

## Eleanor M. Caves

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401-863-3770 | [Google Scholar](#) | <https://caveslab.org>

### EDUCATION

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Ph.D.	Department of Biology, Duke University, Durham, NC PI: Dr. Sönke Johnsen	2013-2018
M.Phil.	Behavioural Ecology Group, Zoology Department, University of Cambridge, UK PI: Drs. Claire Spottiswoode and Martin Stevens	2011-2012
B.A.	Biology Department, Pomona College, Claremont, CA. <i>Magna cum laude</i>	2007-2011

### PROFESSIONAL APPOINTMENTS

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Assistant Professor, Brown University	2024-present
Assistant Professor, University of California Santa Barbara	2021- 2024
Marie Skłodowska-Curie Postdoctoral Fellow, University of Exeter PI: Dr. Laura Kelley	2019-2021
Post-doctoral associate, Duke University Biology Department PI: Dr. Stephen Nowicki	2018-2019

### PEER-REVIEWED PUBLICATIONS (\*equal contribution, Caves lab trainee, #undergraduate author | [Google Scholar](#))

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**EM Caves** and ML Ball. Multi-level mutualisms in a warming world: critical thermal maxima in cleaner shrimp, host anemones, and client fishes. (*Under Review, Proceedings of the Royal Society B*)

PA Green, B Barbee, B You<sup>#</sup>, M Corcoran<sup>#</sup>, and **EM Caves**. Shedding new light on the “immunity myth”: predation, palatability, and protection in cleaning mutualisms. (*Under Review, American Naturalist*)

CYM Froehlich, **EM Caves**, J Troscianko, M Gibson, T Chiodo, A De Jode, K Brown, N Luckas, and BM Titus. The ecology and adaptive function of clownfish color patterns. (*Under Review, Proceedings of the National Academy of Sciences*)

BE Barbee, PA Green, **EM Caves**. Reciprocal signals mediate cleaning interactions between cleaner shrimp and their reef fish clients. (*In Revision, Behavioral Ecology*)

41. ML Ball, BM Titus, DA Exton, and **EM Caves**. 2026. Hunger affects cleaning, signaling, and signal reliability in the cleaner shrimp *Ancylomenes pedersoni*. *Animal Behaviour* 234: 123516.  
<https://doi.org/10.1016/j.anbehav.2026.123516>

40. JT Kaare-Rasmussen<sup>#</sup>, AR Detmer, **EM Caves**\*, HV Moeller\*. 2026. Seeking service: how client behavior determines cleaning station clustering. *Journal of Theoretical Biology* 624: 112394.  
<https://doi.org/10.1016/j.jtbi.2026.112394>

39. MS Reichert and **EM Caves**. 2026. Receiver psychology as a driver of communication network structure. *Biological Reviews*. <https://doi.org/10.1002/brv.70138>

38. DG Chang and **EM Caves**. 2025. The behavioral ecology of rapid color change in fishes: context, diversity, and open questions. *Advances in the Study of Animal Behavior* 57: 119-178.  
<https://doi.org/10.1016/bs.asb.2025.07.002>

37. PA Green, LA Kelley, and **EM Caves**. Incorporating perceptual and social realism into studies of assessment

during contests in male green swordtail fish (*Xiphophorus hellerii*). *Integrative and Comparative Biology* 65: 822-831. <https://doi.org/10.1093/icb/icaf084>

