Jerome Goddard II

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Education

Ph.D. in Mathematical Sciences August 2011
Mississippi State University
- Concentration: Differential Equations (Nonlinear Boundary Value Problems)
- Major Advisor: Prof. Ratnasingham Shivaji
- Dissertation: "Classes of reaction diffusion equations with nonlinear boundary conditions"

Master of Science in Mathematics May 2006
Mississippi College
- Graduated *Summa Cum Laude*
- Major Advisor: Prof. John Travis
- Thesis: "Mathematical estimation of potential risk of Lyme disease in Mississippi"

Bachelor of Science in Mathematics May 2004
Mississippi College
- Graduated *Summa Cum Laude*
- Minor: Computer Science

Academic Positions

Professor of Mathematics 2021 - present
Auburn University Montgomery

Distinguished Research Associate Professor of Mathematics 2019 - 2022
Auburn University Montgomery

Assistant to the Chair (Mathematics) 2018 - present
Auburn University Montgomery

Associate Professor of Mathematics (with Tenure) 2015 - 2019
Auburn University Montgomery

Director of Mathematical Studies 2015 - 2018
Auburn University Montgomery

Assistant Professor of Mathematics 2011 - 2015
Auburn University Montgomery

Research Interests

- Partial differential equations
- Reaction diffusion equations
- Nonlinear boundary value problems with nonlinear boundary conditions
- Mathematical biology-especially population modeling

Awards and Honors

- **Distinguished Research Associate Professor Award (2019 – 2022, $3,000), *AUM*** 2019
- **2017 Outstanding Faculty Award, Dept. of Math & Comp. Sci., *AUM*** 2018
- Excellence in Service to Students Award, the National Society of Leadership and Success (Sigma Alpha Pi), *AUM* 2014
- **School of Sciences Junior Faculty award (2012 – 2013, $1,000), *AUM*** 2013
- 2011 Graduate Doctoral Student Research award, *MSU* 2011
- Graduate student travel award, for travel to 2011 AMS JMM ($1,000), *MSU* 2010
- Outstanding Graduate Teaching award, Dept. of Mathematics and Statistics, *MSU* 2010
- Nominated for Donald Zacharias Teaching Assistant of the Year award, *MSU* 2010
- Graduate student travel award, for travel to 2010 AMS JMM ($1,000), *MSU* 2009
- Outstanding Graduate Teaching award, Dept. of Mathematics and Statistics, *MSU* 2009
- Outstanding Graduate Student award, Dept. of Mathematics and Statistics, *MSU* 2007
- Junior District Award of Merit, Andrew Jackson Council, *Boy Scouts of America* 2007
- Who's Who among American Colleges and Universities, *Mississippi College* 2004
- Alpha Chi, *Mississippi College* 2004
- Secretary, Pi Mu Epsilon, *Mississippi College* 2004
- Burnside Mathematics Scholarship award ($1,000), *Mississippi College* 2003
- Finalist, Persuasive Speaking Contest, *Hinds Community College* 2002
- Mu Alpha Theta, *Hinds Community College* 2002
- Phi Theta Kappa, *Hinds Community College* 2002
- Eagle Scout, Troop 99, *Boy Scouts of America* 1998

Research Publications

Authored Books:

1. Goddard's Physician's Guide to Arthropods of Medical Importance, Seventh Edition, CRC/Taylor & Francis Group, with Gail Moraru, Spring 2019.

   Note: Previous editions of this book are world-renowned and authored by Jerome Goddard (https://www.crcpress.com/Physicians-Guide-to-Arthropods-of-Medical-Importance-Sixth-Edition/Goddard/p/book/9781439850855). For this edition, Jerome Goddard has stepped down from the role of author, giving the authorship and responsibility of maintaining and updating this and future editions to Jerome Goddard II and Gail Moraru.

Journal Articles (Peer-Reviewed):

2. "Estimating populations of adult *Ixodes scapularis* in Mississippi using a sequential Bayesian algorithm," with Jerome Goddard, **Journal of Medical Entomology,** vol. 45, no. 3, 556-562(2008). http://dx.doi.org/10.1603/0022-2585(2008)45[556:EPOAIS]2.0.CO;2

3. "A double S-shaped bifurcation curve for a reaction-diffusion model with nonlinear boundary conditions," with Eun Kyoung Lee & R. Shivaji, **Boundary Value Problems,** vol. 2010, Article ID: 357542: 23 pages.
   http://dx.doi.org/10.1155/2010/357542
4. "Diffusive logistic equation with non-linear boundary conditions," with Eun Kyoung Lee & R. Shivaji, **Journal of Mathematical Analysis and Applications,** vol. 375, no. 1, (2011): 365-370.
   http://dx.doi.org/10.1016/j.jmaa.2010.09.057
5. "Population models with diffusion, strong Allee effect, and nonlinear boundary conditions," with Eun Kyoung Lee & R. Shivaji, **Nonlinear Analysis: Theory, Methods & Applications,** vol. 74, no. 17, (2011): 6202-6208.
   http://dx.doi.org/10.1016/j.na.2011.06.001
6. "Ecological systems, nonlinear boundary conditions, and Σ-shaped bifurcation curves," with Kathryn Ashley & Victoria Sincavage, **Involve: A Journal of Mathematics**, vol. 6, no. 4, (2013): 399-430.
   http://dx.doi.org/10.2140/involve.2013.6.399
7. "Existence results for classes of infinite semipositone problems," with Eun Kyoung Lee, Lakshmi Sankar, & R. Shivaji, **Boundary Value Problems**, vol. 2013, no. 97, 1-9.
   http://dx.doi.org/10.1186/1687-2770-2013-97
8. "Diffusive logistic equation with constant yield harvesting and negative density dependent emigration on the boundary," with R. Shivaji, **Journal of Mathematical Analysis and Applications**, vol. 414, no. 2 (2014), 561-573.
   http://dx.doi.org/10.1016/j.jmaa.2014.01.016
9. "Halo-shaped bifurcation curves in ecological systems," with R. Shivaji, **Electronic Journal of Differential Equations**, vol. 2014, no. 88 (2014), 1-27.
   http://ejde.math.txstate.edu/Volumes/2014/88/abstr.html
10. "Diffusion Rates and Dispersal Patterns of Starved Versus Recently Fed Bed Bugs (*Cimex lectularius L.*)," with Michael Caprio & Jerome Goddard, **Insects**, vol. 6, no. 4 (2015), 792-804.
    https://www.mdpi.com/2075-4450/6/4/792
11. "Biomedical researchers should declare their assumptions (research letter)," with Jerome Goddard, **Journal of the Mississippi Academy of Sciences**, vol. 60, no. 3 (2015).
    https://msacad.org/wp-content/uploads/2016/01/MAS-July-2015-Number-Vol-60-3a.pdf
12. "Stability and instability of positive solutions for classes of semilinear elliptic boundary value problems with nonlinear boundary conditions," with R. Shivaji, **Royal Society of Edinburgh Proceedings A: Mathematics**, vol. 147, no. 5 (2017).
    https://doi.org/10.1017/S0308210516000408
13. "Bifurcation curves for some singular and nonsingular problems with nonlinear boundary conditions," with Q. Morris, R. Shivaji, & B. Son, **Electronic Journal of Differential Equations**, vol. 2018, no. 26 (2018), 1-12.
    https://ejde.math.txstate.edu/Volumes/2018/26/abstr.html
14. "An exact bifurcation diagram for a reaction diffusion equation arising in population dynamics," with Q. Morris, S. Robinson, & R. Shivaji, **Boundary Value Problems**, vol. 2018, no. 1, (2018), 170.
    https://doi.org/10.1186/s13661-018-1090-z
15. "A diffusive logistic equation with U-shaped density dependent dispersal on the boundary," with Q. Morris, C. Payne, & R. Shivaji, **Topological Methods in Nonlinear Analysis**, vol. 53, no. 1, (2019), 335-349.
    https://projecteuclid.org/euclid.tmna/1547434818
16. "Effects of patch-matrix composition and individual movement response on population persistence at the patch-level," with J. Cronin & R. Shivaji, **Bulletin of Mathematical Biology,** vol. 81, no. 10, (2019), 3933-3975.
    https://link.springer.com/article/10.1007/s11538-019-00634-9
17. "Modeling the effects of density dependent emigration, weak Allee effects, and matrix hostility on patch-level population persistence", with J. T. Cronin, N. Fonseka, R. Shivaji, & B. Son, **Mathematical Biosciences and Engineering**, vol. 17, no. 2, (2019), 1718-1742.
    https://www.aimspress.com/article/10.3934/mbe.2020090/fulltext.html

