

Glenn E. Lahodny Jr.

Curriculum Vitae

CONTACT

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EDUCATION

- Ph.D. Mathematics, Texas Tech University, 2012
 - *Dissertation*: Persistence or Extinction of Disease in Stochastic Epidemic Models and Dynamically Consistent Discrete Lotka-Volterra Competition Models
 - *Advisors*: Linda J.S. Allen and Lih-Ing W. Roeger
- M.S. Mathematics, Texas Tech University, 2010
- B.A. Mathematics (Summa Cum Laude), Texas Tech University, 2007

EMPLOYMENT

- Assistant Professor of Instruction, September 2019 – Present
Department of Mathematics, University of Texas at San Antonio
- Instructional Assistant Professor, September 2014 – August 2019
Department of Mathematics, Texas A&M University
- Visiting Assistant Professor, August 2013 – August 2014
Department of Mathematics, Texas A&M University
- Postdoctoral Research Associate, August 2012 – August 2014
Department of Veterinary Integrative Biosciences, Texas A&M University
- Graduate Teaching Assistant, August 2007 – August 2012
Department of Mathematics and Statistics, Texas Tech University

RESEARCH INTERESTS

My research interests are in the areas of stochastic processes, nonlinear systems of ordinary differential equations, and dynamical systems with applications to epidemiology and biology.

PUBLICATIONS

Published/Submitted

1. M. Zevika, Anita Triska, Nuning Nuraini, and G.E. Lahodny Jr., On The Study of Covid-19 Transmission Using Deterministic and Stochastic Models with Vaccination Treatment and Quarantine *Commun. Biomath. Sci.* (2022)
2. G.E. Lahodny Jr. and M. Zevika, The effects of fogging and mosquito repellent on the probability of disease extinction for dengue fever, *Commun. Biomath. Sci.* 4:1 (2021) pp. 1–13.
3. E. Soewono and G.E. Lahodny Jr., On the effect of postponing pregnancy in a Zika transmission model, *Advances in Difference Equations* 1 (2021) pp. 1–14.
4. W. Beauvais et al., The prevalence of *Escherichia coli* O157:H7 fecal shedding in feedlot pens is affected by the water-to-cattle ratio: A randomized controlled trial, *PloS one* 13:2 (2018) e0192149.
5. G.E. Lahodny Jr., R. Gautam, and R. Ivanek, Understanding the effects of intermittent shedding on the transmission of infectious diseases: example of salmonellosis in pigs, *J. Biol. Dyn.* 11:1 (2017) pp. 436–460.
6. E.F. Daut, G. Lahodny Jr., M.J. Peterson, and R. Ivanek, Interacting effects of Newcastle Disease transmission and illegal trade on a wild population of white-winged parakeets in Peru: a modeling approach, *PLOS ONE* (2016) doi:10.1371/journal.pone.0147517.
7. R. Ivanek and G. Lahodny Jr., From the bench to modeling – R_0 at the interface between empirical and theoretical approaches in epidemiology of environmentally-transmitted infectious diseases, *Prev. Vet. Med.* 118 (2015) pp. 196–206.
8. G.E. Lahodny Jr., R. Gautam, and R. Ivanek, Estimating the probability of an extinction or major outbreak for an environmentally transmitted infectious disease, *J. Biol. Dyn.* 9:1 (2015) pp. 128–155. doi: 10.1080/17513758.2014.954763.
9. R. Guatam, G. Lahodny Jr., M. Bani-Yaghoub, P.S. Morley, and R. Ivanek, Understanding the role of cleaning in the control of *Salmonella* Typhimurium in grower-finisher pigs: a modelling approach, *Epidemiol. Infect.* 142:5 (2014) pp. 1034–1049.
10. L.-I. W. Roeger and G. Lahodny Jr., Dynamically consistent discrete Lotka-Volterra competition systems, *J. Differ. Equ. Appl.* 19:2 (2013) pp. 191–200.
11. G.E. Lahodny Jr. and L.J.S. Allen, Probability of a disease outbreak in stochastic multipatch epidemic models, *Bull. Math. Biol.* 75:7 (2013) pp. 1157–1180.
12. L.J.S. Allen and G.E. Lahodny Jr., Extinction thresholds in deterministic and stochastic epidemic models, *J. Biol Dyn.* 6:2 (2012) pp. 590–611.

