

Eleanor M. Caves

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EDUCATION

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

Assistant Professor, University of California Santa Barbara	Starting Fall 2021
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 (* indicates equal contribution)

- EM Caves**, PA Green, MN Zipple, D Bharath, S Peters, S Johnsen, and S Nowicki. (*Under Review*). Comparison of categorical color perception in two Estrildid finches.
- EM Caves**. (*Under Review*) Cleaning mutualisms: a model system for exploring the evolution and dynamics of interspecific signals.
- EM Caves**, J Troscianko*, and LA Kelley*. (*In Press*) A customizable, low-cost optomotor apparatus: a powerful tool for behaviourally measuring visual capability. *Methods in Ecology and Evolution*.
- EM Caves**, LE Schweikert, PA Green, C Taboada, MN Zipple, S Peters, S Nowicki, and S Johnsen. 2020. Variation in retinal carotenoids correlates with variation in perception of carotenoid coloration. *Behavioral Ecology and Sociobiology*. DOI:10.1007/s00265-020-02874-5
- EM Caves***, C Chen*, and S Johnsen. 2019. The cleaner shrimp *Lysmata amboinensis* adjusts its behavior toward predatory versus non-predatory clients. *Biology Letters*: 15, 20190534. [New York Times](#), [National Public Radio "Wow in the World" podcast](#)
- EM Caves**, S Nowicki, and S Johnsen. 2019. Von Uexküll revisited: Addressing human biases in the study of animal perception. *Integrative and Comparative Biology*. DOI:10.1093/icb/icz073
- MN Zipple*, **EM Caves***, PA Green, S Peters, S Johnsen, and S Nowicki. 2019. Categorical perception in non-signalling versus signalling color ranges in a songbird. *Proceedings of the Royal Society B*: 286, 20190524

- 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:10.1111/jfb.13859
- 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:10.1242/jeb.189761
- EM Caves***, PA Green*, MN Zipple, S Peters, S Johnsen, and S Nowicki. 2018. Categorical perception of colour signals in a songbird. *Nature*. 560: 365–367. Covered by: [Nature News](#), [Discover Magazine](#)
- 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. Covered by: [National Geographic](#), [Scientific American](#)
- EM Caves**, NC Brandley, and S Johnsen. 2018. Visual acuity and the evolution of signals. *Trends in Ecology and Evolution*. 33: 358-372. Covered by: [Smithsonian Magazine](#), [Discover Magazine](#)
- 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.
- 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.
-I actively maintain the R Package *AcuityView*, [available on the R CRAN](#)
- 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. Covered by: [The Economist](#)
- EM Caves**, TT Sutton, and S Johnsen. 2017. Visual acuity in fish correlates with eye size and habitat. *Journal of Experimental Biology* 220: 1586-1596.
- 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.
- 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. ***cover**
- 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.

AWARDS AND HONORS

Jasper Loftus-Hills Young Investigator Award, American Society of Naturalists	2019
Dorothy Skinner Award for Research Excellence, Society for Integrative and Comparative Biology	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
Downing Fellowship for Study at the University of Cambridge, Downing College, Cambridge	2011-2012
Barry M. Goldwater Scholarship, United States Congress	2010-2011

Summer Student Fellowship, 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
Scholarship for Students in Math and Science, Woodcock Family Education Foundation	2007-2008

FELLOWSHIPS AND RESEARCH GRANTS

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
Howard Hughes Medical Institute Summer Research Grant. (\$4000)	2009

CONFERENCES AND WORKSHOPS

With Lori Schweikert and Sönke Johnsen, I co-wrote a successful proposal, and am serving as an **organizer**, for “Vision 2020,” a 30-participant workshop fully funded by the Company of Biologists to take place Summer 2021. (\$80,000)

INVITED SEMINARS (*upcoming)

University of Exeter, Streatham Campus: <i>Centre for Research in Animal Behaviour seminar*</i>	
University of Arizona: <i>Department of Ecology and Evolutionary Biology Seminar</i>	2020
University of Bristol: <i>Workshops in Ecology and Behaviour seminar</i>	2020
University of Exeter, Penryn Campus: <i>Centre for Ecology and Conservation seminar</i>	2020
University of California Santa Barbara: <i>Department of Ecology, Evolution, and Marine Biology seminar</i>	2019
Cornell University: <i>Neurobiology, Brain, and Behavior seminar</i>	2019
University of California Davis: <i>Department of Evolution and Ecology seminar</i>	2019
Yale University: <i>Department of Ecology and Evolutionary Biology seminar</i>	2019
University of Chicago: <i>Department of Ecology and Evolution seminar</i>	2019
Harvard University: <i>Brain, Behavior and Cognition seminar</i>	2018
The College of Wooster: <i>Biology Department seminar</i>	2018
University of Guam: <i>POETS Marine Lab seminar</i>	2018
Wake Forest University	2018
Cambridge University	2012

CONFERENCE PRESENTATIONS (*upcoming)

*International Society for Neuroethology (Lisbon, Portugal), Invited Speaker in the Presidential Symposium (Postponed to 2022 due to COVID-19)	
Animal Behavior Society (virtual conference)	2020
Evolution (Providence, RI), American Society of Naturalists Young Investigator Award Symposium	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), Invited Keynote Speaker	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), Best Student Presentation	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

Instructor of Record

- Biology 190S: Sensory Biology—Taste, Touch, Sound, Sight, Smell, and Beyond (Duke University) Summer 2017
- Submitted a successful proposal, and was selected to design and teach a fifteen-student summer session course

Teaching Assistant

- Hong Kong Conservation and Ecology Field Course—LESM002 (University of Exeter) Fall 2019
- Served as a demonstrator, with a focus on marine biology and conservation, for a two-week field course for Master's students in Hong Kong

Training

- Duke Certificate in College Teaching 2015-2018
- Coursework in College Course Design and Fundamentals of College Teaching, and workshops including Duke University's Pursuing Respect, Inclusion, Diversity, and Equity (PRIDE) training

Guest Lectures in University Courses

- 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 (see below) 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

Mentoring

Exeter University: Leela Channer (2020-present)

Duke University (undergraduate thesis): Kelsey O'Donnell (2016-2019); Catherine Chen (2013-2016)

Duke University (undergraduate independent study): Lauren Deehan (2018); John Bollinger (2018); Katja Kochvar (2017-2018); Lingrong Jin (2017-2018); Helen Tan (2016-2017); Surabhi Reddy (2014-2016)

Duke University (University Scholars Program): Bigyan Regmi (2016-2017); Jenny Chang (2014-2017); Connor Tinnen (2013-2016)

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

PROFESSIONAL SERVICE

Judge for the Society for Integrative and Comparative Biology Dorothy Skinner Women’s Award for Postdoctoral Research Excellence 2020
Chair for the Vision Researchers Colloquium 2020, GW4 University Group, United Kingdom (virtual meeting) 2020
Judge for the Animal Behaviour Society Warner Clyde Allee Young Investigator Award 2019

Reviewer for *The American Naturalist*, *Biology Letters*, *Philosophical Transactions of the Royal Society*, *Journal of Experimental Biology*, *Animal Behaviour*, *Ethology*, *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*

COMMUNITY OUTREACH

Scientific Research and Education Network (SciREN) 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 (SciREN) 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
Scientists with Stories #ScienceFAIL Live Storytelling event, Chapel Hill NC 2014
Scientists with Stories Film Workshop, Manteo NC 2013

SOCIETY MEMBERSHIPS

Animal Behavior Society, The Crustacean Society, Society for Integrative and Comparative Biology, International Society for Behavioral Ecology