18. "On the effects of the exterior matrix hostility and a U-shaped density dependent dispersal on a diffusive logistic growth model," with N. Fonseka, Q. Morris, R. Shivaji, & B. Son, **Discrete and Continuous Dynamical Systems Series S**, vol. 13, no. 12, (2020), 3401-3415. http://www.aimsciences.org/article/doi/10.3934/dcdss.2020245
19. "Frequency of Occurrence and Population-Dynamic Consequences of Different Forms of Density-Dependent Emigration," with J. T. Cronin, R. Harmon, & R. Shivaji, **The American Naturalist**, 195:5, (2020), 851-867. https://doi.org/10.1086/708156
20. "Modeling the effects of trait-mediated dispersal on the coexistence of mutualists," with J. T. Cronin, A. Muthunayake, & R. Shivaji, **Mathematical Biosciences and Engineering**, vol. 17, no. 6, (2020), 7838-7861. http://www.aimspress.com/article/10.3934/mbe.2020399
21. "A diffusive weak Allee effect model with U-shaped density dependent dispersal and hostile matrix effects," with N. Fonseka, R. Shivaji, & B. Son, **Discrete and Continuous Dynamical Systems Series B**, vol. 26**,** no. 10 (2021), 5509-5517. https://www.aimsciences.org/article/doi/10.3934/dcdsb.2020356
22. "Modeling effects of matrix heterogeneity on a single species," with N. Fonseka, A. Henderson, D. Nichols, & R. Shivaji, **Mathematical Biosciences and Engineering,** vol. 19, no. 12 (2022), 13675-13709. http://www.aimspress.com/article/doi/10.3934/mbe.2022638.
23. "The diffusive Lotka-Volterra competition model in fragmented landscapes I: Coexistence," with A. Acharya, B. Bandyopadhyay, J. T. Cronin, A. Muthunayake, & R. Shivaji, **Nonlinear Analysis: Real World Application,** vol. 70, (2023), 103775 https://www.sciencedirect.com/science/article/pii/S1468121822001584
24. "Ecological release and patch geometry can cause nonlinear density-area relationships," with J. T. Cronin & R. Shivaji, **Journal of Theoretical Biology**, vol. 557, no. 21, (2023), 111325. https://doi.org/10.1016/j.jtbi.2022.111325
25. "Predator-induced prey dispersal can cause hump-shaped density-area relationships in prey populations," with J. T. Cronin, A. Muthunayake, J. Quiroa, & R. Shivaji, *submitted*.
26. "On the effects of density-dependent dispersal on ecological models with logistic and Allee effect type growth terms," with A. Acharya, N. Fonseka, A. Henderson, & R. Shivaji, *submitted*.

Conference Proceedings (Peer-Reviewed):

27. "Relative risk of acquiring Black-legged ticks, *Ixodes scapularis*, in Central Mississippi," with Jerome Goddard, **Midsouth Entomologist**, Vol. 3 (2010): 97-100. http://www.midsouthentomologist.org.msstate.edu/Volume3/Vol3_2_html_files/Vol3_2_004.html
28. "Population models with nonlinear boundary conditions," with Eun Kyoung Lee & R. Shivaji, **Electronic Journal of Differential Equations,** Conf. 19 (2010): 135-149. http://ejde.math.txstate.edu/conf-proc/19/g2/abstr.html
29. "A population model with nonlinear boundary conditions and constant yield harvesting," with R. Shivaji, **Proceedings of Dynamic Systems and Applications,** vol. 6 (2012): 150-157. http://www.dynamicpublishers.com/dynamic.htm

Technical Reports (Not Peer-Reviewed):

30. "Stability of Extending Films," with Olus, N. Boratav, Li Taebeom Kim, Jill Klentzman, Dias Kurmashev, Mauricio Osorio, & Gregory Richards. **IMA Mathematical Modeling in Industry Workshop XII**, (2008): 1-26. http://citeseer.uark.edu:8080/citeseerx/viewdoc/summary;jsessionid=92C034DAB79E1D157051B2CC4BB906D9?doi=10.1.1.140.6689
31. "Proportion of Adult Lone Star ticks (*Amblyomma americanum*) questing in a tick population," with Jerome Goddard & Xueyan Wang, **Journal of Mississippi Academy of Sciences**, Vol. 54 No 3-4 (2009): 206-209. https://pdfs.semanticscholar.org/0c94/404adbd6f08914a666e7ad0fd8c7a6150f3a.pdf#page=20

In Preparation:

32. "Analysis of steady states for classes of reaction-diffusion equations with U-shaped density dependent dispersal on the boundary," with J. Price & R. Shivaji, in preparation.
33. "Landscape level modeling of habitat fragmentation via reaction diffusion equations," with A. Barnett, D. Harrell, & R. Shivaji, in preparation.
34. "Modeling competition-mediated dispersal with the reaction diffusion framework," with E. Cosgrove, E. Lindsey, & R. Shivaji, in preparation.
35. "Movement behavior of *Ischnodemus falicus* (Say) (Hemiptera: Blissidae) in fragmented salt-marsh habitats," with R. R. Harman, R. Shivaji, and J. T. Cronin, in preparation.
36. "The diffusive Lotka-Volterra competition model in fragmented landscapes II: Competitive reversal," with A. Acharya, J. T. Cronin, & R. Shivaji, in preparation.
37. "When is competition better than having the whole patch to yourself?", with Z. Blume-Babcock, J. T. Cronin, S. Fields, J. Mills, & R. Shivaji, in preparation.
38. "Trait-mediated dispersal in two competing species," with J. T. Cronin, A. Krivchenia, & R. Shivaji, in preparation.
39. "Harvesting-mediated emigration can affect community structure in a competitive system," with J. T. Cronin, H. Abusammour, J. Garett, S. Humphries, R. Shivaji.
40. "Effects of trait-mediated dispersal on a weakly coupled competitive system," with A. Acharya, S. Bandyopadhyay, A. Muthunayake, & R. Shivaji.

