Subekshya Bidari

✉ subekshya.bidari@gmail.com

Mathematical modeler using mechanistic models and statistical inference to develop models of infectious disease transmission aimed at better understanding mechanisms of disease spread and devising prevention and intervention strategies.

Employment

July 2022 -	**Postdoctoral Research Scientist**, Columbia University in the city of New York.

Education

August 2022	**PhD in Applied Mathematics**, University of Colorado Boulder.
May 2020	**Masters of Science**, *Applied Mathematics*, University of Colorado Boulder.
May 2017	**Bachelors of Science**, *Mathematics*, Trinity College.
Fall 2015	**Budapest Semesters in Mathematics**, *Budapest, Hungary*.
Spring 2016	**Trinity College Dublin**, *Ireland*.

Fellowships and Awards

2020-2021	**German Academic Exchange Service (DAAD) Short Term Research Grant**, €6525.
2019-2020	**AAUW International Doctoral Fellowship**, $ 20,000.
2017	**W.H. Russell Fellowship, Trinity College**, $ 7,500.
2021	**SIAM Student Travel Award for Dynamical Systems Conference**.

Publications

2022	Subekshya Bidari, Ahmed El Hady, Jacob D. Davidson, and Zachary P. Kilpatrick. *"Stochastic dynamics of social patch foraging decisions."* Phys. Rev. Research 4.3 (2022): 033128.
2021	Subekshya Bidari, and Zachary P. Kilpatrick. *"Hive geometry shapes the recruitment rate of honeybee colonies."* Journal of Mathematical Biology 83.2 (2021): 1-40.
2019	Subekshya Bidari, Orit Peleg, and Zachary P. Kilpatrick. *"Social inhibition maintains adaptivity and consensus of foraging honeybee swarms in dynamic environments."* Royal Society open science 6.12 (2019): 191681.
2019	Subekshya Bidari, and Eli E. Goldwyn. *"Stochastic models of influenza outbreaks on a college campus."* Letters in Biomathematics(2019): 1-14.
2016	Subekshya Bidari, et al. *"Solvability of implicit final size equations for SIR epidemic model."* Mathematical biosciences 282 (2016): 181-190.

Presentations

Jan 2023 (invited)	**Social foraging decisions in animal groups**. Joint Math Meeting, Boston
May 2023 (invited)	**Effect of household structure in measles transmission.**. SIAM Dynamical Systems Conference, Portland
March 2022	**Stochastic dynamics of social patch foraging decisions**. Conference in Dynamics of Social Interactions at Aspen Center for Physics
June 2021	**Evidence accumulation models of collective foraging**. Society of Mathematical Biology Annual Meeting (virtual conference)

June 2020,	**Hive geometry shapes social information transfer in honeybee colonies**.
March 2021	SIAM Conference on Life Sciences (Virtual)
	SIAM Front Range Applied Mathematics Student Conference FRAMSC (virtual)
May 2019,	**Social inhibition maintains adaptivity and consensus of honey bees foraging in dynamic environments**.
Sept 2019	Poster at SIAM Conference in Applications of Dynamical Systems, Snowbird
	Mini-symposium, SIAM Northern States Annual Meeting, Wyoming
August 2018	**Optimizing flexibility in the collective decisions of honeybees**.
	Mini-symposium, SIAM Life Science, Minnesota
	Invited speakers Session, Mathfest, Denver
August 2016	**Modeling Influenza on a college campus using graphs of Social Networks**.
	Pi Mu Epsilon Student Paper Sessions, Mathfest, Columbus
	Undergraduate Capstone Conference, Mathematics Biosciences Institute, Ohio State University

Teaching Experience

Fall 2021	**Applied Probability Teaching Assistant**, *University of Colorado Boulder*.
Fall 2020	**Matrix Methods and Applications Teaching Assistant**, *University of Colorado Boulder*.
Fall 2017, 2018	**Differential Equations Teaching Assistant**, *University of Colorado Boulder*.
Fall 2016	**Microeconomics Teaching Assistant**, *Trinity College Economics Department*.
Fall 2016	**Student Tutor**, *Trinity College Quantitative Center*.
2014, 2015	**Teaching Assistant Calculus I and II**, *Trinity College Mathematics Department*.

Other Experience

2021	Co-organized a conference session on "Collective Behaviour in Biological and Biologically Inspired Systems" at SIAM Dynamical Systems Conference
2021	Acted as a judge for a poster session at the Annual Meeting of Animal Behavioral Society
2020	Co-organized a conference session with 8 speakers on "Multi-scale Models of Decision-making" at SIAM Life Science Meeting

Workshop and Certifications

AWS Cloud Technical Essentials

Applied Machine Learning in Python

Introduction to Data Science in Python

SQL for Data Science

Data Analysis with Python

Programming Languages

MATLAB, Python, Stata, SQL

Ad hoc Reviewer

BMC Public Health, PLOS One

Professional Memberships

Association of Women in Mathematics

Society of Applied and Industrial Mathematics

Models of Infectious Disease Agent Study, MIDAS Network