Cameron J. Browne — Curriculum Vitae

Cameron J. Browne
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Department of Mathematics
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RESEARCH INTERESTS

Mathematical Biology; Differential Equations; Dynamical Systems; Computational Biology; Mathematical Modeling in Virology, Immunology, Epidemiology, Ecology and Evolution.

EDUCATION

University of Florida

Ph.D. Mathematics, August 2012

- Dissertation Topic: *Two Extensions of a Classical Within-Host Virus Model.*
- Advisor: Sergei S. Pilyugin
- Co-Advisor: Marco Salemi

M.S. in Mathematics, Fall 2011.

University of Florida

B.S. in Mathematics, May 2007

- Minor in physics

POSTGRADUATE POSITIONS

2021–current	Associate Professor	University of Louisiana at Lafayette, Mathematics Department
2015–2021	Assistant Professor	University of Louisiana at Lafayette, Mathematics Department
2013–2015	Assistant Professor (Non Tenure-Track)	Vanderbilt University, Department of Mathematics
2012–2013	Postdoctoral Fellow	University of Ottawa, Department of Mathematics and Statistics

GRANT SUPPORT & PROPOSALS

❑ **Current Grants**

- NSF DMS 2028728 (Mathematical Biology), Role: PI
  Funding Agency: National Science Foundation (NSF)
  Funding Amount: $199,009
  Award Period: 04/15/2020 - 09/30/2022,
  Project Title: *RAPID: Epidemiological and Phylogenetic Models for Contact-Based Control of COVID-19*
- NSF DMS 1815095 (Mathematical Biology), Role: PI
  Funding Agency: National Science Foundation (NSF)
  Funding Amount: $219,641
  Award Period: 06/15/2018 - 05/31/2023,
  Project Title: *Dynamics and Evolution of Virus and Immune Response Networks*

❑ **Grant Awarded**

- Simons Collaboration Grant, (awarded but became ineligible due to received NSF grant above)

Funding Agency: Simons Foundation
Funding Amount: $42,000
Award Period: Sept. 1, 2018 - Aug 31, 2023,
Project Title: *Dynamics and Evolution in Predator-Prey Network Models*

❑ **Completed Grants**

- AMS Simons Travel Grant, $4,400 for conference, research collaboration travel expenses ($400 for Math department) (2015–2017).
- University of Louisiana Summer Research Award, $4,000 stipend for conducting research over Summer semester (June-July 2016).
- University of Louisiana Travel Grant, $800 for travel to give invited talk at ICMA IV conference (October 2017)

PUBLICATIONS & SUBMITTED ARTICLES

1. **C. J. Browne** & F. Yahia. (2022). Virus-immune dynamics determined by prey-predator interaction network and epistasis in viral fitness landscape, Accepted by *Journal of Mathematical Biology*. (arXiv preprint arXiv:2106.08991).

2. **C. J. Browne**, H. Gulbudak, & J. C. Macdonald (2022).Differential impacts of contact tracing and lockdowns on outbreak size in COVID-19 model applied to China. *Journal of Theoretical Biology*, 532, 110919.

3. B. Rife Magalis, P. Autissier, K. Williams, X. Chen, **C. Browne** & M. Salemi (2021). Predator-Prey Dynamics of Intra-Host Simian Immunodeficiency Virus Evolution Within the Untreated Host. *Frontiers in Immunology*, 4191. (corresponding authors: **C.B.** & M.S.)

4. J. C. Macdonald, **C. J. Browne**, & H. Gulbudak (2021). Modeling COVID-19 outbreaks in United States with distinct testing, lockdown speed and fatigue rates. *Royal Society Open Science*, 8 (8), 210-227.

5. M. Giovanetti, E. Cella, F. Benedetti, [& 25 others, including **C. Browne**] (2021). SARS-CoV-2 shifting transmission dynamics and hidden reservoirs limited the efficacy of public health interventions in Italy. *Communications Biology*, 4(1), 1-9.

6. C. Mavian, T. K. Paisie, M. T. Alam, **C. Browne**, V. M. Beau De Rochars, S. Nembrini, M. N. Cash, E. J. Nelson, T. Azarian, A. Ali, J. G. Morris Jr., M. Salemi (2020). Toxigenic Vibrio cholerae evolution and establishment of reservoirs in aquatic ecosystems. *Proceedings of the National Academy of Sciences*, 117(14), 7897-7904.

