Curriculum Vitae of Huajun Huang

Contact

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Career

- 2010: Associate Professor, Department of Mathematics & Statistics, Auburn University.
- 2004: Assistant Professor, Department of Mathematics & Statistics, Auburn University.

Education

- 2004: Ph.D. in Mathematics at Yale University, advisor Roger Howe.
- 1998: B.S. in Mathematics at University of Science and Technology of China.

Research

I am interested in matrix analysis and applications, data sciences, Lie algebras, Lie groups, and other algebraic structures.

1. Huajun Huang, *The Karcher Mean on* 2×2 *Triangular Matrices with Positive Diagonal Entries*, submitted.
2. Ming-Cheng Tsai and Huajun Huang, *Multiplicative trace and spectrum preservers on stochastic matrices*, Linear Algebras and Its Applications, Volume 734, 2026, Pages 118–151. arXiv:2509.22743

3. Huajun Huang, Sejong Kim and Vatsalkumar N. Mer, *Operator mean and mean iterations of unipotent matrices*, Electronic Journal of Linear Algebras, accepted.

4. Md Kaosar Uddin, Nghi Nguyen, Huajun Huang, Duy Duong-Tran, Jingyi Zheng, *Alpha-Z divergence unveils further distinct phenotypic traits of human brain connectivity fingerprint*, iScience, 2025. arXiv:2507.23116

5. Huajun Huang, Yuexin Li, Shu-Chin Lin, Yuyan Yi, Jingyi Zheng, *Towards Analysis of Covariance Descriptors via Bures-Wasserstein Distance*, Mathematics, 2025, 13(13), 2157. DOI:10.3390/math13132157

6. Luyining Gan, Huajun Huang, *Order Relations of the Wasserstein mean and the spectral geometric mean*, The Electronic Journal of Linear Algebra, Volume 40, pp. 491–505, July 2024. DOI:10.13001/ela.2024.8669

7. H. Huang, T.-Y. Tam, *Extensions of Yamamoto-Nayak's Theorem*, Linear Algebra Appl., 694 (2024) 1–17. DOI:10.1016/j.laa.2024.04.002

8. Nguyen, N. et al. (2024). *Volume-Optimal Persistence Homological Scaffolds of Hemodynamic Networks Covary with MEG Theta-Alpha Aperiodic Dynamics*. In: Linguraru, M.G., et al. Medical Image Computing and Computer Assisted Intervention – MICCAI 2024. MICCAI 2024. Lecture Notes in Computer Science, vol 15003. Springer, Cham. DOI:10.1007/978-3-031-72384-1_49

9. Huajun Huang, Ming-Cheng Tsai, *Maps preserving trace of products of matrices*, Linear and Multilinear Algebra, 71:18, 2962–2985 (2023). DOI: 10.1080/03081087.2022.2129556, arXiv:2103.12552

10. Huajun Huang, Ming-Cheng Tsai, *Linear k-power preservers and trace of power-product preservers*, book chapter, published 2023, *Matrix Theory - Classics and Advances*, ISBN 978-1-80355-823-3. DOI:10.5772/intechopen.103713, arXiv: 2201.09513

11. Ming-Cheng Tsai, Meaza Bogale, Huajun Huang, *On triangular similarity of nilpotent triangular matrices*, Linear Algebra and its Applications, 596 (2020) 1–35.
DOI:10.1016/j.laa.2020.02.034 , arXiv: 2002.10088

12. Prakash Ghimire, Huajun Huang, *Derivations of the Lie algebra of strictly block upper triangular matrices*, Journal of Lie Theory, 30 (2020), No. 4, 1027–1046.