- **Maternity leave Fall 2025** -

36. **EM Caves**, ... [15 authors]..., S Johnsen, and LE Schweikert. 2025. Emerging frontiers in visual ecology. *Journal of Experimental Biology* 228: jeb250537. <https://doi.org/10.1242/jeb.250537>
35. NJ Karnovsky, P Warzybok, A Cavalcanti, J Hardin, ZW Brown, **EM Caves**, CM Flynn, G Gallaher, N McDuffie, K McOmber, RW Bradley, ML Elliott, BT Saenz and J Jahncke. 2025. A decade of diving: responses of Cassin's auklets to variable foraging conditions in the California Current System. *Frontiers in Bird Science* 4: 1587072. <https://doi.org/10.3389/fbirs.2025.1587072>
34. **EM Caves** and LA Kelley. 2025. The perceptual effects of signal components: black sword margins are crucial for signal size discrimination in green swordtails *Xiphophorus hellerii*. *Proceedings of the Royal Society B* 292: 20242137. <https://doi.org/10.1098/rspb.2024.2137>
33. DM Cryan, K Vaughn, and **EM Caves**. 2024. Nocturnal cleaning interactions between the giant moray (*Gymnothorax javanicus*) and the clear cleaner shrimp (*Urocaridella antonbruunii*). *Ecology and Evolution* 14: e70589. <https://doi.org/10.1002/ece3.70589>
32. B Titus, C Froehlich, C Vondriska, R Baker, and **EM Caves**. 2024. Stable isotopes disentangle niche partitioning and co-occurrence in a multi-species marine mutualism. *Oikos*: e10553. <http://doi.org/10.1111/oik.10553>
31. **EM Caves**, A Davis, and S Johnsen. 2024. Nanoscale ultrastructures increase the visual conspicuousness of signalling traits in obligate cleaner shrimps. *Journal of Experimental Biology* 227: jeb248064. <https://doi.org/10.1242/jeb.248064>. Covered by: [Inside JEB](#).
30. E Tibbetts, O Harris, N Morehouse, and **EM Caves**. 2024. The evolution of simplifying heuristics in visual cognition: Categorization, specialization, and visual illusions. *Annual Review of Vision Science*: <https://doi.org/10.1146/annurev-vision-100923-015932>
29. **EM Caves**, AL Davis, S Nowicki, and S Johnsen. 2024. Backgrounds and the evolution of visual signals. *Trends in Ecology and Evolution* 39: 188-198. <https://doi.org/10.1016/j.tree.2023.09.006>. \*cover
28. **EM Caves**, E Fernández-Juricic, and LA Kelley. 2024. Ecological and morphological correlates of visual acuity in birds. *Journal of Experimental Biology* 227: jeb 246063. <https://doi.org/10.1242/jeb.246063>
27. MP Heard, CL Nordheim, C McKinley, ZL Zilz, VA Jones, BA Vincent, and **EM Caves**. 2023. Excluded identity retention in STEM: a roadmap for inclusive undergraduate research symposia. *Oceanography* 36(4). <https://doi.org/10.5670/oceanog.2024.116>
26. K Bullough, A Kuijper, **EM Caves**, and LA Kelley. 2023. Quick Guide: Weber's Law. *Current Biology* 33: R992-R993. <https://doi.org/10.1016/j.cub.2023.07.016>
25. **EM Caves**, TT Sutton, EJ Warrant, and S Johnsen. 2023. Measures and models of visual acuity in epipelagic and mesopelagic teleosts and elasmobranchs. *Journal of Comparative Physiology A*: <https://doi.org/10.1007/s00359-023-01661-7>
24. **EM Caves** and LA Kelley. 2023. Proportional processing of a visual mate choice signal in the green swordtail *Xiphophorus hellerii*. *Ecology Letters* 26: 575-585. <http://dx.doi.org/10.1111/ele.14179>

- **Maternity leave Spring/Summer 2022** -

23. **EM Caves**, F de Busserolles, and LA Kelley. Sex differences in behavioural and anatomical estimates of visual acuity in the green swordtail *Xiphophorus helleri*. 2021. *Journal of Experimental Biology* 224: jeb243420. <https://doi.org/10.1242/jeb.243420>