7. H. Gulbudak & **C. J. Browne** (2020). Infection severity across scales in multi-strain immuno-epidemiological Dengue model structured by host antibody level. *Journal of Mathematical Biology*, 80, 1803-1843.

8. **C. J. Browne**, X. Pan, H. Shu, and X. S. Wang (2020). Resonance of Periodic Combination Antiviral Therapy and Intracellular Delays in Virus Model. *Bulletin of Mathematical Biology*, 82 (2), 29.

9. **C. J. Browne** and C. Y. Cheng (2019). Age-structured viral dynamics in a host with multiple compartments. *Mathematical biosciences and engineering*, 17 (1), 538-574.

10. **C. J. Browne** & H. Smith (2018), Dynamics of Virus and Immune Response in Multi-Epitope Network. *Journal of Mathematical Biology*, December 2018, Volume 77, Issue 6-7, pp 1833–1870.

11. H. Mohebbi, A. Aminataei, **C. J. Browne**, M. R. Razvan (2017), Hopf Bifurcation of an Age-structured Virus Infection Model. *Discrete and Continuous Dynamical Systems - B*, 2018, 23(2): 861–885

12. **C. J. Browne** (2017), Global properties of nested network model with application to multi-epitope HIV/CTL dynamics. *Journal of Mathematical Biology*, 75(4), 1025–1046.

13. **C. J. Browne**, M. Wang, and G. F. Webb (2017), A Stochastic Model of Nosocomial Epidemics in Hospital Intensive Care Units. *Electronic Journal of Qualitative Theory of Differential Equations*, (6), 1–12.

14. **C. J. Browne** and S. S. Pilyugin (2016), Minimizing $\mathcal{R}_0$ for In-Host Virus Model with Periodic Combination Antiviral Therapy. *Discrete and Continuous Dynamical Systems - B*, 21(10): 3315 – 3330.

15. **C. J. Browne** (2016), Immune Response In Virus Model Structured by Cell Infection-Age. *Mathematical Biosciences and Engineering*, 13(5), 887-909.

16. G. Webb and **C. J. Browne** (2015), A Model of the Ebola Epidemics in West Africa Incorporating Age of Infection. *Journal of Biological Dynamics*, 10 (1), 18-30.

17. **C. J. Browne**, H. Gulbudak, and G. Webb (2015), Modeling Contact Tracing in Outbreaks with Application to Ebola. *Journal of Theoretical Biology*, Volume 384: 33-49

18. **C. J. Browne** and G. Webb (2015), A Nosocomial Epidemic Model with Infection of Patients Due to Contaminated Rooms. *Mathematical Biosciences and Engineering*, 12(4), 761-787.

19. G. Webb, **C. J. Browne**, X. Huo, O. Seydi, M. Seydi, and P. Magal (2015), A model of the 2014 ebola epidemic in west Africa with contact tracing. *PLoS Currents*, 7.

20. **C. J. Browne** (2015), A Multi-Strain Virus Model with Infected Cell Age Structure: Application to HIV. *Nonlinear Analysis: Real World Applications*, Volume 22: 354-372.

21. **C. J. Browne**, L. Bourouiba, and R. Smith (2015), From regional pulse vaccination to global disease eradication: insights from a mathematical model of poliomyelitis. *Journal of Mathematical Biology*, 71(1), 215-253.

22. **C. J. Browne** and S. S. Pilyugin (2013), Global Analysis of Age-Structured Within-Host Virus Model. *Discrete and Continuous Dynamical Systems - B*, 18(8):1999-2017.

23. **C. J. Browne** and S. S. Pilyugin (2012), Periodic Multidrug Therapy in a Within-Host Virus Model. *Bulletin of Mathematical Biology*, 74(3):562-589.

Student Mentoring

❑ **Graduate Students**
  - Currently advising 2 Ph.D. students, Leah Kaisler and Fadoua Yahia. Full support (stipend and tuition) through NSF grants as research assistant: Leah Kaisler (Summer/Fall 2019, Spring 2020) and Fadoua Yahia (Spring 2020, Fall/Spring 2020-2021, Fall 2021).
  - 3 publications/submissions in 2021 with graduate student co-authors.