AWARDS

- Travel Award (\$400 funded by the National Science Foundation and the Mathematical Biosciences Institute) for International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems IV, October 4–6, 2013.
- Helen DeVitt Jones Excellence in Graduate Teaching Award
Texas Tech University, 2011 – 2012.
- John T. White Scholar, Department of Mathematics & Statistics
Texas Tech University, 2011 – 2012.
- Gordon Fuller Scholar, Department of Mathematics & Statistics
Texas Tech University, 2010 – 2011.
- Ronald M. Anderson Scholar, Department of Mathematics & Statistics
Texas Tech University, 2009 – 2010.
- Herman Reynolds Scholar, Department of Mathematics & Statistics
Texas Tech University, 2008 – 2009.

STUDENT ADVISING

Graduate Students

- Co-advisor (with Edy Soewono) of Mona Zevika
Department of Mathematics, Institut Teknologi Bandung (2018–2022)
- Co-advisor (with Renata Ivanek) of Elizabeth Daut
Veterinary Pathobiology Department, Texas A&M University (2014)
- Co-advisor (with Scott Lillibridge) of Christopher Laine
Department of Epidemiology & Biostatstics, Texas A&M University (2014)

Undergraduate Students

- Advisor of Timothy Cheng
Department of Mathematics, Texas A&M University (2017–2019)
- Advisor of Linda Buehler
Department of Mathematics, Texas A&M University (2015–2016)
- Co-advisor (with Renata Ivanek) of Kallie McWhinney
Department of Veterinary Medicine & Biomedical Sciences, Texas A&M University (2012)

TEACHING EXPERIENCE

University of Texas at San Antonio

- Math 1133 – Calculus for Business
- Math 1214 – Calculus I
- Math 1224 – Calculus II
- Math 2214 – Calculus III
- Math 2233 – Linear Algebra
- Math 3613 – Differential Equations I

Texas A&M University

- Math 147 – Calculus I for Biological Sciences
- Math 148 – Calculus II for Biological Sciences
- Math 151 – Engineering Mathematics I
- Math 152 – Engineering Mathematics II
- Math 251 – Engineering Mathematics III
- Math 308 – Differential Equations
- Math 442 – Mathematical Modeling
- Math 469 – Introduction to Mathematical Biology
- VIBS 689 – Epidemiological Modeling of Infectious Diseases

Texas Tech University

- Math 1330 – Introductory Mathematical Analysis I
- Math 1331 – Introductory Mathematical Analysis II
- Math 1351 – Calculus I
- Math 1451 – Calculus I with Applications
- Math 1452 – Calculus II with Applications

REVIEW ACTIVITIES

Refereed articles for Bulletin of Mathematical Biology, Journal of Biological Dynamics, Mathematical Biosciences, Natural Resource Modeling, and PLOS ONE

PROFESSIONAL MEMBERSHIPS

- Society for Mathematical Biology
- American Mathematical Society
- Society for Industrial and Applied Mathematics
- Mathematical Association of America
- Phi Beta Kappa National Honor Society

SERVICE ACTIVITIES

University of Texas at San Antonio

- Course coordinator for MAT 1224 - Calculus II (2019 – Present)

Texas A&M University

- Member of Academic Professional Track Faculty Committee (2016 – 2018)
- Organizer for Applied Mathematics Undergraduate Seminar (2014 – 2017)
- Course coordinator for Math 147/148 - Calculus for Biological Sciences (2015 – 2017)
- Course coordinator for Math 308 - Differential Equations (2017–2018)
- Member of Math 308 Textbook Review Committee (2018)
- Member of Math 147/148 Textbook Review Committee (2016)
- Volunteer for Department of Mathematics Integral Bee (2014 – 2018)
- Chair of Problem Writing Committee for Integral Bee (2015 – 2017)
- Volunteer for Department of Mathematics Derivative Bee (2014 – 2018)
- Chair of Problem Writing Committee for Derivative Bee (2015 – 2018)
- Volunteer for Sigma Xi Undergraduate Student-Faculty Research Expo (2013)
- Volunteer for Sigma Xi Undergraduate Student-Faculty Research Expo (2012)

Texas Tech University

- Course coordinator for Math 1330 (2011)
- Secretary of the Society for Industrial and Applied Mathematics (2007 – 2011)
- Secretary of the Mathematical Association of America (2006 – 2007)
- Historian of the National Society of Collegiate Scholars (2006 – 2007)
- Graduate Student Representative of the National Society of Collegiate Scholars (2007 – 2008)

PROFESSIONAL DEVELOPMENT

- Mathematical Biosciences Institute Summer Graduate Workshop
Ohio State University, Columbus, OH, June 18–29, 2012.
- Mathematical Biosciences Institute Summer Graduate Workshop
Ohio State University, Columbus, OH, July 25–August 5, 2011.
- Research Experience for Undergraduates
Texas Tech University, Lubbock, TX, June 4–July 27, 2007.