Grants

External Funding:

* Continuously funded by NSF since 2005 (4 collaborative grants): $2,180,550 (Goddard's portion: $464,462)

- NSF Mathematical Biology/Population and Community Ecology Grant. "Collaborative Research: Mathematical and experimental analysis of the interaction between competitors and a shared predator - from patches to landscapes" (DMS- 2246725). Principle Investigator (Co-PIs: James T. Cronin, LSU and R. Shivaji, UNCG) April 2023
  Awarded: $715,710 (Goddard's portion: $155,710), 8/1/2023 – 7/31/2026 (expected)

- NSF Mathematical Biology Grant. "Collaborative Research: Mathematical and Experimental Analysis of Competitive and Predator-Prey Models: Conditional Dispersal from Patches to Landscapes" (DMS-2150946). Principle Investigator (Co-PIs: James T. Cronin, LSU and R. Shivaji, UNCG) Aug 2022
  Awarded: $200,000 (Goddard's portion: $50,000), 8/1/2022 – 7/31/2024 (expected)

- NSF Mathematical Biology/Population and Community Ecology Grant. "Collaborative Research: Mathematical and Experimental Analysis of Competitive Ecological Models: Patches, Landscapes, and Conditional Dispersal on the Boundary" (DMS-1853372). Principle Investigator (Co-PIs: James T. Cronin, LSU and R. Shivaji, UNCG) Aug 2019
  Awarded: $670,000 (Goddard's portion: $120,930), 8/1/2019 – 7/31/2023

- NSF Mathematical Biology Grant. "Collaborative Research: Mathematical & Experimental Analysis of Ecological Models: Patches, Landscapes, and Conditional Dispersal on the Boundary" (DMS-1516560). Principle Investigator (Co-PIs: James T. Cronin, LSU and R. Shivaji, UNCG) Aug 2015
  Awarded: $594,840 (Goddard's portion: $137,822), 8/15/2015 – 7/31/2019

- NSF Grant (DMS-1438811) as Co-PI in the Applied Mathematics Program, entitled "The Tenth Mississippi State Conference on Differential Equations and Computational Simulations" April 2014
  Awarded: $35,000

- NSF Grant (DMS-1237586) as Co-PI in the Applied Mathematics Program, entitled "The Ninth Mississippi State - UAB Conference on Differential Equations and Computational Simulations" July 2012
  Awarded: $35,000

Internal Grant Awards:

- AUM Research Grant-in-Aid: "Finding Allee: Uncovering patterns in ecological population time series using machine learning," Nov 2021
  Awarded: $7,500, 12/1/21 – 11/30/23
- AUM School of Sciences Supplemental Travel Grant to attend the *2015 Joint Mathematics Meetings* Jan 2015
  Awarded: $1,000
- AUM Faculty Research Conference Fund Travel Grant to attend the *2015 Joint Mathematics Meetings* Jan 2015
  Awarded: $252
- AUM School of Sciences Supplemental Travel Grant to attend the *2014 Joint Mathematics Meetings* Jan 2014
  Awarded: $1,000
- AUM Lecturer Program Grant to support the 2013 SK Day keynote speaker's travel expenses (Dr. Katie Johnson, Florida Gulf Coast University) Nov 2013
  Awarded: $804
- AUM Faculty Research Conference Fund Travel Grant to attend the *2013 Joint Mathematics Meetings* Jan 2013
  Awarded: $290
- AUM School of Sciences Supplemental Travel Grant to attend the *2013 Joint Mathematics Meetings* Jan 2013
  Awarded: $1,000
- AUM Faculty Research Conference Fund Travel Grant to attend the *2012 AIMS 9th International Conference on Dynamical Systems and Differential Equations* May 2012
  Awarded: $290
- AUM School of Sciences Supplemental Travel Grant to attend the *2012 AIMS 9th International Conference on Dynamical Systems and Differential Equations* April 2012
  Awarded: $1,000
- AUM Research Grant-in-Aid proposal, "Population models with diffusion, harvesting, and nonlinear boundary conditions" Jan 2012
  Awarded: $1,100
- AUM Lecturer Program Grant to bring Prof. R. Shivaji to campus to present a lecture, Oct 2011
  Awarded: $500

Ph.D. Student Mentorship

For the following students, I co-directed their dissertation with Prof. R. Shivaji at UNCG, as a significant portion of their dissertations derived from my three NSF grants on habitat fragmentation and served as a member of their Ph.D. Committee:

- **Alketa "Keta" Henderson,** University of North Carolina Greensboro 2020 – present
  Dissertation: TBD.
  Current position: Third year PhD student at UNCG.
  https://mathstats.uncg.edu/people/directory/alketa-henderson/

- **Dustin Nichols,** University of North Carolina Greensboro 2020 – present
  Dissertation: TBD.
  Current position: Third year PhD student at UNCG.
  https://mathstats.uncg.edu/people/directory/dustin-nichols/

- **Ananta Acharya,** University of North Carolina Greensboro 2018 – present
  Dissertation: TBD.
  Current position: Fifth year PhD student at UNCG.
  https://mathstats.uncg.edu/people/directory/ananta-acharya/

- **Amila Muthunayake,** University of North Carolina Greensboro 2017 – 2021
  Dissertation: "Analysis of positive solutions for classes of nonlinear reaction diffusion equations and systems," *successfully defended in Summer 2021.*
  Current position: Assistant Professor of Mathematics (tenure-track), Department of Mathematics, Weber State University
  https://scholar.google.com/citations?user=AzCjigMAAAAJ&hl=en

- **Nalin Fonseka,** University of North Carolina Greensboro: 2016 - 2020
  Dissertation: "Positive solutions for classes of steady state reaction diffusion equations," *successfully defended in Summer 2020.*
  Current position: Assistant Professor of Mathematics (tenure-track), School of Arts and Sciences, Carolina University
  https://carolinau.edu/faculty-staff/fonseka-nalin

For the following students, I served as a member of their Ph.D. Committee:

- **Quinn Morris,** University of North Carolina Greensboro: 2013 - 2017
  Dissertation: "Analysis of classes of superlinear semipositone problems with nonlinear boundary conditions," *successfully defended in Summer 2017.*
  Current position: Assistant Professor of Mathematics (tenure-track), Department of Mathematical Sciences, Appalachian State University
  https://mathsci.appstate.edu/people/quinn-morris

- **Byungje Son,** University of North Carolina Greensboro: 2013 - 2017
  Dissertation: "Analysis of classes of singular steady state reaction diffusion equations," *successfully defended in Summer 2017.*
  Current position: Postdoc at University of Maine
  http://www.byungjaeson.epizy.com/

Undergraduate Student Mentorship

- **NSF UGR in Differential Equations,** Auburn University Montgomery 2022 - 2023
  Students: Hamza Abusammour ('23), Jacob Garrett ('24), & Savannah Humphries ('24)
  Title: *Harvesting-mediated emigration can affect community structure in a competitive system*
  1. Presented an invited talk in the special session "Spatial ecology applications using reaction diffusion models" at the *2023 Joint Mathematics Meetings* in Boston, MA Jan 2023

- **NSF UGR in Differential Equations,** Auburn University Montgomery 2020 - 2021
  Students: Zane Blume-Babcock ('21), Sydney Fields ('21), & Dakota Mills ('20)
  Title: *Modeling trait-mediated dispersal among two competitors*

- **NSF UGR in Differential Equations,** Auburn University Montgomery 2018 - 2019
  Students: Kayla Luther ('20) & Joanna Sumner ('20)
  Title: *Modeling constant yield harvesting with density dependent dispersal*

