

# Ishana Shukla

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## RESEARCH INTERESTS

Wildlife biology, trophic ecology, predator-prey interactions, community ecology, conservation biology, restoration ecology

## EDUCATION

Ph.D. Ecology, UC Davis anticipated 2027  
Advisor: Dr. Justine Smith

M.Sc. Geography, University of Victoria 2023  
Advisor: Dr. Chris Darimont  
Dissertation: *From Diversity to Disturbance: Revisiting the Keystone Species Concept*

B.Sc. Ecology and Evolutionary Biology (*with honors*), UC Santa Cruz 2021  
Advisors: Dr. Chris Wilmers and Dr. Roxanne Beltran  
Dissertation (*with honors*): *Human-obligate foraging dependency in a highly invasive mammalian genus*

## PUBLICATIONS

*IN REVISION.* **I Shukla** and C.C. Wilmers. "Waste Reduction decreases rat activity from peri-urban environment". *PLOS One*

**I Shukla**, K. M. Gaynor, B. Worm, C. T. Darimont. "The Diversity of Animals Identified as Keystone Species". *Ecology and Evolution* 13.10 (2023): e10561.

C.T. Darimont and **I. Shukla**. "When the enemy of an enemy is no friend" *Science* 380 (6646), 691-692

**I Shukla**, A. M. Kilpatrick, and R. S. Beltran. "Variation in resting strategies across trophic levels and habitats in mammals." *Ecology and Evolution* 11.21 (2021): 14405-14415.

## FELLOWSHIPS, SCHOLARSHIPS AND GRANTS

TOTAL FUNDING - \$172,914

\$96,000	Eugene Cota-Robles Fellowship
\$45,000	Raincoast Conservation Foundation Fellowship
\$9,000	UVic Graduate Student Award
\$7,200	UC Natural Reserves System Field Science Fellowship
\$7,000	UVic Department of Geography Entrance Award
\$5,200	John and Myrtle Graduate Scholarship
\$1,026	W.R Derrick Sewell Scholarship
\$950	Howard Wildlife Management Award
\$698	Norris Center Natural History Student Award
\$600	UCSC Chancellor's Award
\$120	UCSC Dean's Undergraduate Award
\$120	Don Rothman Writing Award

## HONORS/AWARDS

2023	UVic Graduate Student Research Excellence Award
2021	J Herman Blake Award for diversity work and academic achievement
2021	Chancellor's Award
2021	Dean's Undergraduate Award
2021	UC NRS Field Science Fellow
2019-2021	Dean's Honors List
2019	Norris Center Natural History Student Grant
2018	Don Rothman First-Year Writing Award, <i>The Picket Fence</i>

## TEACHING EXPERIENCE

2024	Instructor	UCD; FYS 004; Promoting Equal Access to Research (PEAR)
2021	Instructor	UCSC; BIOE 199F; Undergraduates in Research
2021	Teaching Assistant	UCSC; BIOE 112; Ornithology
2021	Teaching Assistant	UCSC; BIOE 112; Ornithology Lab
2021	Teaching Assistant	COSMOS; Terrestrial Mammals and Birds
2019	Teaching Assistant	UCSC KRS9 Natural History Practicum

## FIELDWORK EXPERIENCE

2022	Field Assistant Volunteer, Rocky Point Bird Observatory, Vancouver Island, Canada
2019-2021	Forest Ecology Field Crew Leader, Gilbert Lab, UCSC
2020-2021	Elephant Seal Weanling Weigher, UCSC Costa Marine Animals Lab, California, United States
2020	Field Assistant; California Sea Lion Resight, NOAA Fisheries, Ano Nuevo Island
2020	Volunteer; Felidae Conservation Fund
2020	Research Assistant; UCSC Wilmers' Wildlife Biology Lab, California, United States, University of California, Santa Cruz
2019-2020	Intern; Santa Cruz Puma Project, California, United States,
2019	Research Assistant; UCSC Zavaleta Terrestrial Ecology Lab, California, United States
2019	Intern; Steelhead Trout Conservation, UCSC Freshwater and Coastal Ecology Lab and NOAA Fisheries, California, United States
2019	Intern; UCSC Small Mammal Undergraduate Research Program, California, United States
2018	Surveyor; Long Marine Stranding Lab, California, United States
2018	Intern; UCSC Forest Ecology Research Plot Internship, California, United States

## SKILLS

**Programming** ArcGIS, Python, R, JMP

**Service** UCD Graduate Representative, Wildlife and Fish Biology Conservation Department Diversity, Equity, and Inclusion Committee, 2023-2024

UVic Equity and Human Rights Learning Advisory Committee, 2022-2023

UVic TWS Chapter Treasurer, 2022-2023

UVic Graduate Student Affairs Committee Member; 2022

Geography Graduate Council Representative; 2022

Ecology and Evolutionary Biology Undergraduate Representative; 2019-2021

Undergraduate Representative on the Ecology and Evolutionary Biology Department Inclusivity, Diversity, and Equity Action (IDEA) Committee; 2020-2021

Undergraduate Representative on the Natural Reserves Advisory Committee; 2020-2021

## PROFESSIONAL DEVELOPMENT

**Trainings** UCSC, Mentoring: Service Learning Practicum  
UCSC CAMINO, Preventing Sexual Harassment and Assault in Field Settings  
PEEC 2022, Reaching Your Audience  
COMPASS, Making Your Messages Memorable through Storytelling  
COMPASS, Introduction to Strategic Science Communication  
The Conversation Canada, Writing Workshop: Pitching your Research  
Nahanee Creative, Cultural Safety Training

