

Sofya Zaytseva

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EDUCATION

William and Mary <i>Doctor of Philosophy (PhD) in Applied Science</i> Dissertation: "Investigation of Pattern Formation in Marine Environments Through Mathematical Modeling and Analysis of Remotely Sensed Data"	Williamsburg, VA July 2019
University of North Carolina at Wilmington <i>Master of Science (MS) in Applied Mathematics</i>	Wilmington, NC July 2014
University of North Carolina at Wilmington <i>Bachelor of Science (BS) in Mathematics</i> Minor: Statistics	Wilmington, NC May 2013

ACADEMIC APPOINTMENTS

Department of Mathematics, University of Georgia <i>Lecturer</i> <ul style="list-style-type: none">Allocation of effort: Teaching (100%)	Athens, GA August 2022 - present
Department of Mathematics, University of Georgia <i>Limited Term Assistant Professor</i> <ul style="list-style-type: none">Allocation of effort: Teaching (50%), Scholarship (50%)	Athens, GA August 2019 – May 2022

TEACHING EXPERIENCE

MATH 2250 (Calculus I)	9 sections	Spring 25, Fall 23, Spring 23	University of Georgia
MATH 1113 (Precalculus)	19 sections	Fall 24, Summer 24, Spring 24, Fall 22, Summer 22, Fall 21, Fall 19	University of Georgia
MATH 2260 (Calculus II)	3 sections	Spring 22, Summer 21, Spring 20	University of Georgia
MATH5001 (Arithmetic and Problem Solving)	2 sections	Spring 21	University of Georgia
MATH 2500 (Calculus III)	2 sections	Fall 20	University of Georgia
MATH 211 (Linear Algebra)	1 section	Fall 18	William & Mary

OTHER EXPERIENCE

Department of Homeland Security, ANSER <i>DHS HS-STEM Intern</i>	Falls Church, Virginia 2016
Biostudy Solutions <i>Statistical Programming Intern</i>	Wilmington, NC 2013-2014
PharPoint Research Inc. <i>Statistical Programming Intern</i>	Wilmington, NC 2012

SERVICE AND OUTREACH

UGA's Peach State Louis Stokes Alliance for Minority Participation (LSAMP) Summer Bridge Program, Guest Lecturer	Summer 2024
UGA Mathematics Teaching and Learning (MaLT) Seminar, Organizer	2022-present
UGA Russian Flagship Program, Affiliated Faculty	2020-present
COMAP's Mathematical Contest in Modeling (MCM), Judge	2020-present

HONORS AND AWARDS

UGA Active Learning Change Grant	2023
• Role: Co-Facilitator. Awarded Amount: \$15,000.	
UGA Provost's Affordable Course Materials Grant for Calculus II	2020
• Role: Co-Facilitator. Awarded Amount: \$5,000	
MSRI Summer Research for Women in Mathematics	2020
William & Mary GSA Board Award for Excellence in the Natural and Computational Sciences	2019
JMM Travel Award	2019
William & Mary GSA Board Award for Excellence in the Natural and Computational Sciences	2017

DEVELOPMENT

"Got it: Assess Student Learning Just in Time" workshop from the CTL, UGA	2024
"Active Learning 101" workshop from the CTL, UGA	2024
UGA Certificate in Diversity and Inclusion (CDI)	2023
"Designing and Facilitating an Effective Learning Environment" workshop from the CTL, UGA	2023
"How Learning Works: Engage Your Students in Active Learning" workshop from the CTL, UGA	2023
"Best Practices for Accommodating Students & Employees with Disabilities" UGA workshop	2022
"Supporting Students' Help-Seeking Strategies in Authentic Learning" UGA Faculty Interest Group	2022
"Non-Tenure Track Faculty" UGA Faculty Learning Community	2022
"Improvisation for Teachers and Learners" UGA Faculty Learning Community	2021-2024
UGA Teaching Academy Early Career Fellows Program (TAFP), fellow	2021-2022
Project NeXT (New Experiences in Teaching), fellow	2020-2021
UCLA's IPAM Collaborative Workshop for Women in Mathematical Biology, participant	2019
"Mapping with Drones" Workshop on federal sUAS regulations and image processing, participant	2018
Institute for Theory and Practice of International Relations (ITPIR), Diplomacy Lab, participant	2017

MENTORSHIP

Serve as a teaching mentor for 4 PhD students in Mathematics, UGA	2022-
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SELECTED PUBLICATIONS

Published

Sunkula, M., **Zaytseva, S.**, Judges' Commentary: Resource Availability and Sex Ratios, *The UMAP Journal*, 45(4) (2024) pp. 375-384

Sunkula, M., **Zaytseva, S.**, Judges' Commentary: Drought-Stricken Plant Communities, *The UMAP Journal*, 44(4) (2023) pp. 375-384