- **NSF UGR in Differential Equations,** Auburn University Montgomery 2016 - 2018
  Students: Emily Cosgrove ('18) & Eddie Lindsey ('18)
  Title: *Modeling interaction-mediated dispersal*
  1. Presented a contributed talk at the *2017 Southeastern Section Meeting of the MAA*, Clayton State University, Macon, GA — Mar 2017
  2. Presented a contributed talk at the *2017 This is Research*, Auburn University, Auburn, AL — Apr 2017
  3. Presented a contributed talk at the *2017 Auburn Montgomery Undergraduate Research Symposium*, Montgomery, AL — Apr 2017
  4. Presented a contributed talk at the *2017 NimBios Undergraduate Research Conference*, University of Tennessee, Knoxville, TN — Nov 2017
  5. Presented a contributed talk at the *2018 Southeastern Section Meeting of the MAA*, Clemson University, Clemson, SC — Mar 2018
  6. Presented a contributed talk at the *2018 This is Research*, Auburn University, Auburn, AL — Apr 2018
  7. Presented a contributed talk at the *2018 Auburn Montgomery Undergraduate Research Symposium*, Montgomery, AL — Apr 2018
  8. Presented a contributed talk at the *2018 Ecological Society of America Meeting,* New Orleans, LA — Aug 2018

- **NSF UGR in Differential Equations,** Auburn University Montgomery 2015 - 2016
  Students: Alyssa Barnett ('16) & Dexter Harrell ('16)
  Title: *Landscape level modeling of habitat fragmentation via reaction diffusion equations*
  9. Presented a contributed talk at the *2016 Southeastern Section Meeting of the MAA*, University of Alabama Birmingham, Birmingham, AL — Mar 2016
  10. Presented a contributed talk at the *2016 This is Research*, Auburn University, Auburn, AL — Apr 2016
  11. Presented a contributed talk at the *2016 Auburn Montgomery Undergraduate Research Symposium*, Montgomery, AL — Apr 2016

- **UGR in Differential Equations,** Auburn University Montgomery 2014 - 2015
  Students: Jordan Berry ('14) & Jordan Price ('16)
  Title: *Ecological systems with U-shaped density dependent dispersal*
  12. Presented a contributed talk at the *10th University of North Carolina Greensboro Regional Mathematics & Statistics Conference*, Greensboro, NC — Nov 2014
  13. Presented a contributed talk at the *2015 Southeastern Section Meeting of the MAA*, University of North Carolina Wilmington, Wilmington, NC — Mar 2015
  14. Presented a contributed talk at the *2015 This is Research*, Auburn University, Auburn, AL — Apr 2015
  15. Presented a contributed talk at the *2015 Auburn Montgomery Undergraduate Research Symposium*, Montgomery, AL — Apr 2015

- **UGR in Differential Equations,** Auburn University Montgomery 2013 - 2014
  Students: Lyndee Bobo ('14), Zach Burnett ('15), & Heather Pierce ('15)
  Title: *Ecological systems with aggregation, grazing, & Σ-shaped bifurcation curves*
  16. Presented a contributed talk at the *9th University of North Carolina Greensboro Regional Mathematics & Statistics Conference*, Greensboro, NC — Nov 2013
  17. Presented a contributed talk at the *2014 Southeastern Section Meeting of the MAA*, Tennessee Tech University, Cookeville, TN — Mar 2014
  18. Presented a contributed talk at the *2014 Auburn Montgomery Undergraduate Research Symposium*, Montgomery, AL — Apr 2014
      * **UGR Team** won Honorable Mention for their presentation

- **UGR in Differential Equations,** Auburn University Montgomery 2012-2013
  Students: Kev Johnson ('15), Daniel McElveen ('13), & Katelyn Sanders ('14)
  Title: *Diffusive logistic equation with nonlinear boundary conditions and Σ-shaped bifurcation curves*
  19. Presented a contributed talk at the *8th University of North Carolina Greensboro Regional Mathematics & Statistics Conference*, Greensboro, NC — Nov 2012
  20. Presented a contributed talk at the *2013 Southeastern Section Meeting of the MAA*, Winthrop University, Rock Hill, SC — Mar 2013
      * **Kev Johnson** won one of only 8 Patterson Awards for Best Undergraduate Talk
  21. Presented a contributed talk at the *2013 Auburn Research Week*, Auburn University, Auburn, AL — Mar 2013
  22. Presented a contributed talk at the *2013 Auburn Montgomery Undergraduate Research Symposium*, Montgomery, AL — Apr 2013

- **NSF REU in Applied Mathematics and Biostatistics,** Mississippi State University 2010 - 2011
  I had the opportunity to serve in *two* summer REU programs at multiple levels:
  1. served as a graduate student member of the organizing committee
  2. taught mini-courses on LaTeX and Mathematica® to the entire group
  3. helped mentor five undergraduates
  4. mentored a first year Ph.D. graduate student in how to lead/teach undergraduates
  5. helped design the REU website.

Conference/Workshop Presentations

Invited Plenary Presentations:

1. **Distinguished lecturer for students** at the *Mathematical Association of America Southeastern 2016 Section Meeting*, University of Alabama Birmingham, Birmingham, AL — Mar 2016
2. Plenary talk at the *10th University of North Carolina Greensboro Regional Mathematics & Statistics Conference*, Greensboro, NC — Nov 2014

Invited Seminar/Colloquium Presentations:

3. Seminar talk at *University of North Carolina Greensboro*, Greensboro, NC (virtual) — Nov 2020
4. Seminar talk at *College of William & Mary*, Williamsburg, VA — Jan 2017
5. Seminar talk at *Kennesaw State University*, Marietta, GA — Nov 2016
6. Seminar talk on jobs in academia, *Mathematics and Statistics Professional Development Lecture Series*, University of North Carolina Greensboro — June 2016
7. Colloquium talk at *College of Arts & Sciences Mini-College*, AUM — June 2016
8. Commencement address at Prattville High School Mu Alpha Theta Induction, Prattville, AL — Mar 2016

9. Colloquium talk at *University of Tennessee Knoxville,* Knoxville, TN — Mar 2016
10. Colloquium talk at *CUNY: Graduate Center,* New York City, NY — Oct 2015
11. Colloquium talk at *Winthrop University,* Rock Hill, SC — Jul 2015
12. Colloquium talk at Spring Fever, *Auburn University Montgomery* — Mar 2015
13. Colloquium talk at *Southern Polytechnic State University*, Marietta, GA — Sept 2014
14. Colloquium talk at *Birmingham Southern College*, Birmingham, AL — Nov 2013
15. Colloquium talk at the *2012 MS School for Math & Science's Math & Science Day,* Columbus, MS — Mar 2012
16. Colloquium talk at the *2012 Research Experience for Teachers (RET)* at Mississippi State University, Starkville, MS — Feb 2012
17. Colloquium talk at *University of North Carolina Greensboro*, Greensboro, NC — Oct 2011
18. Colloquium talk to the *SIAM Student Chapter*, Auburn University, Auburn, AL — Oct 2011
19. Colloquium talk at the *Mississippi College Mathematics Club*, Clinton, MS — Feb 2009

Invited Special Session Presentations:

20. Invited to present a talk in the special session, "Spatial Ecology Applications using Reaction Diffusion Equations," at the *2023 Joint Mathematics Meetings*, Boston, MA — Jan 2023
21. Invited to present a talk in the special session, "Recent Advances in Nonlinear Partial Diffusion Equations and their Applications," at the *2023 Joint Mathematics Meetings*, Boston, MA — Jan 2023
22. Invited to present a talk in the special session, "Reaction Diffusion Models with Applications in Spatial Ecology," at the *2022 Joint Mathematics Meetings*, Virtual — Jan 2022
23. Invited to present a talk in the special session, "Mathematical Studies of Biological and Ecological Systems" at the 2021 *Fall Southeastern Sectional Meeting of the American Mathematical Society*, University of Southern Alabama, Mobile, AL — Nov 2021
24. Invited to present a talk in the special session, "PDE, Dynamical Systems, and Applications" at the *44th SIAM Southeastern Atlantic Section (SIAM SEAS) Conference*, Auburn University, Auburn, AL — Sep 2021
25. Invited to present a talk in the special session, "Evolution Equations and Applications" at the 2019 *Spring Southeastern Sectional Meeting of the American Mathematical Society*, Auburn, AL — Mar 2019
26. Invited to present a talk in the special session, "Nonlinear Reaction-Diffusion Equations and their Applications" at the 2019 *Spring Southeastern Sectional Meeting of the American Mathematical Society*, Auburn, AL — Mar 2019
27. Invited to present a talk & chaired a session at the *2018 Variational and Topological Methods Conference*, Northern Arizona University, Flagstaff, AZ — June 2018
28. Invited to present a talk in the special session, "Nonlinear reaction diffusion equations and their applications" at the *2018 Fall Eastern Sectional Meeting of the AMS*, Boston University, Boston, MA — Apr 2018
29. Invited to present a talk in the special session, "Nonlinear boundary value problems" at the *2016 Fall Southeastern Section Meeting of the AMS*, NC State University, Raleigh, NC — Nov 2016
30. Invited to present a talk in *International Workshop on Recent Advances in Evolution Equations and Applications*, Auburn University, Auburn, AL — Jul 2016
31. Chaired a session and presented invited talks in the special sessions, "Advances in theory and application of reaction diffusion equations" & "Dissipative systems and applications" at the *2016 AIMS 11th International Conference on Dynamical Systems and Differential Equations*, Orlando, FL — Jul 2016
32. Chaired a session and presented an invited talk in the special session, "Advances in theory & application of reaction diffusion equations," at the *2016 Joint Mathematics Meetings*, Seattle, WA — Jan 2016
33. Chaired a session and presented an invited talk in the special session, "Theory & — Jan 2015

application of reaction diffusion equations," at the *2015 Joint Mathematics Meetings*, San Antonio, TX

34. Chaired a session and presented invited talks in the special sessions, "Reaction diffusion equations and applications" & "Quasilinear elliptic and parabolic problems and their applications" at the *2014 AIMS 10th International Conference on Dynamical Systems and Differential Equations*, Madrid, Spain — Jul 2014
35. Invited to present a talk in the special session, "Nonlinear elliptic PDE and applications," *SIAM Southeastern Atlantic Sectional Meeting*, Florida Tech University, Melbourne, FL — Mar 2014
36. Chaired a session and presented an invited talk in the special session, "Reaction diffusion equations and applications" at the *2014 Joint Mathematics Meetings*, Baltimore, MD — Jan 2014
37. Invited to present a talk in the special session, "Nonlinear elliptic and wave equations and applications," *AMS Fall Eastern Sectional Meeting*, Temple University, Philadelphia, PA — Oct 2013
38. Presented an invited talk in the special session, "Mathematics of planet earth" at the *2013 Southeastern Section Meeting of the MAA,* Winthrop University, Rock Hill, SC — Mar 2013
39. Chaired a session and presented an invited talk in the special session, "Understanding planet earth via reaction diffusion equations" at the *2013 Joint Mathematics Meetings*, San Diego, CA — Jan 2013
40. Chaired a session and presented an invited talk in the special session, "Reaction diffusion equations and applications" at the 2012 *AIMS 9th International Conference on Dynamical Systems and Differential Equations*, Orlando, FL — Jul 2012
41. Invited to present a talk & chaired a session at the *2012 Variational and Topological Methods Conference*, Northern Arizona University, Flagstaff, AZ — June 2012
42. Chaired a session and presented an invited talk in the special session, "Reaction diffusion equations and applications" at the *2012 Joint Mathematics Meetings*, Boston, MA — Jan 2012
43. Invited to present a talk in the special session, "Workshop on reaction diffusion equations and application," at the *Sixth International Conference on Dynamic Systems and Applications*, Atlanta, GA — May 2011
44. Invited to present a talk in the special session, "Analysis of reaction-diffusion models," at the *2011 Joint Mathematics Meetings*, New Orleans, LA — Jan 2011

Contributed Presentations:

45. *2021 UNC Greensboro Partial Differential Equations Conference*, University of North Carolina Greensboro, Greensboro, NC — July 2021
46. *2018 Annual Meeting of the Ecological Society of America*, New Orleans, LA — Aug 2018
47. *2017 AACTM (Association of Alabama College Teachers of Mathematics)*, Samford University, Birmingham, AL — Feb 2017
48. *2017 Joint Mathematics Meetings*, Atlanta, GA — Jan 2017
49. *AMS Fall Eastern Sectional Meeting*, University of Alabama Huntsville, Huntsville, AL — Mar 2015
50. *Mathematical Association of America Southeastern 2015 Section Meeting*, University of North Carolina Wilmington, Wilmington, NC — Mar 2015
51. *2015 AACTM (Association of Alabama College Teachers of Mathematics)*, University of Alabama, Tuscaloosa, AL — Feb 2015
52. *SEARCDE-2014 (Southeastern-Atlantic Regional Conference on Differential Equations)*, University of Memphis, Memphis, TN — Oct 2014
53. *Mathematical Association of America Southeastern 2014 Section Meeting*, Tennessee Tech University, Cookeville, TN — Mar 2014

54. *2014 AACTM (Association of Alabama College Teachers of Mathematics)*, Auburn University, Auburn, AL — Feb 2014
55. *SEARCDE-2013 (Southeastern-Atlantic Regional Conference on Differential Equations)*, University of Tennessee, Knoxville, TN — Sept 2013
56. *2013 Auburn Research Week*, Auburn University, Auburn, AL — Apr 2013
57. *First International Conference on Dynamics of Differential Equations*, Georgia Tech, Atlanta, GA — Mar 2013
58. *2013 AACTM (Association of Alabama College Teachers of Mathematics)*, Birmingham Southern College, Birmingham, AL — Feb 2013
59. *SEARCDE-2012 (Southeastern-Atlantic Regional Conference on Differential Equations)*, Wake Forest University, Winston-Salem, NC — Oct 2012
60. *Mathematical Association of America Southeastern 2012 Section Meeting*, Clayton State University, Morrow, GA — Mar 2012
61. *SEARCDE-2011 (Southeastern-Atlantic Regional Conference on Differential Equations)*, Georgia Southern University, Statesboro, GA — Oct 2011
62. Chaired a contributed session and presented a talk at the *2011 Differential Equations Weekend Conference*, Mississippi State University — May 2011
63. *Mathematical Association of America LA/MS 2011 Section Meeting*, Oxford, MS, — Mar 2011
64. *SEARCDE-2010 (Southeastern-Atlantic Regional Conference on Differential Equations)*, Virginia Tech, Blacksburg, VA — Oct 2010
65. *2010 Joint Mathematics Meetings*, San Francisco, CA — Jan 2010
66. *2009 Differential Equations Weekend*, University of Memphis, Memphis, TN — Nov 2009
67. *SEARCDE-2009 (Southeastern-Atlantic Regional Conference on Differential Equations)*, Mercer University, Macon, GA — Oct 2009
68. Chaired a contributed session and presented a talk at the *8th Mississippi State and University of Alabama at Birmingham Differential Equations and Computational Simulations Conference*, Starkville, MS — May 2009
69. *Mathematical Association of America LA/MS 2009 Section Meeting*, Clinton, MS — Mar 2009
70. *SEARCDE-2008 (Southeastern-Atlantic Regional Conference on Differential Equations)*, University of Arkansas, Little Rock, AR — Oct 2008