**Certifications** Safe Capture and Chemical Immobilization of Animals  
  
Building a Better Fieldwork Future Facilitator: Preventing Sexual Harassment and Assault in Field Settings  
  
Human Subjects Researcher -Social, Behavioral, and Economic  
  
Animal Care and Use in Non-Biomedical Research

**Mentoring** Elise Dauterive (2018-2019), Amy Chattaway (2021), Claire Deutsch (2021)

**Reviewer** Environmental Science and Policy

## INCLUSION WORK AND SCIENCE COMMUNICATION

**K-12** Guest Speaker, “Skype a Scientist”, US, Canada, China, Singapore, Japan (*250 students*)  
  
Participant, “Letters to a Pre-Scientist” for underprivileged students (*2 pre-scientists*)  
  
Guest speaker, UCSC California State Summer School for Mathematics and Science, “*The Ecology of Fear: Lions and Brownies*” (*27 students*)

**University** Guest Speaker, UVic, *Breaking Barriers to Undergraduate Research* (*285 students*)  
  
Lecturer, UCSC Student-directed Seminar: “Undergraduates in Research” (*10 weeks*)

Presenter, *Preventing Sexual Harassment and Assault in Field Settings (65 participants)*

Presenter, UCSC, *Graduate School: Is it for me, and how do I get there?*

Panelist, UCSC, *Academic Success for First-Year Students*

## Public

Host, *UCSC Consilience Art-Science Communication Gallery*, Santa Cruz.

Contributor, *Sheltered Spring* Podcast; “When the Cat’s Away”, “Trendsetters in Social Distancing”, “A Fowl Trick”.

Illustrator; *An Incredible Journey: A Series of Educational Resources to Promote Salmon Stewardship*. NOAA Fisheries.

Contributor, *ACS News Blog*, “A Collapsing Jenga Tower and the Keystone Species Solution”

## PRESENTATIONS

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|------|---|
| 2023 | British Columbia Chapter of the Wildlife Society (BC TWS)<br><i>The Diversity of Keystone Species</i>   |
| 2022 | Ecological Society of America and The Canadian Society for Ecology and Evolution<br><i>Humans elicit community change via consumptive and non-consumptive impacts on keystone species</i> |
| 2022 | Pacific Ecology and Evolution Conference (PEEC)<br><i>Investigating the Hyperkeystone Hypothesis</i>  |
| 2022 | The Society for Integrative and Comparative Biology (SICB)<br><i>Student Response to a Professional Development Course: Undergraduates in Research</i>                                    |
| 2021 | UCSC Ecology and Evolutionary Biology Undergraduate Research Symposium<br><i>Eternal Landscapes of Fear: Increasing Temporal Overlap Between Predators and Prey</i>                       |
| 2020 | The Wildlife Society (TWS)<br><i>Top-Down and Bottom-Up Drivers of Sleeping Strategies in Mammals</i>   |
| 2020 | UCSC Ecology and Evolutionary Biology Undergraduate Research Symposium<br><i>From Above, Below, or Within? Drivers of Mammalian Sleeping Strategies</i>                                   |
| 2020 | UCSC Environmental Studies Research Symposium<br><i>Habitat Usage of the Invasive Genus, Rattus</i>   |

## SELECTED MEDIA COVERAGE

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|------|--|
| 2024 | Ecologists Struggle to Get a Grip on ‘Keystone Species’, <b>Quanta Magazine</b> , <a href="#">[link]</a>                 |
| 2024 | How One Tiny Insect Upended an Ecosystem, <b>The Atlantic</b> , <a href="#">[link]</a>                                   |
| 2023 | New study suggest “Keystone Species” are more than just predators, <b>My Campbell River Now</b> , <a href="#">[link]</a> |

- 2023 Squirrels might seem small, but they make a big impact on our ecosystems, **@Nautilusmag**, [\[link\]](#)
- 2023 New study suggests “Keystone Species” are more than just predators, **My Coast Now** [\[link\]](#)
- 2023 The Big Impact Small Creatures Can Make, **Nautilus Magazine** [\[link\]](#)
- 2023 Large diversity in new keystones list challenges predominant belief, **Raincoast Conservation Foundation** [\[link\]](#)
- 2023 Watch How Animals React to the Scariest Sound on the Savanna, **The New York Times** [\[link\]](#)
- 2021 Student Spotlight: Ishana Shukla, **UC Santa Cruz Science** [\[link\]](#)
- 2021 2021 Field Science Fellows, **UC Natural Reserves System** [\[link\]](#)
- 2020 What A Decade Of Counting Seeds Tells Us About Future West Coast Forests, **National Public Radio KAZU** [\[link\]](#)
- 2020 TWS2020: How mammals avoid getting caught sleeping, **The Wildlife Society** [\[link\]](#)

## REFERENCES

### **Dr. Chris Darimont**

Department of Geography  
University of Victoria  
1700 STN CSC, Victoria, BC V8W 2Y2  
Email: [darimont@uvic.ca](mailto:darimont@uvic.ca)

### **Dr. Roxanne Beltran**

Department of Ecology and Evolutionary Biology  
University of California, Santa Cruz  
130 McAllister Way, Santa Cruz, CA 95060  
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### **Dr. Justine Smith**

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Biology  
University of California, Davis  
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### **Dr. Erika Zavaleta**

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