13. Ulrich Albrecht, Pat Goeters, and Huajun Huang, *The rank-relation of a commutative $E(G)$*, Communications in Algebra, Vol 48 (2): 564–572, 2020.
DOI: 10.1080/00927872.2019.1649416

14. Xin Liu, Huajun Huang, Zhuo-Heng He, *Real Representation Approach to Quaternion Matrix Equation Involving ϕ-Hermicity*, Mathematical Problems in Engineering, Volume 2019, Article ID 3258349.
DOI: 10.1155/2019/3258349

15. Huajun Huang, *A Survey of the Marcus–de Oliveira Conjecture*. In: Feldvoss J., Grimley L., Lewis D., Pavelescu A., Pillen C. (eds) Advances in Algebra. SRAC 2017. Springer Proceedings in Mathematics & Statistics, vol 277. Springer, Cham, 2019.
DOI: 10.1007/978-3-030-11521-0_8

16. Basil Conway IV, W. Gary Martin, Marilyn Strutchens, Marie Kraska and Huajun Huang *The Statistical Reasoning Learning Environment: A Comparison of Students' Statistical Reasoning Ability*, Journal of Statistics Education, Vol 27 (3): 171–187, 2019.
DOI: 10.1080/10691898.2019.1647008

17. Prakash Ghimire, Huajun Huang, *Lie triple derivations of the Lie algebra of dominant block upper triangular matrices*, Algebra Colloquium **25**: 3 (2018) 475–492.
DOI: 10.1142/S1005386718000329

18. Huajun Huang and Luke Oeding, *Symmetrization of Principal Minors and Cycle-Sums*, Linear and Multilinear Algebra, **65** (2017) 1194–1219.
DOI: 10.1080/03081087.2016.1233932, arXiv:1510.02515

19. Huajun Huang, Chih-Neng Liu, Patricia Szokol, Ming-Cheng Tsai, Jun Zhang, *Trace and determinant preserving maps of matrices*, Linear Algebra and its Applications, **507** (2016) 373–388.

20. Daniel Brice and Huajun Huang, *On zero product determined algebras*, Linear and Multilinear Algebras, **63** (2015) 326–342.
DOI: 10.1080/03081087.2013.866668

21. Randall R. Holmes, Huajun Huang and Tin-Yau Tam, *Asymptotic behavior of Iwasawa and Cholesky iterations*, Linear Algebra and its Applications, **438 (10)**, (2013) 3755–3768.
DOI: 10.1016/j.laa.2011.04.043

22. Huajun Huang and Hongyu He, *Symmetric subgroup actions on isotropic Grassmannians*, Journal of Algebra, **337** (2011) 141–168.
DOI:10.1016/j.jalgebra.2011.04.022, arXiv:0908.2461

23. Huajun Huang and Tin-Yau Tam, *Aluthge iteration in semisimple Lie group*, Linear Algebra and its Applications, **432** (2010) 3250–3257.

24. Huajun Huang and Sangjib Kim, *On Kostant's partial order on hyperbolic elements*, Linear and Multilinear Algebra, **58** (2010) 783–788.

25. Huajun Huang and Tin-Yau Tam, *On the Gelfand-Naimark decomposition of a nonsingular matrix*, Linear and Multilinear Algebra, **58** (2010) 27–43.

26. Huajun Huang, *Asymptotic behavior of Gelfand-Naimark decomposition*, Operators and Matrices, **3** (2009) 439–449. DOI:10.7153/oam-03-25

27. Huajun Huang, *Some extensions of Witt's theorem*, Linear and Multilinear Algebra, **57** (2009) 321–344.

28. Huajun Huang and Tin-Yau Tam, *Some asymptotic behaviors associated with matrix decomposition*, International J. of Information & Systems Sciences on Matrix Analysis and Applications, **4** (2008) 148–159.

29. Huajun Huang and Tin-Yau Tam, *An asymptotic result on the a-component in Iwasawa decomposition*, Journal of Lie Theory, **17** (2007) 469–479.
https://www.heldermann-verlag.de/jlt/jlt17/huangla2e.pdf

30. Huajun Huang and Tin-Yau Tam, *On the convergence of Aluthge sequence*, Operators and Matrices, **1** (2007) 121–141.