22. T Dixit, **EM Caves**, CN Spottiswoode, and NPC Horrocks. Why and how to apply Weber's Law to coevolution and mimicry. 2021. *Evolution* 75: 1906-1919. [doi:10.1111/evo.14290](https://doi.org/10.1111/evo.14290)
21. **EM Caves**. The behavioural ecology of marine cleaning mutualisms. 2021. *Biological Reviews* 96: 2584-2601. [doi: 10.1111/brv.12770](https://doi.org/10.1111/brv.12770)
20. **EM Caves**, T Dixit, JFR Colebrook-Robjent, L Hamusikili, M Stevens, R Thorogood, and CN Spottiswoode. Hosts elevate either within-clutch consistency or between-clutch distinctiveness of egg phenotypes in defence against brood parasites. 2021. *Proceedings of the Royal Society B*. 288: 20210326. [doi.org/10.1098/rspb.2021.0326](https://doi.org/10.1098/rspb.2021.0326)
19. **EM Caves** and S Johnsen. 2021. The sensory impacts of climate change: bathymetric shifts and visually-mediated interactions in aquatic species. *Proceedings of the Royal Society B*. 288: 20210396. [doi.org/10.1098/rspb.2021.0396](https://doi.org/10.1098/rspb.2021.0396). Covered by: [National Geographic Magazine](#), [weather.com](#), [Energy & Environment News](#)
18. **EM Caves**, PA Green, MN Zippel, D Bharath<sup>#</sup>, S Peters, S Johnsen, and S Nowicki. 2021. Comparison of categorical color perception in two Estrildid finches. *The American Naturalist*: 197: 190-202. [doi.org/10.1086/712379](https://doi.org/10.1086/712379)
17. **EM Caves**, J Troscianko\*, and LA Kelley\*. 2020. A customizable, low-cost optomotor apparatus: a powerful tool for behaviourally measuring visual capability. *Methods in Ecology and Evolution* 11: 1319-1324.. [doi.org/10.1111/2041-210X.13449](https://doi.org/10.1111/2041-210X.13449)
16. **EM Caves**, LE Schweikert, PA Green, MN Zippel, C Taboada, S Peters, S Nowicki, and S Johnsen. 2020. Variation in carotenoid-containing retinal oil droplets correlates with variation in perception of carotenoid coloration. *Behavioral Ecology and Sociobiology* 74: 93. [doi.org/10.1007/s00265-020-02874-5](https://doi.org/10.1007/s00265-020-02874-5)
15. **EM Caves\***, C Chen<sup>\*\*</sup>, and S Johnsen. 2019. The cleaner shrimp *Lysemata amboinensis* adjusts its behavior toward predatory versus non-predatory clients. *Biology Letters*: 15, 20190534. [doi.org/10.1098/rsbl.2019.0534](https://doi.org/10.1098/rsbl.2019.0534). Covered by: [New York Times](#), [National Public Radio "Wow in the World" podcast](#)
14. **EM Caves**, S Nowicki, and S Johnsen. 2019. Von Uexküll revisited: Addressing human biases in the study of animal perception. *Integrative and Comparative Biology* 59: 1451-1462. [doi.org/10.1093/icb/icz073](https://doi.org/10.1093/icb/icz073)
13. MN Zippel\*, **EM Caves\***, PA Green, S Peters, S Johnsen, and S Nowicki. 2019. Categorical colour perception occurs in both signalling and non-signalling colour ranges in a songbird. *Proceedings of the Royal Society B*: 286, 20190524. [doi.org/10.1098/rspb.2019.0524](https://doi.org/10.1098/rspb.2019.0524)
12. LE Schweikert, **EM Caves**, SE Solie, TT Sutton, and S Johnsen. 2019. Variation in rod spectral sensitivity of fishes is best predicted by habitat and depth. *Journal of Fish Biology*. 95: 179-185. [doi.org/10.1111/jfb.13859](https://doi.org/10.1111/jfb.13859)
11. LE Schweikert, RR Fitak, **EM Caves**, TT Sutton, and S Johnsen. 2018. Spectral sensitivity in ray-finned fishes: diversity, ecology, and shared descent. *Journal of Experimental Biology*: 221, jeb189761. [doi.org/10.1242/jeb.189761](https://doi.org/10.1242/jeb.189761)
10. **EM Caves\***, PA Green\*, MN Zippel, S Peters, S Johnsen, and S Nowicki. 2018. Categorical perception of colour signals in a songbird. *Nature*. 560: 365–367. [doi.org/10.1038/s41586-018-0377-7](https://doi.org/10.1038/s41586-018-0377-7). Covered by: [Nature News](#), [Discover Magazine](#)
9. **EM Caves**, PA Green, and S Johnsen. 2018. Mutual visual signalling between the cleaner shrimp *Ancylomenes pedersoni* and its client fish. *Proceedings of the Royal Society B* 285: 20180800. [doi.org/10.1098/rspb.2018.0800](https://doi.org/10.1098/rspb.2018.0800). Covered by: [National Geographic](#), [Scientific American](#)
8. **EM Caves**, NC Brandley, and S Johnsen. 2018. Visual acuity and the evolution of signals. *Trends in Ecology and Evolution*. 33: 358-372. [doi.org/10.1016/j.tree.2018.03.001](https://doi.org/10.1016/j.tree.2018.03.001). Covered by: [Smithsonian Magazine](#), [Discover Magazine](#)

7. R Fitak, **EM Caves**, and S Johnsen. 2018. Orientation in pill bugs: an interdisciplinary activity to engage students in concepts of biology, physics, and circular statistics. *The American Biology Teacher* 80: 608-618. [doi.org/10.1525/abt.2018.80.8.608](https://doi.org/10.1525/abt.2018.80.8.608)
6. **EM Caves** and S Johnsen. 2017. AcuityView: An R package for portraying the effects of visual acuity on scenes observed by an animal. *Methods in Ecology and Evolution* 9: 793-797. [doi.org/10.1111/2041-210X.12911](https://doi.org/10.1111/2041-210X.12911) -I actively maintain the R Package *AcuityView*, [available on the R CRAN](#)
5. **EM Caves**, M Stevens, and CN Spottiswoode. 2017. Does coevolution with a shared parasite drive hosts to partition their defences among species? *Proceedings of the Royal Society B*. 284: 20170272. [doi.org/10.1098/rspb.2017.0272](https://doi.org/10.1098/rspb.2017.0272). Covered by: [The Economist](#)
4. **EM Caves**, TT Sutton, and S Johnsen. 2017. Visual acuity in ray-finned fishes correlates with eye size and habitat. *Journal of Experimental Biology* 220: 1586-1596. [doi.org/10.1242/jeb.151183](https://doi.org/10.1242/jeb.151183)
3. **EM Caves**, TM Frank, and S Johnsen. 2016. Spectral sensitivity, spatial resolution, and temporal resolution and their implications for conspecific signalling in cleaner shrimp. *Journal of Experimental Biology* 219: 597-608. [doi.org/10.1242/jeb.122275](https://doi.org/10.1242/jeb.122275)
2. **EM Caves**, M Stevens, E Iverson, and CN Spottiswoode. 2015. Hosts of brood parasites have evolved egg visual signatures with elevated information content. *Proceedings of the Royal Society B* 282: 20150598. [doi.org/10.1098/rspb.2015.0598](https://doi.org/10.1098/rspb.2015.0598). **\*cover**
1. **EM Caves\***, Jennings SB\*, HilleRisLambers J, Tewksbury JJ, Rogers HS. 2013. Natural experiment demonstrates that bird loss leads to cessation of dispersal of native seeds from intact to degraded forests. *PLoS ONE* 8(5): e65618. [doi.org/10.1371/journal.pone.0065618](https://doi.org/10.1371/journal.pone.0065618)