PRESENTATIONS

Conferences

1. *Understanding the Role of Intermittent Shedding in Transmission of Infectious Diseases: Salmonellosis in Pigs Example*
American Mathematical Society 2014 Spring Central Sectional Meeting
Lubbock, TX, April 11–13, 2014.
2. *Predicting Major Outbreaks for Environmentally-Transmitted Infectious Diseases*
International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems IV
Lubbock, TX, October 4–6, 2013.
3. *Probability of an Outbreak or Disease Extinction for Stochastic Epidemic Models with Environmental Transmission*
Ecology and Evolution of Infectious Disease - Principal Investigator Meeting
Athens, GA, March 16–17, 2013.
4. *Probability of a Salmonellosis Outbreak on a Grower-Finisher Pig Farm*
Institute for Applied Mathematics and Computer Science Seminar
College Station, TX, March 7, 2013.

5. *Probability of a Salmonellosis Outbreak on a Grower-Finisher Pig Farm*
Texas A&M University Quantitative Biology Seminar
College Station, TX, February 4, 2013.
6. *Extinction or Persistence of Disease in Stochastic Multi-Patch Epidemic Models*
Joint Mathematics Meeting AMS Session on Recent Advances in Mathematical Biology
Boston, MA, January 4–7, 2012.
7. *Dynamically Consistent Discrete Lotka-Volterra Systems*
Texas Applied Mathematics Meeting for Students
Lubbock, TX, April 2–3, 2011.

Departmental Seminars & Symposiums

1. *The Probability of an Outbreak for West Nile Virus in College Station*
Texas A&M University Quantitative Biology Seminar
College Station, TX, September 26, 2018.
2. *Predicting the Future with Mathematics: What is a Steady State?*
Texas A&M University Math Circle
College Station, TX, May 13, 2017.
3. *An Introduction to Mathematical Modeling of Infectious Diseases*
Texas A&M University Applied Mathematics Undergraduate Seminar
College Station, TX, February 8, 2017.
4. *Estimating the Probability of Disease Persistence or Extinction for Malaria*
Texas A&M University Quantitative Biology Seminar
College Station, TX, September 22, 2014.
5. *An Introduction to Mathematical Modeling of Infectious Diseases*
Texas A&M University Applied Mathematics Undergraduate Seminar
College Station, TX, September 10, 2014.
6. *Predicting a Major Outbreak of an Environmentally-Transmitted Infectious Disease*
Texas A&M College of Veterinary Medicine 2014 Research Symposium
College Station, TX, January 30, 2014.
7. *Predicting Major Outbreaks for Environmentally-Transmitted Infectious Diseases*
Texas A&M University Applied Mathematics Undergraduate Seminar
College Station, TX, November 7, 2013.
8. *Probability of a Major Outbreak for Epidemic Models with Environmental Transmission: Application to Salmonellosis in Pigs*
Texas A&M College of Veterinary Medicine 2013 Research Symposium
College Station, TX, February 21, 2013.

9. *Stochastic Multi-Patch Epidemic Models*
Texas Tech University Biomathematics Seminar
Lubbock, TX, March 27, 2012.
10. *The Linear Delayed Negative-Feedback Equation*
Texas Tech University Biomathematics Seminar
Lubbock, TX, October 3 & 24 2011.
11. *Dynamically Consistent Discrete Lotka-Volterra Systems*
Tenth Annual Graduate Student Research Day
Lubbock, TX, March 25, 2011.
12. *Dynamically Consistent Discrete Lotka-Volterra Systems*
Tenth Annual Red Raider Mini Symposium on Mathematical Modeling in Population
Biology and Epidemiology
Lubbock, TX, October 28–30, 2010.