31. Huajun Huang and Tin-Yau Tam, *An asymptotic behavior of QR decomposition*, Linear Algebra and its Applications, **424** (2007) 96–107.

32. Tin-Yau Tam and Huajun Huang, *An extension of Yamamoto's Theorem on the eigenvalues and singular values of a matrix*, Journal of the Mathematical Society of Japan, **58** (2006) 1197–1202. DOI:10.2969/jmsj/1179759544

33. Huajun Huang and Tin-Yau Tam, *On the QR iterations of real matrices*, Linear Algebra and its Applications, **408** (2005) 161–176.

In progress:

1. Xiangxiang Wang, Tin-Yau Tam, Huajun Huang, *The Limit of Matrix Sequences in Mostow Decomposition*

2. *Divergence unveils Further Distinct Phenotypic traits of Brain Fingerprinting*

3. Meaza Bogale, Huajun Huang, *Borel orbits on nilpotent algebra of type C*.

4. Huajun Huang, Ming-Cheng Tsai, *Rank and invertibility preserving maps on nonnegative matrices*.

5. Huajun Huang, Ming-Cheng Tsai, *Multiplicative spectrum and trace preservers on nonnegative matrices*.

Recent Awards and Fundings

- The COSAM Faculty Travel Award ($1,000) for the period 10/01/2024 to 4/30/2025.

- Co-PI of the NSF 21-578 Robert Noyce Teacher Scholarship Program "The Developing, Recruiting, and Empowering Alabama Mathematics (DREAM-Math) Teacher Project", period 04/01/2022–03/31/2028, in the amount of $3,249,800. PI: W. Gary Martin, Co-PIs: Marilyn Strutchens, Huajun Huang, Hans-Werner van Wyk.

- Co-PI of the NSF 17-541 Robert Noyce Teacher Scholarship Program, Title: Developing an Accelerated Pathway to Mathematics Teacher Certification for Career Changers (Capacity Building for Track 2), PI: W. Gary Martin, Co-PIs: Huajun Huang, Marilyn Strutchens. Amount: $75,000, Period: 04/15/2020–03/31/2022.

- Outstanding Graduate Teacher Award, 2018.

- Receive $300 MTE-Partnership Travel Support from APLU with departmental match to attend MTE-Partnership Conference in Atlanta, GA, June 26–28, 2016.

- Co-PI of the granted proposal "STEM Enrichment in Physics, Mathematics, and Project Based Learning: Meeting in the Needs in Alabama", arround $390,000 each year for 2015–2018. The proposal has Dr. Allen Landers from Physics as the PI, Dr. Marilyn Strutchens from Curriculum & Teaching as the leading Co-PI.

- Mathematics Specialist and Partner of a team leaded by Dr. Marilyn Strutchens for the Alabama Mathematics, Science, and Technology Initiative (AMSTI) Mathematics and Science Partnership. The grant was to assist Alabama's teachers in better serving their students in the areas of mathematics, science, and technology. The project period is 2013 – 2016, with a support of around $230,000 each year.

- Member of the Clinical Experiences Research Action Cluster (RAC) in a $1.05 million grant of the Association of Public and Land-grant Universities (APLU) Mathematics Teacher Education Partnership (MTE-Partnership), awarded by The Leona M. and Harry B. Helmsley Charitable Trust in October 1, 2013, in an effort to redesign and strengthen secondary mathematics teacher preparation programs.

- Received $500 MTE-Partnership Travel support from APLU with departmental match to attend MTE-Partnership Conference in Milwaukee, WI, in June 5–8, 2014.

Academic Conferences and Presentations

- February 19, 2025, Auburn Math Club, "Means on Scalars, Matrices, and Lie Groups."