#### BOOK CHAPTERS, POPULAR SCIENCE & OTHER ARTICLES (\*peer-reviewed)

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- \*EM Caves**. Signal Evolution Under Selection from Signal Receivers: Taking a Holistic Perceptual Approach. Edited by: M Fuxjager and M Muñoz. (*In Press*)
- CM Moore, AK Shaw, B Bruninga-Socular, **EM Caves**, AT Karnish, KN Kiesewetter, AS Nelson, and EG Pringle. 2023. The Movement Ecology of Mutualism (CSEE/ESA 2022, OOS17). *Bulletin to the Ecological Society of America*. <http://doi.org/10.1002/bes2.2063>
- \*EM Caves**, PA Green, and M Hughes. 2022. Communication. In: *The Routledge International Handbook of Comparative Psychology*. Pg 147-159. Edited by: A.R. Ridley, P. d’Etorre, and T.M. Freeberg. Routledge.
- EM Caves**. 2021. “The Last Word: Does long and short-sightedness affect other animals? If so, how do they cope?” [New Scientist Magazine](#), February 27 2021.

#### AWARDS AND HONORS

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Elected Fellow, <a href="#">Socialog Neurobiology and Changing Ecosystems</a>	2026
Outstanding New Investigator Award, Animal Behavior Society (one award given annually)	2025
George A. Bartholomew Early Career Award, Society for Integrative and Comparative Biology (one award given annually)	2024
Jasper Loftus-Hills Early Career Award, American Society of Naturalists (four awards given annually)	2019
Dorothy Skinner Award for Research Excellence, Society for Integrative and Comparative Biology (one award given annually)	2019
University Scholars Fellowship, Duke University	2013-2018
James B. Duke Fellowship, Duke University	2013-2017

Dean's Award for Excellence in Mentoring, Duke University	2017
National Geographic Young Explorer	2016
National Defense Science and Engineering Graduate Fellow	2013-2016
Downing Fellowship for Study at the University of Cambridge, Downing College, Cambridge	2011-2012
Barry M. Goldwater Scholar, United States Congress	2010-2011
Summer Student Fellow, Woods Hole Oceanographic Institute, Dr. Peter Tyack, Woods Hole, MA	2011
Charles S. Vaile Prize in Biology, Pomona College	2011
National Science Foundation Research Experience for Undergraduates (REU) Fellow	2010

## FELLOWSHIPS AND RESEARCH GRANTS

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NSF IOS Behavioral Systems ( <i>Pending</i> ). CAREER: <i>The Sensory Ecology of Interspecies Cooperation: A Case Study of Cleaner Shrimp-Client Fish Mutualisms</i> . PI: Caves. (\$892,520)	
NSF IOS Behavioral Systems #2400448: <i>Cooperation in Context: Biotic and abiotic drivers of interaction outcome in cleaner shrimp - client fish mutualisms</i> . PI: Caves. (\$856,462)	2024-2027
UCSB Academic Senate Faculty Research Grant. <i>Exploring the dynamics of cleaning interactions involving giant sea bass in temperate marine ecosystems</i> . PI: Caves. (\$10,000)	2023-2024
UCSB Faculty Career Development Award. PI: Caves. (\$7500)	2023-2024
UCSB Academic Senate Faculty Research Grant: <i>How can predator and prey evolve cooperation? A case study of cleaning behavior in shrimps</i> . PI: Caves. (\$16389)	2022-2023
University of California Regents' Junior Faculty Fellowship (\$7500)	2022-2023
Marie Skłodowska-Curie Postdoctoral Fellowship, University of Exeter (£183,000)	2019-2021
Duke-Exeter Collaboration Fellowship (£3991)	2020-2021
International Society for Behavioural Ecology Travel Grant. (\$500)	2018
Duke University Biology Department Grant in Aid of Research. (\$1000 each)	2014, 2015, 2016, 2017
Young Explorers Grant, National Geographic Society. (\$5000)	2016-2017
National Defense Science and Engineering Graduate Fellowship, Department of Defense. (\$102,000)	2013-2016
Animal Behavior Society Conference Travel Grant. (\$500)	2016
Rosemary Grant Award for Graduate Student Research, Society for the Study of Evolution. (\$2500)	2015
Duke Sigma Xi Sally Hughes-Schrader Travel Grant. (\$1250)	2015
The Crustacean Society Graduate Student Scholarship. (\$1000)	2015
Duke University International Dissertation Research Travel Award. (\$2000)	2015
Charles Lambert Memorial Endowment, Friday Harbor Laboratories. (\$500)	2014
Fernald Fellowship, Friday Harbor Laboratories. (\$1300)	2014
Journal of Experimental Biology Travelling Fellowship. (\$2400)	2014
Sigma Xi Grant-in-Aid of Research. (\$1000)	2013