Zaytseva, S., et al., Pattern formation in marsh ecosystems modeled through the interaction of marsh vegetation, mussels and sediment. *Journal of Theoretical Biology*, 543 (2022): 111102

Zaytseva, S., Judges' Commentary: Power Profile of a Cyclist, *The UMAP Journal*, 43(4) (2022) pp. 391-402

Ciftci, S, Robbins M. and **Zaytseva S.**, 2021. Devotion at Sub-national Level: Ramadan, Night-time Lights, and Religiosity in Egyptian Governorates. *International Journal Of Public Opinion Research*, 33(1), pp.99-117

Agusto, F., Goldberg, A., Ortega, O., Ponce, J., **Zaytseva, S.**, Sindi, S. and Blower, S., 2021. How do interventions impact malaria dynamics between neighboring countries? A case study with Botswana and Zimbabwe. In *Using Mathematics to Understand Biological Complexity*, (pp. 83-109). Springer

Zaytseva, S., Shi, J. and Shaw, L.B., 2020. Model of pattern formation in marsh ecosystems with nonlocal interactions. *Journal of mathematical biology*, 80(3), pp.655-686

In Progress

Black, K., Adams, M., Basheer, A., Cowall, S., Kazanci, C., Patten B., Whipple S. and **Zaytseva S.**, A Continuous Model Of Behavioral Phenotype: An Example Of Interaction Between The Butterfly *Pieris brassicae* and *Trichogramma* Wasps

Zaytseva, S., Lipcius R. and Shaw L.B., Analysis of oyster reef patterns in remotely sensed data.

PRESENTATIONS

Invited Talks

Pattern Formation in Intertidal Oyster Reefs, "Ecological Models at the Interface of Empirical and Theoretical Research" mini-symposium at the Society for Mathematical Biology Conference, June 2021

Image Analysis Approach to Understanding Spatial Patterns in Intertidal Oyster Reefs. Invited talk as part of the "AMS Special Session on Recent Advances in Ecological Modeling, II" mini-symposium at the Joint Mathematics Meeting, January 2021

Investigation of Pattern Formation in Intertidal Oyster Reefs. Invited talk as part of the mini-symposium on "Patterns and Dynamics in Spatially Explicit Ecological Systems" at the SIAM Conference on the Mathematics of Planet Earth, August 2020

Model of pattern formation in marsh ecosystems with nonlocal interactions. Invited talk in the AMS Special Session on Mathematical Investigations of Spatial Ecology and Epidemiology, January 2019

Pattern formation in Marine Ecology. Invited talk: Department of Mathematics, Virginia Commonwealth University, Richmond, Virginia, March 2018

Using a System of Reaction Diffusion Equations with Nonlocal Interactions to Model Pattern Formation in the York River Tidal Marshes. Invited talk in the special session on "Pattern Formation and Recognition in Structured Information and Biological Systems with External Forcing", 11th American Institute of Mathematical Sciences (AIMS) Conference, Orlando, Florida, July 2016

Select Contributed Presentations

Investigation of Pattern Formation in Intertidal Oyster Reefs, Georgia Scientific Computing Symposium, February 2021

Imagery Analysis to Investigate Oyster Reef Pattern Formation, SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 2019

Pattern formation in marsh ecosystem, SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 2017

Spatial patterning in the York River tidal marshes through the interaction of cordgrass, mussels and sediment, BAMM! Biology and Medicine through Mathematics Conference, Richmond, Virginia, May 2017

Pattern formation in marsh ecosystems modeled through the interaction of marsh vegetation, mussels and sediment, 16th Annual Graduate Research Symposium, College of William & Mary, March 2017

OTHER PRESENTATIONS AND FEATURES

"Mathematical Modeling of Population Dynamics", Guest lecture in RUSS 3911 (Tutorial in Professional Russian I), Department of Germanic and Slavic Studies, University of Georgia, Fall 2023, Fall 2024

"The Mathematics of Infectious Diseases", Guest lecture in RUSS 3911 (Tutorial in Professional Russian I), Department of Germanic and Slavic Studies, University of Georgia, Fall 2020, 2021 and 2022

"The Culture of Food in Russia", Guest lecture in RUSS 3912 (Tutorial in Professional Russian II), Department of Germanic and Slavic Studies, University of Georgia, Spring 2021, 2022, 2023, 2024

"Pattern Formation in Intertidal Oyster Reefs.", featured in a SIAM news article, Fall 2020,
<https://sinews.siam.org/Details-Page/pattern-formation-in-intertidal-oyster-reefs>

"Imagery Analysis Improves Oyster Reef Restoration Efforts in the Chesapeake Bay.", featured in a SIAM news article, Summer 2020, <https://sinews.siam.org/Details-Page/imagery-analysis-improves-oyster-reef-restoration-efforts-in-the-chesapeake-bay>