Poster Presentations:

71. *International Conference on Infectious Diseases*, Atlanta, GA, poster presentation — Oct 2006

Conference/Workshop Attendance

1. *2021 Joint Mathematics Meetings,* Virtual — Jan 2021
2. *2020 Joint Mathematics Meetings,* Denver, CO — Jan 2020
3. *10th Mississippi State Differential Equations and Computational Simulations Conference*, Starkville, MS — Oct 2014
4. *9th University of North Carolina Greensboro Regional Mathematics & Statistics Conference*, Greensboro, NC — Nov 2013
5. *8th University of North Carolina Greensboro Regional Mathematics & Statistics Conference*, Greensboro, NC — Nov 2012
6. *9th Mississippi State and University of Alabama at Birmingham Differential Equations and Computational Simulations Conference*, Starkville, MS — Oct 2012
7. *7th University of North Carolina Greensboro Regional Mathematics & Statistics Conference*, Greensboro, NC — Nov 2011
8. *AMS Southeastern Section Meeting*, Special Session on Nonlinear Boundary Value Problems, Wake Forest University, Winston-Salem, NC — Sept 2011

9. *Mini Workshop on Mathematical Biology and Computational Modeling*, High Performance Computing Collaboratory, Mississippi State University, Starkville, MS — Mar 2010
10. *IMA PI Summer Program for Graduate Students on The Mathematics of Inverse Problems*, University of Delaware, Newark, DE — Jun 2009
11. *Mathematical Applications in Ecology and Evolution Workshop*, High Performance Computing Collaboratory, Mississippi State University, Starkville, MS — Aug 2008
12. *IMA - Mathematical Modeling in Industry Workshop XII*, University of Minnesota Minneapolis, MN, (Submitted a report on *Stability of Extending Films*) — Aug 2008
13. *MBI Summer Program in Mathematical Bioengineering*, Mathematical Biosciences Institute, Ohio State University, Columbus, OH — Jul 2008
14. *7th Mississippi State and University of Alabama at Birmingham Differential Equations and Computational Simulations Conference*, Birmingham, AL — Nov 2007

Teaching Experience

Auburn University Montgomery 2011 - present

- Spring 2023: MATH4210 – Analysis I, MATH 4950 – Senior Seminar, & MATH4932 – Undergrad Research in ODEs
- Fall 2022: MATH 2630 – Calculus III, MATH 3000 – Intro to Higher Mathematics, & MATH 4932 – Undergrad Research in ODEs
- Summer 2022: MATH 1120 – Precalculus Algebra & MATH 1620 – Calculus II
- Spring 2022: MATH 4950 – Senior Seminar
- Fall 2021: MATH 1610 – Calculus I, MATH 3000 – Intro to Higher Mathematics, & MATH 3690 – Ordinary Differential Equations
- Summer 2021: MATH 1050 – College Algebra & MATH 1610 – Calculus I
- Spring 2021: MATH 3000 – Intro to Higher Mathematics, MATH 4950 – Senior Seminar, & MATH 4970 – Undergrad Research in ODEs
- Fall 2020: MATH 2630 – Calculus III, MATH 3000 – Intro to Higher Mathematics, & MATH 4970 – Undergrad Research in ODEs
- Summer 2020: MATH 1050 – College Algebra & MATH 1620 – Calculus II
- Spring 2020: MATH 3000 – Intro to Higher Mathematics & MATH4950 – Senior Seminar
- Fall 2019: MATH 1620 – Calculus II, MATH 3000 – Intro to Higher Mathematics, & MATH 4210/5210 – Analysis I
- Summer 2019: MATH 1620 – Calculus II & MATH 1100 – Finite Mathematics
- Spring 2019: MATH 4950 – Senior Seminar & MATH 4970 – Special Topics in Differential Equations
- Fall 2018: MATH 1610 – Calculus I & MATH 2630 – Calculus III
- Summer 2018: None (NSF funded research)
- Spring 2018: MATH 1620 – Calculus II & MATH4950 – Senior Seminar
- Fall 2017: CSCI 2000 – Structured Programming I (C++) & MATH 3690 – Ordinary Differential Equations
- Summer 2017: None (NSF funded research)
- Spring 2017 MATH 1610 – Calculus I, MATH 2660 – Linear Algebra, & MATH 4970 – Special Topics in Differential Equations
- Fall 2016: None (AUM Sabbatical)
- Summer 2016: None (NSF funded research)
- Spring 2016: MATH 1620 – Calculus II & MATH 4220/6220 – Analysis II
- Fall 2015: MATH 2690 – Ordinary Differential Equations & MATH 4210/6210 – Analysis I
- Summer 2015: MATH 0800 – Intermediate Algebra, MATH 1150 – Precalculus Algebra & Trig, & MATH 4970 – Special Topics in Differential Equations

- Spring 2015: CSCI 2000 – Structured Programming I (C++), MATH 1610 – Calculus I, & MATH 2660 – Linear Algebra
- Fall 2014: CSCI 2000 – Structured Programming I (C++), MATH 2630 – Calculus III, MATH 1120 – Precalculus Algebra, & HONR 4937 – UHP Independent Study
- Summer 2014: MATH 0800 – Intermediate Algebra (2 sections) & MATH 6970 – Ordinary Differential Equations I
- Spring 2014: MATH 4220/6220 – Analysis II & MATH 1620 – Calculus II
- Fall 2013: CSCI 2000 – Structured Programming I (C++), MATH 1620 – Calculus II, & MATH 4210/6210 – Analysis I
- Summer 2013: MATH 1100 – Finite Mathematics, MATH 0800 – Intermediate Algebra, MATH 6970 – Ordinary Differential Equations I, MATH 4970 – Special Topics in Differential Equations
- Spring 2013: MATH 4220/6220 – Analysis II & MATH 2660 – Linear Algebra
- Fall 2012: MATH 1100 – Finite Mathematics (2 sections), MATH 1610 – Calculus I, & MATH 4210/6210 – Analysis I
- Summer 2012: MATH 1100 – Finite Mathematics, MATH 1610 – Calculus I, & MATH 4970 – Special Topics in Differential Equations
- Spring 2012: MATH 1150 – Precalculus Alg. & Trig., MATH 1620 – Calculus II, & MATH 2660 – Linear Algebra
- Fall 2011: MATH 1150 – Precalculus Alg. & Trig. and MATH 1610 – Calculus I

Instructor of Record at Mississippi State University 2007 - 2011

- Spring 2011: MA 1723 – Calculus II, 1 section
- Fall 2010: MA 1713 – Calculus I, 3 sections
- Spring 2010: MA 1713 – Calculus I, 2 sections
- Fall 2009: MA1713 – Calculus I, 2 sections
- Spring 2009: MA1713 – Calculus I and MA1313 – College Algebra
- Fall 2008: MA1713 – Calculus I, 2 sections
- Spring 2008: MA1713 – Calculus I, 2 sections
- Fall 2007: MA 1713 – Calculus I, 2 sections