## INVITED SEMINARS (\*upcoming, # invited by graduate students)

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2026	University of Massachusetts Dartmouth, University of Massachusetts Boston*
2025	Woods Hole Oceanographic Institution, University of Tulsa#
2024	Brown University Division of Biology and Medicine Retreat, University of California Riverside, University of California Santa Barbara (Graduate Research Symposium Keynote Address)#
2023	University of Vermont, University of Georgia, Brown University, Monterey Bay Aquarium Research Institute, # <a href="#">The Future of Foraging</a> Seminar Series (Virtual), Virginia Tech, University of Pittsburgh, University of California Davis, University of Virginia (Virtual)

2022 #Brown University, Pomona College, #UC Santa Barbara (MCDB-BMSE Annual Retreat)  
 2021 #Purdue University (Virtual), University of Alabama (Virtual)  
 2020 Newcastle University (UK, Virtual), University of Exeter Stretham Campus (UK, Virtual), University of Arizona, University of Bristol (UK), University of Exeter (UK)  
 2019 UC Santa Barbara, Cornell University, UC Davis, Yale University, University of Chicago  
 2018 Harvard University, The College of Wooster, University of Guam, Wake Forest University  
 2012 Cambridge University (UK)

### CONFERENCE PRESENTATIONS (\*upcoming)

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Animal Behavior Society Annual Meeting (Baltimore, MD)	2025
Vision 2024: Building Bridges in Visual Ecology (Sussex, UK), <b>Meeting Co-Organizer and Presenter</b>	2024
George A. Bartholomew Plenary Lecture, SICB Annual Meeting (Seattle, WA, USA)	2024
Society for Integrative and Comparative Biology Annual Meeting (Seattle, WA, USA)	2024
Society for the Study of Evolution Annual Meeting (Albuquerque, NM, USA)	2023
Society for Integrative and Comparative Biology Annual Meeting (Austin, TX, USA)	2023
Kavli Foundation (Culver City, CA), <b>Invited Speaker in “Neurobiology and Changing Ecosystems”</b>	2022
Ecological Society of America (Montreal, Canada), <b>Invited Symposium Speaker</b>	2022
International Congress on Neuroethology (Lisbon, Portugal), <b>Invited Speaker in the Presidential Symposium</b>	2022
Animal Behavior Society (Virtual), <b>Invited Speaker in the Presidential Symposium</b>	2022
Living Light Conference (virtual), <b>Invited Keynote Speaker</b>	2021
Association for the Study of Animal Behaviour (virtual), <b>Invited Speaker in the Early Career Symposium</b>	2021
Animal Behavior Society Annual Conference (virtual)	2021
Exeter University ExBASE Conference, Centre for Research in Animal Behaviour (virtual)	2021
Behavior, Ecology, and Evolution of Poeciliid Fishes (virtual)	2021
Society for Integrative and Comparative Biology Annual Meeting (virtual)	2021
Animal Behavior Society Annual Conference (virtual)	2020
Evolution (Providence, RI), <b>American Society of Naturalists Young Investigator Award Symposium</b>	2019
Association for the Study of Animal Behavior Winter Meeting (London, UK), Poster presentation	2019
Color Vision—Circuits and Behavior Conference (HHMI Janelia Farm Ashburn, VA), <b>Invited Keynote Speaker</b>	2019
Society for Integrative and Comparative Biology Annual Meeting (Tampa, FL)	2019
International Society for Behavioural Ecology (Minneapolis, MN)	2018
Society for Integrative and Comparative Biology Annual Meeting (San Francisco, CA)	2018
Animal Behavior Society Annual Conference (Toronto, Canada)	2017
Society for Integrative and Comparative Biology Annual Meeting (New Orleans, LA)	2017
Animal Behavior Society Annual Conference (Columbia, MO)	2016
Society for Integrative and Comparative Biology Annual Meeting (Portland, OR)	2016
Duke University Ecology Symposium, Duke University Marine Lab (Beaufort, NC), <b>Best Student Presentation</b>	2015
Society for Integrative and Comparative Biology Annual Meeting, (West Palm Beach, FL)	2015
International Society for Behavioural Ecology (Lund, Sweden), Poster presentation	2012