- January 5, 2026, AMS JMM 2026, Washington D.C., "Operator Mean and Mean Iterations of Positive Upper Triangular Matrices."
- June 23-27, 2025, ILAS, Kaohsiung, Taiwan, "Orders on the Bures-Wasserstein and the Alpha Procrustes geodesics."
- March 15, 2025, Mini Workshop on Matrix Theory and Applications, Troy University, "Recent Progress of Orders on the Bures-Wasserstein geodesic and the Alpha Procrustes geodesic."
- January 7th-11th, 2025, Joint Mathematics Meetings (JMM 2025), Seattle, WA, "Extensions of Yamamoto-Nayak's Theorem" and "Linear k-power preservers and trace of power-product preservers".
- October 26th, 2024, Matrix Analysis Workshop at University of North Florida.
- September 5, 2024, Troy University Matrix Seminar, "Order Relations of the Wasserstein curve and the spectral geometric curve".
- June 14-16, 2024, the 2024 Workshop on Matrices and Operators (MAO 2024) at Univ of Nevada Reno, "Order Relations of the Wasserstein curve and the spectral geometric curve".
- December 7, 2023, Univ of Nevada Reno, Colloquium Talk: "Extensions of Yamamoto-Nayak's Theorem".
- November 28, 2023, Auburn Algebra Seminar, "Yamamoto-Nayaka Theorem and Extensions".
- March 2, 2023, Troy University Matrix Seminar, "Some preserver problems on the set of nonnegative matrices".
- July 20, 2022, Auburn University, REU Talk, "Systems of Linear Diophantine Equations".
- June 4, 2022, The International Workshop on Matrix Analysis and Its Applications Quy Nhon (Vietnam), "Multiplicative trace and spectrum preserving maps on matrix spaces" (online).
- March 22, 2021, UNR (Reno), Matrix Seminar, "Trace preserving properties and invertible completely positive maps".

- February 25, 2021, Troy University (Trojan Math Seminar), "Trace preserving maps and applications".
- 2020–2021, attended CAMTEP (Center Alabama Mathematics Teacher Education Partnership) Zoom conferences.
- November 1, 2019, AUM, attended Convening of STAMP (Strategic Taskforce to Amplify Mathematics Pathways).
- October 29, 2019, Linear Algebra/Algebra Seminar, "Orbits and invariants of the diagonal Bruhat decompositions" part II.
- October 22, 2019, Linear Algebra/Algebra Seminar, "Orbits and invariants of the diagonal Bruhat decompositions" part I.
- September 10, 2019, Linear Algebra/Algebra Seminar, "What maps preserve determinants of sums and traces of products?"
- July 15-July 18, 2019, UNR (Reno), The 8th International Conference on Matrix Analysis and Applications (ICMAA 2019), "Characterization of upper triangular similarity orbits".
- June 23-June 28, 2019, St. Louis, attended MTEP Annual Conference and MODULE (S2) project summer institute.
- March 17, 2019, AMS Spring Southeastern Sectional Meeting at Auburn, "Borel subgroup conjugation on nilpotent subalgebra."
- October 2, 2018, Linear Algebra/Algebra Seminar, "Upper triangular similarity, Belitskii's canonical form, and graphical algorithm."
- April 21, 2018, Auburn University at Montgomery, South Regional Algebra Conference, "The rank relation of a commutative End(A)."
- January 23, 2018, Linear Algebra/Algebra Seminar, "A survey of the Marcus-de Oliveira determinantal conjecture."
- October 24, 2017, Linear Algebra/Algebra Seminar, "The QR algorithm and Lie theoretical interpretation."
- July 14, 2017, University of Science and Technology of China, "The QR algorithm: story, ideas, and Lie group interpretations."

