IBRAHIM HALIL ASLAN

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EDUCATION & TRAINING

University of Tennessee, Knoxville, TN, USA

- Ph.D. in Mathematics, Concentration in Mathematical Ecology/Evolution .... *Aug 2019*
  Title: Leptospirosis models: vaccination of cattle and early detection in humans
  Advisor: Prof. Suzanne Lenhart
  - Ph.D. Minor in Statistics
  - Ph.D. Minor in Computational Science
- Master of Science in Mathematics ..... *May 2017*

Gaziantep University, Gaziantep, Turkiye

- Master of Science in Applied Mathematics ..... *July 2011*

Mersin University, Mersin, Turkiye

- Bachelor of Science in Mathematics ..... *June 2009*

ACADEMIC APPOINTMENTS

Stanford University, USA

- Postdoctoral Scholar ..... *Jan 2022-Present*
  Developed thermal sensitive mathematical models of schistosomiasis to control and eliminate the transmission in Brazil and Cote d'Ivoire under future climate change.

Batman University, Turkiye

- Assistance Professor ..... *Oct 2019-Jan 2022*
  Analyzed the dynamics of Covid-19 outbreak and the effect of control programs in Hubei, Turkiye and USA.

University of Tennessee, USA

- Graduate Teaching Associate ..... *Aug 2015-Aug 2019*
  Modeled the propagation of Leptospirosis and improved control programs.

PEER-REVIEWED PUBLICATIONS

- **Aslan, I. H.**, Chamberlin, A. J., Mitchell, K. R., Pourtois, J. D., Mari, L., Lwiza, K. M., Wood, C. L., Mordecai, E. A., Tuan, R., Palasio, R. G. S., Monteiro, A. M.V., Kirk, D., Athni, T. S., Sokolow, S. H., N'Goran, E. K., Diakite, N. R., Ouattara, M., Gatto, M., Casagrandi, R., Little, D. C., Ozretich, R. W., Normal, R., Allan, F., Brierley, A. S., Liu, P., Pereira, T. A., De Leo, G. A. (2024). Re-assessing thermal response of schistosomiasis transmission risk: evidence for a higher thermal optimum than previously predicted. *Plos Neglected Tropical Disease*, 18(6), e0011836.

- Demir, M., **Aslan, I. H.**, Lenhart, S. (2023). Analyzing the effect of restrictions on the COVID-19 outbreak for some US states. *Theoretical Ecology*, 16, 117–129.
- Spence, L., Anderson, D. E., **Aslan, I. H.**, Demir, M., Okafor, C. C., Souza, M. J., Lenhart, S. (2023). The Effect of Changing COVID-19 Restrictions on the Transmission Rate in a Veterinary Clinic. *Infectious Disease Modeling*, 8(1), 294-308.
- **Aslan, I. H.**, Demir, M., Wise, M. M., Lenhart, S., (2022). Modeling COVID-19: Forecasting and analyzing the dynamics of the outbreaks in Hubei and Turkey. *Mathematical Methods in the Applied Sciences*, 45(10), 6481-6494.
- **Aslan, I. H.**, Baca-Carrasco, D., Lenhart, S., Velasco-Hernandez, J. X., (2021). A mathematical model with impulse actions for Leptospirosis in cattle. *Journal of Biological systems*, 29(1), 1-31.
- **Aslan, I. H.**, Lenhart, S., (2020). A mathematical model for cost-effectiveness analysis and early detection of Leptospirosis in human. *Journal of Abstract and Computational Mathematics*, 6(1), 21-31.

TEACHING EXPERIENCES

University of Tennessee, Knoxville, TN, USA

- Math 125 - Basic Calculus (in person, 25 students) ..... *fall 2015*
- Math 141 - Calculus I (in person, 30 students) ..... *spring 2016*
- Math 115 - Statistical Reasoning (in person, 25 students) ..... *fall 2016- spring 2017*
- Math 142 - Calculus II (in person, 30 students) ..... *fall 2017-spring 2018*
- Math 231 - Differential Equations (in person, 30 students) ..... *fall 2018-spring 2019*

Batman University, Turkiye

- 01030303 Analytic Geometry (in person, 30 students) ..... *fall 2021*
- 02110523 Numerical Solution (in person, 40 students) ..... *fall 2021*
- 02110326 Probability and Statistics (in person, 40 students) ..... *fall 2021*
- 02050325 Probability and Statistics (virtual, 40 students) ..... *spring 2020*
- 02110221 Calculus II (virtual, 40 students) ..... *spring 2020*

CONFERENCE PRESENTATIONS

- The 2024 Ecology and Evolution of Infectious Diseases (EEID) Conference, Stanford University, Stanford, CA, June 2024. Poster : The impact of seasonal temperature variation and dormancy of snails on the transmission of schistosomiasis
- Joint Mathematics Meeting, San Francisco, CA, January 2024. Invited Session: Thermal sensitive mathematical model of schistosomiasis.
- Western Society of Naturalists, Monterey, CA, November 2024. Talk: Investigating the thermal response of parasitic disease with ectothermic intermediate host in the era of global warming.