Adjunct Instructor at Mississippi College 2005 - 2011

- Summer 2009: MAT 101 – College Algebra
- Summer 2007: MAT 101 – College Algebra
- Spring 2006: MAT 207 – Finite Mathematics
- Fall 2005: MAT 101 – College Algebra

Teaching Assistant at Mississippi State University 2006 - 2009

- Maymester 2009: Tutored in the Math Domain
- Maymester 2008: Tutored in the Learning Center
- Spring 2007: Tutored in the Learning Center and Mathematics Computer Lab
- Fall 2006: Tutored in the Learning Center and Mathematics Computer Lab

Faculty Development

- Completed the **AUM Faculty Development Institute**, for certification to teach online mathematics courses — Nov 2011
- Completed the **Writing Across the Curriculum training**, for certification to teach writing intensive mathematics courses — Oct 2011

Professional Service

Special Session Organization at Regional, National, and International Conferences:

1. **Co-organizer** of the special session, "Spatial ecology applications using reaction diffusion models" at the *2023 Joint Mathematics Meetings*, Boston, MA — 2022 - 2023
2. **Co-organizer** of the special session, "Reaction diffusion models with applications in spatial ecology" at the *2022 Joint Mathematics Meetings*, Virtual — 2021 - 2022
3. **Co-organizer** of the special session, "Nonlinear reaction diffusion models with applications in spatial ecology" at the *2021 Joint Mathematics Meetings*, Virtual — 2020 - 2021
4. **Co-organizer** of the special session, "Future directions in theory & applications of nonlinear reaction-diffusion equations" at the *2020 Joint Mathematics Meetings*, Denver, CO — 2019 - 2020
5. **Co-organizer** of the special session, "Nonlinear reaction-diffusion equations and their applications" at the 2019 *Spring Southeastern Sectional Meeting of the American Mathematical Society*, Auburn, AL — 2018 - 2019
6. **Co-organizer** of the special session, "Advances in theory & application of reaction diffusion equations" at the *11th AIMS International Conference on Dynamical Systems and Differential Equations*, Orlando, FL — 2015 - 2016
7. **Co-organizer** of the special session, "Advances in theory & application of reaction diffusion equations" at the *2016 Joint Mathematics Meetings*, Seattle, WA — 2015 - 2016
8. **Co-organizer** of the special session, "Theory & application of reaction diffusion equations" at the *2015 Joint Mathematics Meetings*, San Antonio, TX — 2014 - 2015
9. **Co-organizer** of the special session, "Reaction diffusion equations and applications," at the *10th AIMS International Conference on Dynamical Systems and Differential Equations*, Madrid, Spain — 2013 - 2014
10. **Co-organizer** of the special session, "Reaction diffusion equations and applications" at the *2014 Joint Mathematics Meetings*, Baltimore, MD — 2013 - 2014
11. **Co-organizer** of the special session, "Understanding planet earth via reaction diffusion equations," at the *2013 Joint Mathematics Meetings*, San Diego, CA — 2012 - 2013
12. **Co-organizer** of the special session, "Reaction diffusion equations and applications," at the *Ninth AIMS International Conference on Dynamical Systems and Differential Equations*, Orlando, FL — 2011 - 2012
13. **Co-organizer** of the special session, "Reaction diffusion equations and applications," at the *2012 Joint Mathematics Meetings*, Boston, MA — 2011 - 2012

Conference Organization:

14. **Main organizer**, MAA Southeastern Section Alabama State Dinner, AUM http://sections.maa.org/southeastern/ — 2015 - 2016
15. **Main organizer/Program Chair**, Alabama Association of College Teachers of Mathematics' Annual Meeting, AUM, http://ajmonline.org/AACTM/AACTMmeetings.htm — 2015 - 2016
16. **Program chair/webmaster**, *10th Mississippi State Conference on Differential Equations & Computational Simulations*, Mississippi State University, Starkville, MS University, http://www.ccs.msstate.edu/deconf/de2014/ — 2014 - 2015
17. **Main organizer/webmaster**, Department of Mathematics & Computer Science's 2015 Sonia Kovalevsky Day (outreach program to encourage young women to explore mathematics-related careers), http://sciences-srv.aum.edu/~jgoddard/skday2015/ — 2014 - 2015
18. **Main organizer/webmaster**, Department of Mathematics & Computer Science's 2013 Sonia Kovalevsky Day (outreach program to encourage young women to explore — 2012 - 2013

mathematics-related careers), http://sciences-srv.aum.edu/~jgoddard/skday2013/

19. **Program chair/webmaster**, *9th Mississippi State – University of Alabama Birmingham Conference on Differential Equations & Computational Simulations*, Mississippi State University, Starkville, MS http://www.ccs.msstate.edu/deconf/de2012/ — 2011 - 2012
20. **Local organizing committee member/webmaster**, *Differential Equations Weekend*, University of Memphis and Mississippi State University, http://shivaji.math.msstate.edu/dew2011/ — 2010 - 2011
21. **Local organizing committee member**, *8th Mississippi State – University of Alabama Birmingham Conference on Differential Equations & Computational Simulations*, Mississippi State University, Starkville, MS http://math.msstate.edu/events/de.conf/de2009/ — 2008 - 2009

Professional Society & Miscellaneous Professional Service:

22. **Member,** Scientific Committee, *UNCG Regional Mathematics and Statistics Conference* — 2014 - 2019
23. **Alabama State Director,** *Mathematical Association of America,* Southeastern Section — 2016 - 2019
24. **President,** Alabama Association of College Teachers of Mathematics — 2016 - 2017
25. **Vice president,** Alabama Association of College Teachers of Mathematics — 2015 - 2016
26. **Co-founder/president**, *Pi Club* (Association of Mathematics and Statistics Ph. D. graduate students with the purpose of collaboration, service, and fellowship), Mississippi State University — 2010 - 2011

Editorial and Reviewing Service:

27. **Co-Editor**, Special Issue: *Recent Advances in Theory & Application of Reaction Diffusion Models in Spatial Ecology* in Mathematical Biosciences & Engineering, Impact Factor: 2.080 https://www.aimspress.com/mbe/article/6078/special-articles — 2021 - 2022
28. **Main Editor**, Proceedings of the *10th Mississippi State Conference on Differential Equations & Computational Simulations* http://ejde.math.txstate.edu/ — 2014 - 2016
29. Ad Hoc **Reviewer** for:
    - *Electronic Research Archive* — 2021 - present
    - *Discrete and Continuous Dynamical Systems* — 2019 - present
    - *Mathematical Biosciences and Engineering* — 2016 - present
    - *AMS Mathematical Reviews* — 2014 - present
    - *Communications in Applied Analysis* — 2013 - present
    - *Journal of Mathematical Analysis and Applications* — 2011 - present
30. Textbook **Reviewer** for Barnett/Ziegler/Byleen's, *Finite Mathematics for Business, Economics, Life Sciences and Social Sciences*, 12 edition, Pearson — Fall 2012
31. **Main Editor**, Proceedings of the *9th Mississippi State – University of Alabama Birmingham Conference on Differential Equations & Computational Simulations*, Conference 20, 2013 http://ejde.math.txstate.edu/conf-proc/20/toc.html/ — 2012 - 2013