❑ **Undergraduate Students**
  - Full support (stipend) through NSF grant of research assistantship of Bryan Flores (Fall 2021). Currently working on project to create algorithm for computing phylogenetic tree of multi-locus virus-immune population dynamics model.
  - Full support (stipend) through NSF grant of research assistantship of Christopher Bayard (Summer 2019). Currently preparing an article on the research conducted in computer modeling of virus quasispecies against immune response.
  - Mentored UL undergraduate student Claire Maxwell in project about modeling antibiotic resistance in livestock. (2016)

- Mentored prospective Georgia Tech graduate student Ilan Rubin in project about computational model of logistics and contact tracing for Ebola epidemic. (2015)
- Mentored Vanderbilt undergraduate student Lexie Tonelli in project about economic and epidemiological optima of vaccination. (2014–2015)

1. *Eco-evolutionary dynamics in prey-predator networks applied to virus immune escape*, Oregon State University Mathematical Biology Seminar. (October 2022)

2. *Eco-evolutionary dynamics in prey-predator networks applied to HIV immune escape*, University of California at Merced, Mathematics Colloquium. (September 2022)

3. *Eco-evolutionary dynamics in prey-predator networks applied to HIV immune escape*, University of Louisiana at Lafayette, Mathematics Colloquium. (September 2022)

4. *The Mathematics of How HIV/AIDS Defeats the Immune system and How to Defeat the Virus*, Towson University, Mathematics Colloquium. (April 2022)

5. *Virus-immune dynamics determined by epistasis in viral fitness landscape*, Oregon State University Mathematical Biology Seminar. (November 2021).

6. *Modeling COVID-19 outbreaks in United States with distinct testing, lockdown speed and fatigue rates*, 2021 SIAM TX-LA Annual Meeting. (November 2021).

7. *Connecting predator prey dynamics and population genetics in an evolving virus immune network*, 2021 SMB Annual Meeting for the Society for Mathematical Biology. (June 2021).

8. *Connecting predator prey dynamics in evolving pathogen systems*, NCTS Seminar on Mathematical Biology. National Center Theoretical Science, Taiwan (virtual). (May 2021).

9. *Connecting predator prey dynamics in evolving pathogen systems*, Mathematical Modeling and Analysis of Population Dynamics Workshop. Xinyang Normal University, China (virtual). (May 2021).

10. *Connecting population genetics and dynamics in evolving pathogen systems*, Colloquium, Department of Mathematics & Statistics, Utah State University. (April 2021).

11. *Modeling lockdowns, contact tracing and testing in COVID-19 outbreaks applied to China and United States*, Sciences Interdisciplinary Monthly Meeting (SIMM), Univ. of Louisiana at Lafayette. (March 2021).

12. *Modeling lockdowns, contact tracing and testing in COVID-19 outbreaks applied to China and United States*, Infectious Disease Outbreaks online seminar (https://www.math.u-bordeaux.fr/ pmagal100p/webinar2020.html) (March 2021).

13. *Modeling lockdowns, contact tracing and testing in COVID-19 outbreaks applied to China and United States*, Colloquium - Department of Mathematics & Statistics, University of Nevada, Reno. (February 2021)

14. *Differential impacts of contact tracing and lockdowns on outbreak size in COVID-19 model applied to China & US*, Virtual Joint Mathematics Meetings (January 2021)

15. *RAPID: Epidemiological and Phylogenetic Models for Contact-Based Control of COVID-19*, COVID-19 RAPID PI (virtual) Meeting, National Science Foundation (June 2020).

16. *Modeling contact tracing in emerging outbreaks with application to Ebola and novel Coronavirus*, Univ. of Louisiana - Lafayette, Applied Mathematics Seminar (February 2020).

17. *Connecting population genetics and dynamics in rapidly evolving pathogen systems*, Univ. of Louisiana - Lafayette, Applied Mathematics Seminar (November 2019).

18. *Infection severity across scales in multi-strain immuno-epidemiological Dengue model structured by host antibody level*, SMB 2019 Annual Meeting of the Society for Mathematical Biology, Montreal, Canada. (July 2019).

