

Dr. Ursula Trigos-Raczkowski

Assistant Professor of Mathematics
Department of Computer Science, Mathematics, and Statistics
Vermont State University Randolph

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🌐 [Personal Website](#)

Education	University of Michigan, Ann Arbor Ph.D., Applied Mathematics. M.S., Applied Mathematics. California State University Bakersfield B.S., Applied Mathematics. Minor, Chemistry.
Dissertation	Coexistence through Life-History Variation: revisited in tractable models with explicit patch aging and/or size-structure.
Employment	Vermont State University Randolph Assistant Professor, August 2025 - Present University of Louisiana at Lafayette Post Doctoral Fellow, July 2024 - July 2025 Integrative Biology, University of Texas at Austin Post Doctoral Fellow, July 2023 - July 2024 Research Affiliate – Visiting Researcher/Scholar, July 2022 - July 2023 Mathematics, University of Michigan, Ann Arbor Graduate Student Instructor & Graduate Student, July 2016 - July 2022 Mathematics, California State University Bakersfield Teaching Assistant, Math 281 (Tutoring in Precalculus and Calculus), Jan-May 2016
Teaching	Mathematics, Vermont State University Randolph Technical Mathematics I, 3 Sections (6 credits total) FA26 Technical Mathematics I Lab, 1 Section (1 credit) FA26 Calculus I, 1 Section (4 credits) FA26 Technical Mathematics I, 2 Sections (3 credits total) SP26 Technical Mathematics II, 3 Sections (6 credits total) SP26 Calculus II, 2 Sections (4 credits total) SP26 Technical Mathematics I, 3 Sections (6 credits total) FA25 Calculus I, 1 Section (4 credits) FA25 Technical Mathematics I Lab, 1 section (1 credit) FA25 Mathematics, University of Michigan, Ann Arbor Graduate Student Instructor of Record (GSI) GSI, Calculus I, one section (4 credits), FA 2021, WN 2021, FA 2019, WN 2017 GSI, Data, Functions and Graphs (a precalculus course), one section (4 credits), FA 2020, FA 2016

Mathematics, California State University Bakersfield

Teaching Assistant, Math 281 (Tutoring in Precalculus and Calculus), 2014-2016

Teaching Assistant, Math 204 (Calculus *IV*), 2013-2014 and 2015-2016

Student Assistant, proctored exams, 2012.

Publications

The impact of prey seasonal breeding on evolutionary predator-prey dynamics

(Nov 14, 2025 in *Journal of Difference Equations and Applications*)

A Spatially-Explicit Stochastic Model for the Gulf Coast Ticks

(June 13, 2025 in *Ecological Modelling*)

Discrete-Time Refuge-Mediated Competition Model (submitted to *Journal of Difference Equations and Applications* July 2026)

A Hierarchical Size-Structured Predator-Prey Model: Wellposedness, Numerical Approximation and Dynamics
(in preparation, submission planned Fall 2026)

Disturbance-Generated Competitive Coexistence (submitted to *Proceedings of the National Academy of Sciences*, October 2026; preprint: [BioRxiv link](#))

Talks

Coexistence via life history variation revisited in models with explicit patch aging

Presented at the following conferences:

American Institute of Mathematical Sciences, AIMS 2023

in Wilmington, North Carolina (July 2023)

Joint Mathematics Meeting, JMM 2023

in Boston, Massachusetts (January 2023)

International Conference on Mathematical Modeling and

Analysis of Populations in Biological Systems, ICMA-VIII 2022

in Lafayette, Louisiana (October 2022)

EcoLunch Ecology Seminar, UT Austin 2022

in Austin, Texas (October 2022)

Ecological Society of America, ESA 2022

in Montreal, Canada (August 2022)

**Awards and
Fellowships**

Rackham Merit Fellow (RMF, RSA) (2018)

California Scholarship Federation (2008-2011)

CSU Louis Stokes Alliance for Minority Participation, (2012 – 2016)

**Languages
and Skills**

English (native), Spanish (fluent), Polish (advanced)

Matlab, $\text{\LaTeX}$, Mathematica, SLURM HPC Cluster

References

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