University Service

- **Member,** AUM COS Research & Scholarship Committee — 2023 - present
- **Faculty advisor** for the AUM Mathematics Club — 2022 - present
- **Member,** AUM COS Undergraduate Research Committee — 2018 - present
- **Member,** AUM Mathematics Awards Committee — 2017 - present
- **Chair,** AUM Mathematics Curriculum Committee — 2017 - present
- **Chair,** AUM Mathematics Developmental Mathematics Committee — 2016 – present
- **Member**, AUM Administrator Evaluation Committee (university-wide) — 2018 - 2021
- **Chair,** AUM Mathematics Tenure & Promotion Committee — Fall 2020

- **Member,** AUM COS Hiring Committee for QEP director — Spring 2020
- **Chair,** AUM Mathematics Grade Appeals Review Committee — Spring 2020
- **Member,** AUM Computer Science Third Year Review Committee — Spring 2020
- **Chair,** AUM Mathematics Tenure & Promotion Committee — Fall 2019
- **Member,** AUM Mathematics Hiring Committee for a lecturer position in math — Spring 2019
- **Chair,** AUM Mathematics Third Year Review Committee — Spring 2019
- **Member,** AUM Mathematics Hiring Committee for an assistant professor position in mathematics — Fall 2018
- **Member,** AUM Mathematics Hiring Committee for Math Lab Coordinator — Summer 2018
- **Member,** AUM Mathematics Hiring Committee for QEP Director — Summer 2018
- **Chair,** AUM Mathematics Third Year Review Committee — Spring 2018
- **Member,** AUM Mathematics Master's Degree in Applied and Computational Mathematics Program Proposal committee — 2017 - 2018
- **Chair,** AUM CAS Undergraduate Research Committee — 2015 - 2018
- **Member**, AUM SACS Quality Enhancement Program Committee (university-wide) — 2017 - 2018
- **Member**, AUM Administrator Evaluation Committee (university-wide) — 2011 - 2017
- **Member,** AUM Mathematics Hiring Committee for an assistant professor position in computer science — Fall 2017
- **Member,** AUM Mathematics Hiring Committee for an instructor's position — Fall 2017
- **Member**, AUM Mathematics SK Day Organizing Committee — Fall 2017
- **Member,** AUM Mathematics Hiring Committee for several instructor's positions — Spring 2016
- **Co-advisor** for the AUM Mathematics/Pre-Engineering major — 2012 - 2016
- **Faculty advisor** for the AUM Mathematics Club — 2012 - 2016
- **Member,** AUM Mathematics Scholarship Committee — 2015 - 2016
- **Member,** AUM CAS Undergraduate Research Committee — 2014 - 2015
- **Member,** AUM Mathematics Hiring Committee for an instructor's position — Fall 2015
- **Chair,** AUM Mathematics Hiring Committee for an assistant professor position in mathematics — Fall 2015
- **Member,** AUM CAS Distinguished Teaching Award Nominations Committee — Spring 2015
- **Member,** AUM CAS Advisory Committee for the SSRP — Spring 2015
- **Chair/Webmaster**, AUM Mathematics SK Day Organizing Committee — Fall 2015
- **Chair,** AUM Mathematics Hiring Committee for an assistant professor position in mathematics — Fall 2014
- **Member,** AUM Mathematics Annual Assessment Committee — Spring 2014
- **Member** of the AUM Mathematics SRAC 2014 Local Organizing Committee — Spring 2014
- **Member** of the AUM Mathematics Calculus Textbook Selection Committee — Spring 2014
- **Member,** AUM Mathematics Hiring Committee for an assistant professor position in computer science — Fall 2013
- **Co-Chair/Webmaster**, AUM Mathematics SK Day Organizing Committee — Fall 2013
- **Chair,** AUM Mathematics Hiring Committee for an instructor's position — Spring 2013
- **Member,** AUM Mathematics ASPE Scholarship Selection Committee — 2012 - 2015
- **Chair,** AUM Mathematics Hiring Committee for an instructor's position — Fall 2012
- **Participated** in AUM Mathematics new student orientation — 2012 - 2015
- **Member,** AUM Mathematics Hiring Committee for an instructor's position — Summer 2012
- **Judge**, 2012 AUM SOS Undergraduate Research Symposium — April 2012
- **Member,** AUM Mathematics Master's Degree in Computational Mathematics Program Proposal committee — 2011 - 2012

Community Service

1. College student leader, Frazer UMC, Montgomery, AL	2020 - present
2. Senior high student small group leader and high school master teacher, Frazer UMC, Montgomery, AL	2017 - 2020
3. College student small group leader, Frazer UMC, Montgomery, AL	2013 - 2016
4. Invited speaker at the *2012 MS School for Math & Science Math & Science Day,* (presented 2 sessions for high school students) Columbus, MS	Mar 2012
5. Assistant Scoutmaster, Troop 99, Boy Scouts of America, Jackson, MS	2001 - 2015
6. Board Member, Aldersgate Youth Retreat, Jackson, MS	2000 - 2016
7. Guest Speaker, Aldersgate Youth Retreat, Jackson, MS	'10, '11, '15
8. Worship Leader, New Covenant UMC, Jackson, MS	1999 - 2010
9. Co-Director, Aldersgate Youth Retreat, Jackson, MS	2004 - 2009
10. Lay Leader, New Covenant UMC, Jackson, MS	2004 - 2009
11. Assistant Youth Minister, New Covenant UMC, Jackson, MS	2001 - 2008
12. Leadership Team, Baptist Student Union, Mississippi College, Clinton, MS	2003 - 2004
13. Assistant Director, Aldersgate Youth Retreat, Jackson, MS	2002 - 2004
14. Leadership Team, Baptist Student Union, Hinds Community College, Raymond, MS	2001 - 2002
15. Praise Band, Baptist Student Union, Hinds Community College, Raymond, MS	2000 - 2001

Professional Memberships

• Mathematical Association of America	2010 - present
• American Mathematical Society	2006 – present
• Ecological Society of America	2020 – present

Computational and Technical Skills

- Programming Knowledge
  - C / C++
  - Visual and Quick Basic
  - HTML, PHP, and JavaScript
  - Java
- Operating Systems used: DOS, Windows 3.1, 95, 98, 2000, ME, XP, Vista, 7, 10, and Linux
- Mathematica, MatLab, and LaTeX
- Web designing in HTML with PHP server-side scripting

References

1. **Prof. Ratnasingham Shivaji**
   H. Barton Excellence Professor
   Department of Mathematics and Statistics
   University of North Carolina Greensboro
   shivaji@uncg.edu;
   Website: https://mathstats.uncg.edu/people/directory/shivaji/

2. **Prof. Chris Cosner**
   Cooper Fellow of the College of Arts and Sciences
   Department of Mathematics
   University of Miami
   c.cosner@math.miami.edu; (305)284-3519
   Website: https://www.math.miami.edu/directory/faculty-listing/

3. **Prof. Junping Shi**
   Professor & Department Chair
   Department of Mathematics
   College of William and Mary
   shij@math.wm.edu; (757)221-2030
   Website: https://www.wm.edu/as/cams/mathematical-biology/faculty/shi-j.php

4. **Prof. Alfonso Castro**
   McAlister Professor
   Department of Mathematics
   Harvey Mudd College
   castro@g.hmc.edu; (909)607-3171
   Website: https://www.hmc.edu/mathematics/people/faculty/alfonso-castro/

5. **Prof. James T. Cronin**
   George C. Kent Professor
   Department of Biological Sciences
   Louisiana State University
   jcronin@lsu.edu; (225)578-7218
   Website: https://www.jcronin.biology.lsu.edu/index.html