19. *Predator-prey dynamics of HIV/SIV and immune response: an evolutionary perspective*, Second International Conference on Applications of Mathematics to Nonlinear Sciences (AMNS-2019), Pokhara, Nepal. (June 2019).

20. *Resonance of periodic combination antiviral therapy and intracellular delays in virus model*, Fifth International Conference on Computational and Mathematical Population Dynamics. (May 2019).

21. *The math of how HIV/AIDS defeats the immune system and how to defeat the virus*, Undergraduate Seminar, University of Louisiana at Lafayette. (March 2019).

22. *Resonance of periodic combination antiviral therapy and intracellular delays in virus model*, 4th International Conference on Computational Mathematics and Engineering Sciences (CMES-2019), Antalya, Turkey. (April 2019)

23. *The math of how HIV/AIDS defeats the immune system and how to defeat the virus*, Undergraduate Seminar, University of Louisiana at Lafayette. (March 2019).

24. *Network Model for Ecology of Virus and Immune Response during HIV Infection*, SIAM Texas-Louisiana Section Conference, LSU, Baton Rouge, Louisiana. (September 2018)

25. *Models of Dynamic Virus and Immune Response Networks*, AIMS Conference on Dynamical Systems, Differential Equations and Applications, Taipei, Taiwan. (July 2018)

26. *Models of Dynamic Virus and Immune Response Networks*, Frontiers of Mathematical Biology: Modeling, Computation and Analysis, University of Central Florida, Orlando, Florida. (May 2018)

27. *Models of Dynamic Virus and Immune Response Networks*, Univ. of Louisiana - Lafayette, Applied Mathematics Seminar (April 2018).

28. *Models of Dynamic Virus and Immune Response Networks*, Univ. of Louisiana - Lafayette, Physics Seminar (March 2018).

29. *Predator-prey dynamics of intra-host simian immunodeficiency virus infection within the host: an evolutionary perspective*, SCALA 2018 - Scientific computing around Louisiana, LSU, Baton Rouge, Louisiana. (February 2018)

30. *Modeling immune escape in intra-host HIV and CTL networks*, Host-Pathogen Dynamics Workshop, Mathematical Biosciences Institute, Ohio State University, Columbus, Ohio. (February 2018)

31. *Dynamics of Virus and Immune Response in Multi-Epitope Network*, Sixth International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems (ICMA IV), Tucson, AZ. (October 2017).

32. *Reproduction Number in Population Models with Periodic Forcing*, Special Invited Mathematical Biology Seminar, Arizona State University, Tempe, AZ. (October 2017)

33. *Dynamics of Virus and Immune Response Networks*, Southeastern-Atlantic Regional Conference on Differential Equations (SEARCDE 2017), Kennesaw State University, Kennesaw, GA. (October 2017).

34. *Mathematical modeling of infectious diseases: from Ebola outbreaks to HIV immunology*, Math Talks Seminar (over 30 undergraduate students attended), Kennesaw State University, Marietta, GA. (October 2017).

35. *Network Model of Muti-Epitope HIV Immune Escape*, Bio-Math Modelling Workshop (MOBI-2017), Rome, Italy. (June 2017).

36. *Mathematical modeling of infectious diseases: from Ebola outbreaks to HIV immunology*, Sciences Interdisciplinary Monthly Meeting (SIMM), Univ. of Louisiana at Lafayette. (April 2017).

37. *Dynamics of Virus and Immune Response Network Models*, Analysis, Dynamics, and Applications Seminar, University of Arizona. (April 2017).

38. *Basic Reproduction Number in Population Models with Periodic Forcing*, Applied Math Seminar, University of Louisiana at Lafayette. (February 2017).

39. *Mathematical Models of Virus and Immune Response Dynamics*, Mathematics Colloquium, San Diego State University. (January 2017)

40. *Modeling Multi-Epitope HIV/CTL Immune Response Dynamics and Evolution*, Joint Mathematics Meeting (JMM), Atlanta, GA. (January 2017).

41. *Stability and Persistence in Multi-Epitope HIV-Immune Response Network Models*, Southeastern-Atlantic Regional Conference on Differential Equations, Ft. Myers, FL. (November 2016)

42. *Modeling Multi-Epitope HIV/CTL Immune Response Dynamics and Evolution*, Applied Mathematics Seminar, University of Louisiana at Lafayette. (October 2016).