### TEACHING AND MENTORING

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#### **Research Mentoring**

##### Post-doctoral Researchers

- Alexander Karnish

##### Doctoral Students

- Bryce Barbee (NSF GRFP), Darcy Chang, Miya Ball (NSF GRFP)

### Current Doctoral committees

- Brown: Emily McParland, Lauren Renna, Montana Stone, Alexander Avalos, Molly Test
- Elsewhere: Tanner Mierow (U Tulsa), Vanessa Moreno (UNCW), Kathryn Bullough (U Exeter), Soumyadeep Chatterjee (UC Riverside)

### Undergraduates

- *Brown University:*
  - Guided Research: Hope Nitza, Lily Hong, Kiera Decesare, Luca Chen, Sarik Gupta
  - NSF REU students: Isabella Bastien (2025), Andrea Lara (2025)
  - Sprint/UTRA: William Malloy, Isabella Ramos, Adelaide Rossignol, Alexandra Taub, Xiaoka (Evelyn) Wu, Anna Amha, Willa Noble, Amiya Hopkins, Mathilda Corcoran, Alexandra Taub, Brandon You, Alice Xie
  - Brown University Discovery in Diving: Mathilda Corcoran (2024), Isabel Tribe (2024)
- *UC Santa Barbara:*
  - Undergraduate Thesis: Miya Ball (2021-2023)
  - Independent research: Vanessa Koopman (California Alliance for Minority Participation fellow, 2023-2024), Kara Chatteron (2021-2023), Justin Kim (2022-2023)
  - Guided research: Colin Gregory (2023-2024), Alex Lau (2023-2024), Michela Gunther (2024), Delaney Pineda (2024), Ashley Fong (2023-2024), Zoe Chang (2023), Madelyn Balochie (2023),
  - Data Science Capstone Class: “Measuring visual acuity in bees from high resolution images” (2023, 4 undergraduate data science majors)
- *Exeter University:* Leela Channer (2020-present), Charlotte Roberts (2020-2022)
- *Duke University*
  - Undergraduate thesis: Kelsey O’Donnell (2016-2019); Catherine Chen (2013-2016)
  - Independent study: Dhanya Bharath (2019); Lauren Deehan (2018); John Bollinger (2018); Katja Kochvar (2017-18); Lingrong Jin (2017-18); Helen Tan (2016-2017); Surabhi Reddy (2014-16)

### ***Instructor of Record***

#### **Brown University**

BIOL 490: Sensory Biology and Ecology	Every other fall
BIOL 450: Evolutionary Behavioral Ecology	Every other spring
BIOL 2440: Integrative Behavioral Biology Graduate Seminar	Spring 2025

#### **UC Santa Barbara**

EEMB 138: Ethology and Behavioral Ecology	Spring 2024
• Undergraduate-level course with two lectures and five laboratory sections, 100 students	
EEMB 595WG: Writing Small Grant Proposals	Winter 2024
• Graduate-level seminar course on how to craft small grant proposals, in which students learn about proposal writing, write a Sigma Xi Grant-In-Aid and engage in peer review circles	
EEMB 509: Introduction to Ecology and Evolution	2022, 2024
• Graduate-level core course in the Department of Ecology, Evolution, and Marine Biology	
EEMB 595R: R Seminar	Winter 2022
• Graduate-level seminar focused on teaching R coding and providing students with time to workshop and troubleshoot coding roadblocks	
EEMB 595EV: Evolution Seminar	Winter 2022

## **Duke University**

Biology 190S: Sensory Biology—Taste, Touch, Sound, Sight, Smell, and Beyond (Duke University) Summer 2017

- Proposed, and was selected to design and teach a fifteen-student, undergraduate-level summer session course

### ***Teaching Assistant***

Hong Kong Conservation and Ecology Field Course—LESM002 (University of Exeter) Fall 2019

- Served as a demonstrator for a two-week field course for Master’s students in Hong Kong

### ***Training***

UC Santa Barbara [ONDAS](#) / [CITRAL](#) Inclusive Teaching Workshop 2021-2022

Duke Certificate in College Teaching 2015-2018

### ***Teaching Grants***

Duke Data Expeditions, Information Initiative at Duke (iiD), grant for teaching undergraduates big data analysis techniques. \$4500. [See the lesson plan here.](#) [Duke Interdisciplinary Studies Press Release.](#) 2017, 2018, 2019