- July 7, 2017, Huaqiao University, "The QR iteration: convergence analysis and extensions."
- July 3, 2017, Huaqiao University, "Witt's Theorem: History, Extensions, and Applications."
- April 18, 2017, Linear Algebra/Algebra Seminar, "Majorization, CMJD, and Kostant's Pre-order."
- March 19, 2017, University of Southern Alabama, South Regional Algebra Conference, "Upper triangular similarity of upper triangular matrices."
- October 25, 2016, Linear Algebra/Algebra Seminar, "Upper triangular similarity of upper triangular matrices."
- June 26–28, 2016, Atlanta, GA, attended "MTE-Partnership 2016 Annual Conference".
- March 5-6, 2016: attended UTC conference "Recent Advances in Linear Algebra and Graph Theory" and present "Symmetrization of Principal Minors and Cycle-Sums."
- September 8, 2015, Linear Algebra Seminar, Auburn University, "Witt's Theorem: History, Extensions, and Applications"
- June 1–5, 2015, Yale University, New Haven, CT, attended conference "Representation Theory, Number Theory, and Invariant Theory" (In honor of Professor Roger Howe on the occasion of his 70th birthday).
- March 30, 2015, Linear Algebra Seminar, Auburn University, "A Survey of the QR Decomposition (2nd part)"
- March 18, 2015, STEM Educational Seminar, Auburn University, "Mathematics Education and Culture around the World: China, Germany, and India", with Narendra Govil and Ulrich Albrecht.
- March 16, 2015, Linear Algebra Seminar, Auburn University, "A Survey of the QR Decomposition (1st part)".
- October 29, 2014, Graduate Student Seminar, Auburn University, "Matrix, Lie Algebra, and Lie Group: A Preliminary Introduction."

- July 9, 2017, 2014, The 6th Matrices and Operators Workshop, UESTC, Chengdu, China, "On Kostant's partial order on hyperbolic elements".
- June 5–8, 2014, Milwaukee, WI, attended "2014 MTE-Partnership Conference".
- April 26, 2014, Montgomery, AL, attended "2014 Southern Regional Algebra Conference".
- April 12, 2014, AMS Spring Central Sectional Meeting, Texas Tech University, Lubbock, TX. "Asymptotic Behavior of Iwasawa and Cholesky Iterations."
- March 28, 2013, Mathematics Education Seminar, Auburn University, "A mathematician's prospective of mathematics education."
- March 26, April 2, 2013, Linear Algebra Seminar, Department of Mathematics and Statistics, Auburn University, "On complete multiplicative Jordan decomposition."
- March 10–11, 2012, AMS 2012 Spring Southeastern Section Meeting, Special Session on Representations of Algebraic Groups and Related Structures, University of South Florida, Tampa, FL, "Combinatorial properties of some Bruhat orders."
- July 8–12, 2011, The 6th Workshops on Matrices and Operators, University of Electronic Science and Technology of China, "On Kostant's partial order on hyperbolic elements."
- March 23, 2011, Yale University, attended "Walter Feit Memorial Lecture and Algebra and Lie Groups Seminar," Speaker: Allen Knutson.
- March 26-28, 2010, Southern Regional Algebra Conference, Auburn University at Montgomery, "On Kostant's partial order on hyperbolic elements."
- November 11, 2009, Auburn University, "Invariants in some group actions."
- October 8-11, 2009, North Carolina State University, attended "Southeastern Lie Theory Workshop on Combinatorial Lie Theory and Applications."

