |

## BOOKS EDITED

- *A Glimpse into Geometric Representation Theory* (co-edited with J. Feldvoss). Contemporary Mathematics 804, American Mathematical Society, Providence, RI, 2024. ISBN 978-1-4704-7090-6; eISBN 978-1-4704-7664-9.
- *Algebraic Monoids, Group Embeddings, and Algebraic Combinatorics* (co-edited with Z. Li, B. Steinberg, Q. Wang). Fields Institute Communications 71, Springer, 2014. DOI 10.1007/978-1-4939-0938-4.

- *Algebraic Groups: Structure and Actions* (editor). Proceedings of Symposia in Pure Mathematics 94, American Mathematical Society, Providence, RI, 2017. ISBN 978-1-4704-2601-9; eISBN 978-1-4704-3751-0.