43. *Modeling Multi-Epitope HIV/CTL Immune Response Dynamics and Evolution*, Mathematical Biology Seminar, Arizona State University. (September 2016)

44. *Modeling Contact Tracing and Targeted Control in Outbreaks*, ECMTB 2016, Nottingham, U.K. (July 2016)

45. *Modeling the Ebola outbreak and contact tracing*, AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, Florida. (July 2016)

46. *Virus-Immune Dynamics in Structured HIV Models*, AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, Florida. (July 2016)

47. *Modeling the Ebola Outbreak: Contact Tracing and Infection-Age Structure*, Mathematical Biology Seminar, Georgia State University. (April 2016)

48. *Virus-Immune Dynamics in Age-Structured HIV Model*, Mathematical Biology and Ecology Seminar, Georgia Institute of Technology. (April 2016)

49. *Immune Response in Virus Model Structured by Cell Infection-Age*, SIAM SEAS Conference, University of Georgia, Athens, Georgia. (March 2016)

50. *Modeling the Ebola outbreak and contact tracing*, Applied and Computational Mathematics Seminar, Tulane University. (October 2015)

51. *Modeling the Ebola outbreak and contact tracing*, Applied Mathematics Seminar, University of Louisiana at Lafayette. (October 2015)

52. *Modeling the Ebola outbreak and contact tracing*, Biology Colloquium, University of Louisiana at Lafayette. (October 2015).

53. *Analysis of cell infection-age structured virus models*, Mathematics Colloquium, University of Louisiana at Lafayette. (October 2015).

54. *Modeling Contact Tracing in Outbreaks with Application to Ebola*, SMB Annual Meeting, Georgia State University, Atlanta, Georgia. (June 2015)

55. *Modeling contact tracing in Ebola outbreaks*, Invited Presentation, Centers for Disease Control and Prevention (CDC), Atlanta, GA. (March 2015).

56. *Reproduction number and population dynamics of infectious diseases*, Mathematics Colloquium, University of Louisiana at Lafayette. (February 2015).

57. *Modeling contact tracing in Ebola outbreaks*, Poster Presentation, Modeling the Spread and Control of Ebola in West Africa: A rapid response workshop, Georgia Tech, Atlanta, Georgia. (January 2015)

58. *Basic Reproduction Number in Population Models with Periodic Forcing*, Partial Differential Equations Seminar, Vanderbilt University. (September 2014).

59. *A Nosocomial Epidemic Model with Room Contamination*, CMS Summer Meeting, Winnipeg, Manitoba, Canada. (June 2014)

60. *A Nosocomial Epidemic Model with Room Contamination*, 5th Annual QSE3 IGERT Symposium, University of Florida, Gainesville, Florida. (April 2014)

61. *A Nosocomial Epidemic Model with Infection of Patients Due to Contaminated Rooms*, SIAM Southeastern-Atlantic Section Conference, Florida Institute of Technology, Melbourne, Florida. (March 2014)

62. *Chaos and Population Dynamics*, Undergraduate Mathematics Seminar, Vanderbilt University. (March 2014).

63. *Pulse Vaccination in a Disease Metapopulation Model: Application to Polio Eradication*, Poster Presentation, Rapid Evolution and Sustainability Workshop, Mathematical Biosciences Institute, Ohio State University, Columbus, Ohio. (October 2013)

64. *Competitive Exclusion in Structured Within-Host Virus Model*, Southeastern-Atlantic Regional Conference on Differential Equations, University of Tennessee, Knoxville, Tennessee. (September 2013).

65. *On Pulse Vaccination Strategy in a Metapopulation Model*, SMB Annual Meeting, Arizona State University, Tempe, Arizona. (June 2013).

66. *Vaccination Strategy for Polio in a Spatially Structured Setting*, Major and Neglected Diseases in Africa - Workshop, University of Ottawa, Ottawa, Ontario, Canada. (May 2013).

67. *Pulse Vaccination Strategy in Deterministic and Stochastic Polio Metapopulation Models*, 4th Annual QSE3 IGERT Symposium, University of Florida, Gainesville, Florida. (April 2013).