- May 18, 2009, Zhejiang Normal University, "Witt's theorem: history, extensions, and applications."
- May 15, 2009, Shanghai Jiao Tong University, "Isometry group actions on subspaces."
- May 4, 2009, Louisiana State University, "On simultaneous isometry of subspaces."
- April 17, 2009, Auburn University at Montgomery, "Some extensions of Witt's theorem."
- June 26, 2008, Auburn University, (GK-12 Math Fellow Meeting), "The Pythagorean Theorem: proof and generalizations."
- March 24, 2007, Auburn University, (Robert C. Thompson Matrix Meeting), "On Gelfand-Naimark decomposition of a nonsingular matrix."
- December 15-17, 2006, Nova Southeastern University (2nd International Workshop on Matrix Analysis and Applications), "On the convergence of Aluthge sequence."
- October 29, 2006, Auburn University, (Southeastern Algebra Conference), "On the convergence of Aluthge sequence."
- June 8-17, 2006, Nankai University, Tianjin, China, attended "Summer School: Representation Theory and Harmonic Analysis."
- June 4-6, 2006, China University of Mining Technology, Xuzhou, China, "Borel orbits and invariants of symmetric subgroups on flag manifolds."
- October 27, 2005, University of South Alabama, "Borel orbits of symmetric subgroups on flag manifolds."
- April 14, 2005, Auburn University, "Linear algebra, Lie groups, Lie algebras, and representation theory."
- March 24-27, 2005, University of Arizona, attended "Geometric Representation Theory Workshop."
- January 5-8, 2005, Atlanta, GA, attended "AMS-MAA joint meeting."

- November 13, 2004, San Jose State University, Southern California Matrix Meeting, "Borel orbits and invariants of classical symmetric subgroups on multiplicity- free complete flag manifolds."
- September 24, 2004, Auburn University, "Representations and invariants behind some decompositions (II)."
- September 17, 2004, Auburn University, "Representations and invariants behind some decompositions (I)."
- Spring 2004, Yale University, seminar talks.
- March 8, 2004, Auburn University, "Borel orbits and invariants of classical symmetric subgroups on multiplicity- free flag manifolds."
- February 2004, Yale University, "Borel orbits and invariants of classical symmetric subgroups on Grassmannians."
- May 2001, Yale University, "Combined hyperbolic plane decompositions of isometry groups."

Teaching Experiences

1. Graduate Courses:
    - Introduction to Lie groups
    - Lie algebras
    - Lie algebras and Lie groups
    - Advanced topics in matrix analysis
    - Matrices I, II
    - Algebra I, II
    - Abstract algebra I, II
    - Probability and Stochastic Process
    - Linear Algebra (II)
    - Matrix theory and applications
    - Algebra and Number System for Teachers
    - Geometry for Teachers

- Advanced mathematical connections to the secondary mathematics curriculum

2. Undergraduate Courses:

   - Matrix theory and applications
   - Abstract algebra I, II
   - Advanced mathematical connections to the secondary mathematics curriculum
   - Probability and stochastic process
   - Time series analysis
   - Applied regression analysis
   - Probability and statistics I, II
   - Linear algebra (II)
   - Topics in Linear algebra
   - Linear differential equations
   - Calculus I, II, III (including Honors Calculus, Business Calculus)
   - Precalculus: Algebra, Trigonometry and Algebra

Other Academic Activities and Services

- Reviewer for *MathSciNet* (*Mathematical Reviews*).
- Reviewer for *Zentralblatt MATH*.
- Referee for peer-reviewed journals:
  - *Mathematics*
  - *Linear and Multilinear Algebra*
  - *Linear Algebra and Its Applications*
  - *The Electronic Journal of Linear Algebra*
  - *International Mathematics Research Notices*
  - *American Mathematical Monthly*
  - *Open Mathematics*

  - *Axioms*
  - *Acta Mathematica Sinica, English Series*
  - *Advances in Applied Mathematics*
  - *Alabama Journal of Mathematics*
  - *Communications in Mathematics and Statistics*
  - *Journal of Mathematical Sciences: Advances and Applications*
  - *The IEEE Control Systems Society Conference*
  - *Bulletin of the Transilvania University of Brasov*
  - *Ars Mathematica Contemporanea*
  - *Punjab University Journal of Mathematics*
  - *Journal of Taibah University for Science*
  - *Qeios (website)*

- Co-organizer of "Special Session on Matrix and Operator Means: Theory and Applications" in AMS 2026 Fall Southeastern Sectional Meeting, Kennesaw State University, October 10-11, 2026.