Duke Support for Interdisciplinary Graduate Networks (D-SIGN), “A STEM researcher-educator network to improve K12 science literacy.” \$13,341. Co-author with Patrick Green and Becca Lauzon. [Duke Award Announcement \(June 2016\)](#) and [Duke Press Release \(August 2017\)](#). 2016-2017

### ***Guest Lectures in University Courses***

Topics in Marine Animal Behavior (BIO 7.438), Massachusetts Institute of Technology 2026

Foundations in Ecology and Evolution, Brown University 2025

Scientific Ideation, Brown University 2025

Applied Sensory Biology, University of Vermont 2025, 2026

Animal Behavior, Hampshire College 2024

Ecology, University of California Santa Barbara 2023

Animal Communication, University of California Berkeley 2022

Vertebrate Natural History, University of San Diego 2021

Graduate seminar in Animal Cognition, University of Cincinnati 2020

Topics in Sensory Biology (Bio427S): one-day guest lecture on color vision across the animal kingdom 2015-2018

Animal Physiology (Bio329L): a two-day Duke Data Expedition guest lecture 2018-2019

Animal Physiology (Bio329L): a one-day guest lecture on the physiology of vision 2017

Animal Signaling Freshman Seminar (Bio089S): guest lecture on communication across modalities 2017

Introduction to Behavioral Ecology (Bio267D): guest lecture on costs and benefits in animal communication. 2017

## **SERVICE**

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### **Brown University**

#### ***Departmental Service***

Director of EEOB Internal Funding 2026-present

Departmental Diversity and Inclusion Action Plan Committee 2024-present

Departmental Retreat Planning Committee 2024-2025

EEOB Graduate Admissions Committee 2024-2025

#### ***University Service***

Brown University Goldwater Scholarship Committee 2024

### **UC Santa Barbara**

### **Departmental Service**

EEMB Department DEI Officer on behalf of students	2023-2024
EEMB First Year Graduate Student Retreat, Faculty Organizer	2023
Ad-hoc committee to review faculty merit and promotion cases	2023
Representative to the UCSB Faculty Legislature	2021-2024
Faculty liaison for EEMB Undergraduate Research Symposium	2021-2024
DEI Working Group 2: Curriculum and Teaching	2021-2023
EEMB Website committee	2021-2023

### **University Service**

Dive Control Board, Faculty Representative	2023-2024
Marine Science Institute, Advisory Committee	2023-2024

### **Symposium and Workshop Organizer**

- With Tanner Mierow and Dr. Alex Kingston, organized a symposium on the “Neuroethology of Mutualism” for the 2027 annual meeting of the Society for Integrative and Comparative Biology (Jan 3-7, 2027)
- With Lorian Schweikert and Sönke Johnsen, I co-wrote a successful proposal to serve as **organizers** for “[Vision 2024](#),” a 30-participant workshop funded by the Company of Biologists (\$80,000; June 10-14, 2024)

### **Service at Meetings and for Societies**

- American Society of Naturalists Jasper Loftus-Hills Young Investigator Award (now Early Career Award) Committee: (Chair 2023-2024, Member 2021-2023)
- Society for Integrative and Comparative Biology, Division of Animal Behavior Executive Committee Nominating Committee (2023)
- Society for Integrative and Comparative Biology Dorothy Skinner Award for Postdoctoral Research Excellence Award Committee (2020)
- Chair for the Vision Researchers Colloquium 2020, GW4 University Group, United Kingdom (virtual, 2020)
- Animal Behavior Society Warner Clyde Allee Young Investigator Award Committee (2019)

### **Reviewer**

#### Fellowships and Grant Proposals

- National Defense Science and Engineering Graduate Fellowship 2021-2022
  - Cognitive, Neural, and Behavioral Sciences Division
- Marsden Fund, Royal Society Te Apārangi, New Zealand: *ad hoc reviewer*

#### Manuscripts

*Nature, PNAS, Current Biology, American Naturalist, Biology Letters, Philosophical Transactions of the Royal Society, Journal of Experimental Biology, Animal Behaviour, Integrative and Comparative Biology, Ethology, Ecology and Evolution, Evolution Letters, Frontiers in Ecology and Evolution, Environmental Biology of Fishes, Journal of Fish Biology, Journal of Crustacean Biology, Coral Reefs, Journal of Herpetology, Journal of Comparative Physiology A, Journal of Zoology*

## **BROADER IMPACTS IN SCIENCE**

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### **Programs**

Brown University Discovery in Diving (BUDDi): an NSF-funded program that takes cohorts of 2 students annually and provides comprehensive logistical and financial support through open water and American Association of Underwater Scientists SCUBA certification; purchase of SCUBA gear; and an REU field experience 2024-present