68. *Pulse Vaccination in a Polio Meta-population Model*, 2013 Southern Ontario Dynamics Day, Toronto, Ontario, Canada. (April 2013).

69. *Global analysis of an age-structured multi-strain virus model*, Partial Differential Equations Seminar, Vanderbilt University. (September 2013).

70. *Within-Host Virus Model with Periodic Combination Drug Treatment*, Center for Disease Modeling Group Meeting, York University. (October 2012)

71. *Species Distribution Modeling of Simulated Plant Invasion*, IGERT Spatial Dynamics Colloquium, University of Florida. (February 2012)

72. *Within-Host Virus Model with Infected Cell Age-Structure*, CMS Winter Meeting, Montreal, Quebec, Canada. (December, 2012).

73. *Time-Periodic Combination Drug Therapy in a Virus Model*, Society of Mathematical Biology Annual Meeting, Knoxville, Tennessee. (July, 2012).

74. *Modeling Within-Host HIV Dynamics: The Standard Model, Applications, and Extensions*, Florida Section of the MAA Joint Meetings, University of North Florida, Jacksonville, Florida. (February 2012).

75. *Mathematical Modeling of HIV Intra-Host Evolution and Phylogenetic Data*, IGERT Spatial Dynamics Colloquium, University of Florida. (November 2011)

76. *Modeling Recent Mumps Outbreaks in England and Iowa*, Statistical Principles in Biology Class Poster Presentation, University of Florida, Gainesville. (April 2011)

77. *Periodic Forcing in an HIV model and other Biological Systems*, IGERT Spatial Dynamics Colloquium, University of Florida. (February 2011)

78. *Periodic Antiviral Treatment in Within-Host Virus Model*, SIAM seminar, University of Florida, Gainesville. (January 2011)

79. *An Age-Structured Within-Host Virus Model with Application to Bacteriaphage Dynamics*, Workshop on Antibiotic-Resistant Infections: Mathematical Modeling, Transmission Dynamics and Control, University of Miami, Coral Gables, Florida. (December 2011)

80. *HIV model with Periodic Antiviral Treatments*, The 3rd International Conference On Math Modeling and Analysis, San Antonio, Texas. (October 2011)

81. *Periodic Antiviral Treatment in HIV Model*, University of Florida Conference on Computational and Systems Biology. (March 2011)

82. *Periodic Antiviral Treatment in Within-Host Virus Model*, 34th SIAM Southeastern-Atlantic Section Conference, North Carolina State University, Raleigh. (March 2010)

| **Grant & Journal Reviewing** | ❏ Served on 4 review panels for NFS DMS Mathematical Biology program: NSF CAREER, NSF Mathematical Biology Standard grant, DMS/NIGMS (NSF-NIH joint research), & RAISE: IHBEM (joint NSF division funding for incorporating behavior/economics in epidemic modeling) grant proposal review panels. |

❏ Associate Editor for Mathematical Biosciences and Engineering (MBE) journal

❏ Reviewer for Simons Foundation Collaboration Grants for Mathematicians

❏ Reviewer for Austrian National Science Foundation grant proposal

❏ Reviewer for DARPA grant proposals

❏ Referee for *Nature Scientific Reports*, *SIAM Journal on Applied Mathematics*, *Journal of Mathematical Biology*, *Journal of Theoretical Biology*, *Applicable Analysis*, *Computational Methods for Differential Equations*, *PLoS Computational Biology*, *PLoS One*, *Applied Mathematics and Computation*, *Bulletin of Mathematical Biology*, *Journal of Biological Dynamics*, *Journal of Biological Systems*, *IEEE Transactions on Automatic Control*, *Mathematical Biosciences*, *Mathematical Biosciences and Engineering*, *Nonlinear Analysis: Real World Applications*, *Journal of Mathematical Analysis and Applications*, *Theoretical Population Biology*, *Advances in Difference Equations*, *Discrete and Continuous Dynamical Systems - B*, *Royal Society Open Science* , *Royal Society Interface*.

