

# Glenn E. Lahodny Jr.

## Curriculum Vitae

### CONTACT

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One UTSA Circle  
San Antonio, TX 78249

### EDUCATION

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- 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

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- 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

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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

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### Published/Submitted

1. E. Soewono and G.E. Lahodny Jr., On the effect of postponing pregnancy in a Zika transmission model, *Advances in Difference Equations* (2021) <https://doi.org/10.1186/s13662-021-03308-w>.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.* (2014) doi: 10.1080/17513758.2014.954763.
7. R. Guatam, G. Lahodny Jr., M. Bani-Yaghoub, 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.
8. 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.
9. 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.
10. 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.

### In Preparation

1. G.E. Lahodny Jr., M. Zevika, and E. Soewono, On prevention of Dengue fever with fogging and mosquito repellent interventions.
2. G.E. Lahodny Jr. and E. Soewono, Investigation of mobility and delayed pregnancy in deterministic and stochastic epidemic models for Zika virus.

## AWARDS

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- 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

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### Graduate Students

- Co-advisor (with Edy Soewono) of Mona Zevika  
Department of Mathematics & Natural Sciences, Institut Teknologi Bandung (Current)
- 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–present)
- 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

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### 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

### 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

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

## PROFESSIONAL MEMBERSHIPS

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- 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

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### University of Texas at San Antonio

- Course coordinator for MAT 1224 - Calculus II (2019 – Present)
- Member of Colloquium Committee (2020 – 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

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- 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

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### 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.