### **Trainings**

Brown University Office of Graduate Studies Mentor Training: What if Conflicts or Issues Arise? Finding Confidence in Conflict Management	2026
Field Futures: Preventing Sexual Assault and Harassment in Field Settings	2025
University of California Field Research Safety: Behavioral First Response Skills for the Field	2023
Equity in Graduate Education Consortium: Creating Organizational Cultures of Mentoring & Wellbeing	2023
UC Santa Barbara <a href="#">ONDAS</a> / <a href="#">CITRAL</a> Inclusive Teaching Workshop	2021-2022
<ul style="list-style-type: none"> <li>A year-long seminar for faculty that explores disciplinary identities, teaches about learning styles, and assists with curriculum design/redesign</li> </ul>	
<a href="#">California Consortium for Inclusive Doctoral Education</a> Holistic Recruiting Practices Workshop	2021
University of California <a href="#">Field Leadership Toolkit Training</a>	2021
<ul style="list-style-type: none"> <li>A four-part workshop that promotes strategies for mitigating risks during fieldwork</li> </ul>	
Duke University Pursuing Respect, Inclusion, Diversity, and Equity ( <a href="#">PRIDE</a> ) training	2018
<ul style="list-style-type: none"> <li>Training to increase awareness of issues impacting students across a range of identities</li> </ul>	

### Events

Organized a “Field Futures” workshop on preventing assault and harassment in the field for EEOB	2025
Organized a Queer and Trans Identity & Experience Seminar for members of the EEMB Department, UCSB	2023
Organized screening of “ <a href="#">Picture A Scientist</a> ” for the Centre for Ecology and Conservation, University of Exeter	2021

### Service

Brown EEOB Departmental Diversity and Inclusion Action Plan Committee	2024-present
UCSB EEMB Department DEI Officer on behalf of graduate students	2023-2024
UCSB EEMB DEI Working Group 2: Curriculum and Teaching; faculty representative	2021-2023
UCSB EEMB Undergraduate Research Symposium; faculty liaison	2021-2024
Duke University: Head graduate mentor, <a href="#">University Scholars Program</a>	2016-2018

### ARTISTIC COLLABORATIONS

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<a href="#">Voyages Project</a> , National Aquarium, Baltimore MD; <a href="#">Chapter 7</a> scientific consultant	2025
Featured scientist on “Animal Eye,” a Stanford MFA Film Project by Carlo Nasisse	2025

### COMMUNITY OUTREACH AND MEDIA ENGAGEMENT

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Philips Andover Summer Enrichment Program, “Marine Biology” guest lecturer	2023
KPAX News, “A Wilder View” television series: “ <a href="#">Why Animals Don’t Need Glasses</a> ”	2023
Pomona College Podcast “The Vertebrate Story,” featured scientist	2022
UCSB Seeds Club, Lab Tour and Career Pathway Q and A	2022
Featured Scientist on gizmodo.com’s “Giz Asks” series: “ <a href="#">Which Animal Species Get Along the Best?</a> ”	2021
Featured Guest on <a href="#">the Animal Behavior Podcast</a>	2021
Wrote custom codes for Nemo and Friends Aquarium at Walt Disney World, to incorporate visual ecology into their animal enrichment activities	2021
Cerritos College Marine Biology Class “interview with a marine biologist”	2021
Interviewed for Gimlet Media “ <a href="#">Every Little Thing</a> ” Podcast	2020
Interviewed for a research feature on <a href="#">National Public Radio’s “Wow in the World” podcast</a>	2020
Scientific Research and Education Network ( <a href="#">SciREN</a> ) lesson plan presenter, Raleigh NC	2018
Presentation at the North Carolina Museum of Natural Sciences Daily Planet Theater, Raleigh NC	2018
Presentation to the North Carolina Down Under Divers Association, Raleigh NC	2018
Scientific Research and Education Network ( <a href="#">SciREN</a> ) Triangle (501c3): leadership board member	2014-2018

National Geographic Learning Panorama: "Seeing Underwater" by Maria Choudhury: a write-up about my dissertation research in a textbook aimed at elementary schoolers, in English and Spanish	2017
American Heritage Girl Scouts, "Zoology Badge" Guest Speaker, Johnston County NC	2017
North Carolina School of Science and Math, High School Evolutionary Biology Guest Lecturer	2015-2017
North Carolina Invite-a-Scientist Festival guest teacher, Raleigh NC and Yanceyville NC	2014-2016
Lowe's Grove Middle School, Sixth Grade Visual Ecology Outreach Day, Durham NC	2014

## **SOCIETY MEMBERSHIPS**

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International Society for Neuroethology, Animal Behavior Society, Society for Integrative and Comparative Biology, Association for the Study of Animal Behaviour, Society for the Study of Evolution, American Society of Naturalists, The Crustacean Society, International Society for Behavioral Ecology, Ecological Society of America