- Courses developed:

  - Designed and proposed the course "Geometry for Teachers" (MATH 6860) with Hans Werner Van Wyk et al in 2021.
  - Designed and proposed the course "Functions and Mathematical Modeling for Teachers" (MATH 6850) with Hans Werner Van Wyk et al in 2021.
  - Designed and proposed the course "Number Systems and Algebra for Teachers" (MATH 6840) with Hans Werner Van Wyk et al in 2021.
  - Designed and proposed the course "Statistics and Probability for Teachers" (STAT 6830) with Hans Werner Van Wyk et al in 2021.
  - Designed the syllabus of "*Introduction to Lie Groups*" in 2009.
  - Designed the syllabi of "*Lie Algebras I & II*" with Randall R. Holmes and Tin-Yau Tam, in 2008. The syllabi have been adopted in the course MATH-7360 (Lie Algebras).

- Major professor of the graduate students:
  - Muritala Abiodun Ibrahim, Mathematics, Ph.D., 2023– present.
  - Brea C. Ratliff, Applied Mathematics, M.A.M. program, 2025.
  - Meaza Bogale, Mathematics, Ph.D. program, 2015–2021.
  - Khadejah Homadi, Mathematics, M.S. program, 2015–2017.
  - Prakash Ghimire, Mathematics, Ph.D. program, 2012–2016.
  - Daniel Brice, Mathematics, Ph.D. program, 2009–2014.
- Member of the Ph.D. advisory committees:
  - Michael Zirpoli (adivisor: Jingyi Zheng), Statistics, 2025 – present.
  - Colby Muir (advisor: Douglas Leonard), Mathematics, 2023 – 2024.
  - Yee Ern Tan (advisor: Luke Oeding), Mathematics, 2023 – 2025.
  - Zichao Wang (adivisor: Ziqin Feng), Mathematics, 2023 – 2024.
  - Matthew Speck (advisor: Luke Oeding), Mathematics, 2023 – 2024.
  - Keri Flowers (adivisor: Marilyn Strutchen), Mathematics Education, Department of Curriculum and Teaching, 2018 – 2021.
  - Randy Gay (advisor: Randall Holmes), Mathematics, 2019 – 2021.
  - Luyining Gan (advisor: Tin-Yau Tam), Mathematics, 2019 – 2020.
  - Daryl Granario (advisor: Tin-Yau Tam), Mathematics, 2018 – 2020.
  - Sima Ahsani (advisor: Tin-Yau Tam), Mathematics, 2016 – 2018.
  - Daniel James (advisor: Ulrich Albrecht), Mathematics, 2015– 2017.
  - Jeffrey Ford (advisor: Krystyna Kuperberg), Mathematics, 2015 – 2018.
  - Basil Conway (advisor: Gary Martin), Mathematics Education, Department of Curriculum and Teaching, 2013 – 2015.
  - Kodithuwakku Indika (advisor: Randall Holmes), Mathematics, 2010 – 2013.

  - Anna Wan (advisor: Marilyn Strutchen), Mathematics Education, Department of Curriculum and Teaching, 2010 – 2013.
  - Mary Clair Thompson (advisor: Tin-Yau Tam), Mathematics, 2010 – 2013.
  - Roy Xuhua Liu (advisor: Tin-Yau Tam), Mathematics, 2008 – 2012.
  - Jason Ervin (advisor: Randall R. Homles), Mathematics, 2006 – 2007.

- University Reader of the Ph.D. dissertations:
  - Ruby Ellis (advisor: Gary W. Martin), Curriculum and Teaching, 2018.
  - Christopher Parrish (advisor: Gary W. Martin), Curriculum and Teaching, 2016.
  - Lei Zhang, Agricultural Economics, 2012.
  - Heping Liu (advisor: Saeed Maghsoodloo), Industrial and Systems Engineering, 2009.