- Bay Area Ecology and Evolution of Infectious Diseases, San Francisco State University, San Francisco, CA, March 2023. Talk: Thermal sensitive mechanistic models for schistosomiasis: the devil is in details.
- The 16th edition of the International Symposium on Schistosomiasis, University of Ouro Preto, Minas Gerais, Brazil, November 2022. Poster presenter: The investigation of optimal temperature for schistosomiasis and the impact of control programs and seasonality on the optimal temperature.
- SIAM Conference on Computational Science and Engineering, Spokane, WA, February 2019. Student chapter representative, Poster presenter: A cost effectiveness analysis in early detection of a zoonotic disease Leptospirosis.
- Joint Mathematics Meeting, Baltimore, MD, January 2019. Invited Session: Impulse model of Leptospirosis in Cattle.
- 38th Southeastern – Atlantic Regional Conference on Differential Equations, University of North Georgia-Gainesville, Oakwood, GA, October 2018. Session Chair and Contributed Talk: Impulse model of Leptospirosis in Cattle.
- SIAM Conference on the Life Sciences, Minneapolis, MN, August 2018. Invited minisymposium: Modeling of Leptospirosis in Cattle.
- 37th Southeastern – Atlantic Regional Conference on Differential Equations, Kennesaw State University, Kennesaw, GA, October 2017. Session Chair and Contributed Talk: Vaccine Impulse Model of Leptospirosis in Cattle.
- Joint Mathematics Meeting, Atlanta, GA, January 2017.

ACADEMIC WORKSHOPS

- 2024 Evolutionary Infectious Diseases Conference, Disease Ecology in a Changing World: Quantitative Tools to Applied Solutions, Stanford University, Stanford, CA, June, 2024.
- Teaching Workshop for Postdocs, Office of Postdoctoral Affairs, Stanford University, Stanford, CA, May 2024.
- Modeling Covid-19 Virtual Workshop, Academy of Science, June 2020. Present: Modeling COVID-19: Forecasting and analyzing the dynamics of the outbreak in Hubei and Turkey.
- NSF-CBMS: Computational Methods in Optimal Control, Department of mathematics, Jackson State University, Jackson, MS, July 2018. Funded participant.
- US-Canadian Institutes Epidemiology Summer School: Mathematical Modeling of Infectious Disease Spread, Mathematical Biosciences Institute, The Ohio State University, Columbus, OH, June 2016. Funded participant. Project: Mixing and Multi Group Models,

SEMINAR AND OUTREACH TALKS

- Re-assessing thermal response of schistosomiasis transmission risk: evidence for a higher thermal optimum than previously predicted. *Stanford Doerr School of Sustainability 2024 Research review, Stanford University*, May 24, 2024, (in person).

- Re-assessing thermal response of schistosomiasis transmission risk: evidence for a higher thermal optimum than previously predicted. *Ocean retreat, Stanford University*, May 17, 2024, (in person).
- Re-assessing thermal response of schistosomiasis transmission risk: evidence for a higher thermal optimum than previously predicted. *Department of Mathematics, Koc University*, March 21, 2024, (in person).
- A thermal-sensitive mathematical model for schistosomiasis. *Hopkins Marine Station, Stanford University*, February 17, 2023, (in person).
- Modeling COVID-19: Forecasting and analyzing the dynamics of the outbreak in Hubei and Turkey. *Department of Mathematics, Mersin Univesity*, February 10, 2021, (virtual).
- The Confrontation: Likelihood and Maximum Likelihood, *Department of Mathematics, University of Tennessee*, April 30, 2017, (in person).
- Reaction-Diffusion Models Single Species, *Department of Mathematics, University of Tennessee*, November 27, 2016, (in person).
- Diffusion models and Biological Waves, *Department of Mathematics, University of Tennessee*, September 11, 2015, (in person).

INTERDISCIPLINARY RESEARCH PROJECTS

- Integrated risk mapping and targeted snail control to support schistosomiasis elimination in Brazil and Cote d'Ivoire under future climate change, (2022-2025).
- Modeling and analyzing Covid-19 outbreak for evaluating the control programs (2019-2022).
- Leptospirosis Modeling Working Group at National Institute for Mathematical and Biological Synthesis (2015-2019).

PUBLISHED RESEARCH REPORTS

Ibrahim Halil Aslan, Mahir Demir, and Michael Morgan Wise, "Predictive Modeling of the COVID-19 outbreak in Knox County". *The blog of the National Institute for Mathematical and Biological Synthesis, August 5, 2020.*

SOFTWARE PROFICIENCIES

Programming Languages ..... R, MATLAB, Python
Math Software ..... Mathematica, Maple, XPP/XPPAUT
Scripting Languages ..... HTML, LaTeX
Databases Software ..... MS SQL Server, SPSS

HONORS AND AWARDS

- Undergraduate Honor Reward, Mersin University *2009*

PROFESSIONAL AFFILIATIONS

- Society for Industrial and Applied Mathematics *2014-2019*
- American Mathematical Society *2016-2019*

COMMUNITY SERVICES

- Diversity Equity Inclusion Liaison, Stanford Doerr School of Sustainability *2022-2024*
- Postdoc Advisory councillor, Stanford Doerr School of Sustainability *2022-2024*
- Turkish Student Association President, University of Tennessee *2016-2019*
- Student chapter Officer, Society for Industrial and Applied Mathematics *2017-2019*

FELLOWSHIPS & SCHOLARSHIPS

- Graduate Teaching Assistantships, University of Tennessee *2015-2019*
- Summer Research Assistantship, University of Tennessee *2018*
- Summer Research Assistantship, University of Tennessee *2015*
- Ph.D. Fellowship, Turkish Ministry of National Education *2014-2019*
- Graduate Fellowship, Higher Education Credit and Hostels Institution, Turkiye *2010-2011*
- Undergraduate Scholarship, Higher Education Credit and Hostels Institution, Turkiye *2005-2009*

LANGUAGES

English : Advanced reading, speaking, listening, and writing
Turkish : Advanced reading, speaking, listening, and writing, (native)
Kurdish : Advanced speaking and listening, beginner reading and writing, (mom tongue)

REFERENCES

Prof. Giulio De Leo
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