CONFERENCE ORGANIZATION	• Conference co-organizer: *ICMA-VIII International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems*, UL Lafayette. (March 2022); *2016 Lloyd Roeling UL Lafayette Mathematics Conference: Applied Mathematics*, UL Lafayette. (November 2016).
	• Mini-symposium or Special Session co-organizer: *Multi-scale and data-driven modeling approaches in ecology, immunology, and epidemiology*, ECMTB 2022 - 12th European Conference on Mathematical and Theoretical Biology (September 2022), *Population Dynamics Across Interacting Networks or Scales*, SMB 2021 Annual Meeting (June 2021); *Modeling Infectious Diseases and Control Strategies*, SIAM Southeastern-Atlantic Section Conference, Florida Institute of Technology, Melbourne, Florida. (March 2014); *Mathematical Immunology and Pathogen Dynamics*, AMMCS, Waterloo, ON, Canada. (August 2013).
	• Member of scientific committee for 4th International Conference on Computational Mathematics and Engineering Sciences (CMES-2019) held April 20 to 22, 2019 in Antalya, Turkey.

SEMINARS ORGANIZED	Applied Math Seminar organizer, 2016-2017, University of Louisiana at Lafayette

TEACHING EXPERIENCE	❑ University of Louisiana at Lafayette Courses taught: Advanced topics in Applied Math I& II: Bifurcations and Stochasticity in Dynamical Systems with application to Biomathematics (MATH 695-596), Graduate Ordinary Differential Equations I & II (MATH 583-584), Partial Differential Equations (MATH 495), Numerical Methods (MATH 455), Biomathematics I & II (MATH 451-452), Differential Equations (MATH 350), Calculus III (MATH 302), Survey of Calculus (MATH 250).
	❑ Vanderbilt University Courses taught: Partial Differential Equations, Introduction to Numerical Methods, Methods of Linear Algebra, Multivariable Calculus, Single Variable Calculus II, Accelerated Calculus I (Recitation).
	❑ University of Ottawa Courses taught: Ordinary Differential Equations & Laplace Transform, Calculus 1 for Life-Science Majors
	❑ University of Florida Courses taught: Pre-Calculus (Instructor & Teaching Assistant), Technical Physics (Teaching Assistant)

HONORS AND AWARDS	2010–2012	NSF Quantitative Spatial Ecology, Evolution, and Environment IGERT Fellowship
	2007–2011	University of Florida Alumni Fellowship

OTHER SCIENTIFIC RESEARCH EXPERIENCE	❑ New Orleans workshop on Modeling the Spread of Infectious Diseases, Tulane University, (Feb. 2019 & 2020)
	❑ Host-Pathogen Dynamics Workshop at Mathematical Biosciences Institute, Ohio State University, Columbus, Ohio. (Feb. 2018)
	❑ AIM workshop on Tumor-immune dynamics, American Institute of Mathematics, San Jose, California (Jan. 2015)

RELEVANT GRADUATE COURSEWORK	Ordinary Differential Equations, Partial Differential Equations, Dynamical Systems and Ergodic Theory, Analysis I and II, Probability Theory, Differential Geometry, Combinatorics, Biomath Special Topics: Chemical Reaction Networks, Biomath Special Topics: Stochastic Processes, Ecology, Statistical Principles in Biology.
TUTORING EXPERIENCE	2002–2011 Private Mathematics and Physics Tutor 2005–2007 Higher Mathematics and Physics Tutor, Broward Teaching Center, University of Florida
RELEVANT SKILLS	Programming: Matlab, R, LaTeX.
REFERENCES	**Dr. Sergei Pilyugin**, Professor, Department of Mathematics, University of Florida, 352-294-2326, `pilyugin@ufl.edu` **Dr. Patrick De Leenheer**, Professor, Department of Mathematics, Oregon State University, (541) 737-5171, `deleenhp@math.oregonstate.edu` **Dr. Glenn Webb**, Professor, Department of Mathematics, Vanderbilt University, (615) 322-6661 `glenn.f.webb@vanderbilt.edu` **Dr. Hal Smith**, Professor, School of Mathematical and Statistical Sciences, Arizona State University, 480-965-3743, `halsmith@asu.edu` **Dr. Marco Salemi**, Professor & Holloway and McClamma Chair for research in Chronic and Infectious Diseases, Department of Pathology & Emerging Pathogens Institute, University of Florida, (352) 273-9567, `salemi@pathology.ufl.edu`