- Member of Master Committees:
  - John Sterling (advisor: Zhiqin Feng), 2024–2025.
  - Amiee Sanders (EdS Specialist degree, advisor: Marilyn Strutchen), 2024–2025.
  - Ronnie Hall (ED MEDT CMAG, advisor: Gary Martin), 2023–2025.
  - Jian Cui (advisor: Ginny Zheng), M.S.M., 2021.
  - Benjamin Reames (advisor: Luke Oeding), M.A.M., 2015–2016.
  - Dawit Gezahegn Tadesse (advisor: Tin-Yau Tam), M.S.M., 2010–2011.
  - Mary Clair Thompson (advisor: Tin-Yau Tam), M.S.M., 2007–2009.
  - Ruchika Sabharwal (advisor: Narendra Govil), M.A.M., 2007–2009.

  - Neha Agarwal (advisor: Narendra Govil), M.A.M., 2006–2007.

- Co-Organizer of the Special Session on Matrix and Operator Means: Theory and Applications in Fall 2026 AMS Southeastern Sectional Meeting at Kennesaw State University, in October 10–11, 2026.

- Department Librarian 2012–2026.

- Member of Graduate Studies Committee (2014–2017), Chair of Graduate Studies Committee (2015–2017).

- Member of Undergraduate Studies Committee (2018–2023).

- Member of COSAM Awards Committee for undergraduate students (President's Award, SGA Award, and Comer Medal), 2018–2021.

- Member of the Ad Hoc Committee of the RKB Professorship, 2018.

- Member of Promotion & Tenure Ad Hoc Committee, 2017, 2018, 2019.

- Member of the Third Year Review Ad Hoc Committee in 2015.

- Member of Linear Algebra Textbook Committee, Fall 2014 – Spring 2015.

- Member of the Search Committee of Algebra Tenure Track Assistant Professor Position in 2013–2014, 2019–2020.

- Member of the Search Committee of two open rank Tenure Track Positions in Statistics/Data Science, 2023–2024.

- Teaching & research mentors for young faculty, 2014–2017.

- GTA coordinator for the instruction of Calculus III in Fall 2022.

- GTA coordinator for the instruction of Business Calculus in Fall 2015.

- Host/co-host visiting scholars:

  - Chi Zhang (November 2018–January 2019),
  - Jin Wang (November 2018–October 2019),
  - Ying Guo (August 2018–August 2019),

  - Yong Liu (August 2017–May 2020),
  - Ying Tang (August 2017–August 2018),
  - Zhuo-Heng He (August 2016–May 2018),
  - Ming-Cheng Tsai (December 2014–May 2016),
  - Liping Wang (March 2014–August 2014),
  - Yi Wu (July 2013–July 2014).

- Organizer of Linear Algebra/Algebra Seminar (2012 Fall, 2013 Spring, 2013 Fall, 2014 Summer, 2014 Fall, 2018 Fall).

- Did professional development for K-12 teachers in Summer Academies under the project of AMSTI Mathematics and Science Partnership, 2014 – 2018.

- Assisted course credit transfer for MATH 1680, MATH 1690, MATH 2660 in 2013.

- Member of the graduate algebra preliminary examination committees: 2008 (chair), 2011 (chair), 2012 (chair), 2014, 2017 (chair), 2018, 2024 (chair).

- Organizer of mathematics comprehension exams for Anna Wan (2010), Basil Conway (2014).

- Undergraduate advisor for mathematics major students, 2010–2020.

- Assistant chair of the organizing committee of the joint meeting of 85th MAA (Mathematical Association of America) Meeting (Southeastern Section) and 30th SIAM (Society for Industrial and Applied Mathematics) Annual Meeting (Southeastern Atlantic Section), April 2005 – April 2006.

- Judge of the South's BEST (Boosting Engineering Science and Technology) Robotics Regional Championship, December 2009.

- Coordinator of Alabama State Science Olympiad events, 2005–2019, 2023–2024.