

# Blair Roberts Costelloe

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## APPOINTMENTS

- 2019–pres **Marie Sklodowska-Curie Postdoctoral Fellow**  
Department of Collective Behaviour – Couzin group  
Max Planck Institute of Animal Behavior (formerly MPI for Ornithology) &  
Center for the Advanced Study of Collective Behaviour, University of Konstanz, Germany
- 2016–2017 **Postdoctoral Fellow**  
Department of Collective Behaviour – Couzin group  
Max Planck Institute for Ornithology & University of Konstanz, Germany
- 2014–2015 **Lecturer**  
Department of Ecology and Evolutionary Biology  
Princeton University, USA

## EDUCATION

- 2008–2014 **M.A., Ph.D., Ecology and Evolutionary Biology – Princeton University**  
Advisor: Daniel I. Rubenstein
- 2003–2007 **B.A., *summa cum laude*, Anthropology – Washington University in St. Louis**  
Advisors: Robert W. Sussman & Gayle Fritz

## GRANTS AND FELLOWSHIPS

- 2017 **GPU Hardware Grant – NVIDIA Corporation** \$1035  
Sole holder; co-written with Benjamin Koger
- Young Scholars Grant – University of Konstanz Zukunftskolleg** €9973  
Co-written with holder Gisela Kopp
- Investment Grant – University of Konstanz Zukunftskolleg** €9375  
Sole writer and holder
- Marie Curie Individual Fellowship – European Commission** €171,460  
Sole writer and holder; proposal ranked in 93rd percentile
- 2013 **Summer Travel Grant – Princeton University Deans Fund** \$600
- Student Travel Grant – American Society of Mammalogists** \$300
- 2012 **Student Research Grant – Animal Behavior Society** \$1000
- 2010 **Stephen Chapman Schroeder Scholarship – Explorers Club** \$1000
- 2009 **Summer Research Grant – Princeton University EEB Department** \$2000

## TEACHING AND ADVISING

- 2018–pres Advisor for three Masters theses – University of Konstanz  
**Sven Lauke:** Behavioural response to UAVs by wild ungulate herds  
**Felicitas Oehler:** Structure and associations within plains and Grevy's zebra herds during a disturbance  
**Bianca Schell:** Behavioral responses of flies to zebra stripe patterns in a virtual reality environment
- 2019 Guest lecture for Spatial and Movement Ecology – Dartmouth College
- 2018 Guest lecture for Animal Behaviour – University of Konstanz
- 2014 Lecturer for Evolution and Behavior of the Sexes & Integrative Dynamics of Animal Behavior – Princeton University
- Volunteer instructor for Environmental Science – Princeton Prison Teaching Initiative

- 2009–2016 Fieldwork supervisor for three undergraduate theses – Princeton University  
    **Jennifer Zhao**: Horsing around: quantifying the resilience of the social networks of *Equus caballus*  
    **Youngin Lim**: Collective vigilance and risk management: anti-predatory vigilance behavior in Thomson's gazelle (*Eudorcas thomsonii*)  
    **Sully Carmona**: The effects of predation risk on maternal behavior of the Thomson's gazelle
- 2009–2013 Assistant instructor for Animal Behavior; Evolution and Behavior of the Sexes; EEB Junior Tutorial – Princeton University

## PUBLICATIONS

- In review Graving, J.M., Chae, D., Naik, H., Li, L., Koger, B., **Costelloe, B.R.**, and Couzin, I.D. Fast and robust animal pose estimation. <https://doi.org/10.1101/620245>
6. **Costelloe, B.R.** and Rubenstein, D.I. 2018. Temporal structuring of vigilance behavior by female Thomson's gazelles with hidden fawns. *Animal Behaviour* 145: 87–97.
  5. **Costelloe, B.R.** 2018. Participation by a male Grant's gazelle in the defense of a fawn. *African Journal of Ecology* 56: 378–380.
  4. **Costelloe, B.R.** and Rubenstein, D.I. 2015. Coping with transition: offspring risk and maternal behavioral changes at the end of the hiding phase. *Animal Behaviour* 109: 217–225.
  3. **Roberts, B.A.** and Rubenstein, D.I. 2014. Maternal tactics for mitigating offspring risk during the postpartum period in Thomson's gazelle. *Behaviour* 151: 1229–1248.
  2. **Roberts, B.A.** 2012. An attack by a warthog, *Phacochoerus africanus*, on a newborn Thomson's gazelle, *Gazella thomsonii*. *African Journal of Ecology* 50: 507–508.
  1. **Roberts, B.A.** 2012. Perinatal behavior of a Grevy's zebra (*Equus grevyi*) mare and foal. *Journal of Ethology* 30: 205–209.

## AWARDS AND HONORS

- 2018 Selected participant – Social Network Analysis workshop, Max Planck Institute for Ornithology, Germany
- 2017–2019 Marie Sklodowska-Curie Individual Fellowship
- 2016 Selected participant – Data and Modeling in Collective Behavior workshop, New Jersey Institute of Technology, USA
- 2015 Selected participant – NextProf Science diversity workshop, University of Michigan, USA
- 2014 Finalist – Animal Behavior Society Allee Competition
- 2012 Poster Prize – Princeton Research Symposium
- 2010 Honorable Mention – National Science Foundation Graduate Research Fellowship
- 2007 John W. Bennett Prize for the Outstanding Graduating Senior in Anthropology  
Phi Beta Kappa

## INVITED TALKS AND CONFERENCE PRESENTATIONS

- 2019 **Seminar on Linking Individual Behavior to Community Responses in Changing Landscapes.** “Quantitative field studies of collective behavior: an approach using drones and computer vision.” Invited talk. Max Planck-Yale Center for Biodiversity Movement and Global Change, New Haven, USA.
- Gordon Research Conference on Movement Ecology of Animals.** “Social and environmental effects on fine-scale movement patterns in African ungulates.” Poster presentation. Barga, Italy.
- Gordon Research Seminar on Movement Ecology of Animals.** “Social and environmental effects on fine-scale movement patterns in African ungulates.” Poster presentation. Barga, Italy.
- Biology Department Seminar.** “Quantitative field studies of collective behavior: an approach using drones and computer vision.” Invited talk. Dartmouth College, Hanover, USA.

- 2018 **International Society for Behavioral Ecology Conference.** “Collective detection in free-ranging African ungulates: generating dynamic behavioral datasets with drones and computer vision.” Poster presentation. Minneapolis, USA
- Animal Behavior Society Annual Meeting.** “Collective detection in ungulate groups: novel tools for field studies of collective behavior.” Contributed talk. University of Wisconsin, Milwaukee, USA.
- Seminar on Wildlife Tracking from Unmanned Aerial Vehicles with Machine Learning.** “Collective behavior of wild ungulates: questions and methodological challenges.” Invited talk. Wageningen University & Research, Netherlands.
- 2017 **35th International Ethological Conference.** “Social networks in Thomson’s gazelle.” Poster presentation. Estoril, Portugal.
- 2015 **Animal Behavior Society Annual Meeting.** “Birth site selection decisions in ungulates: possible drivers and potential consequences.” Contributed talk. University of Alaska, Anchorage, USA.
- 2014 **Animal Behavior Society Annual Meeting.** “There’s more to hiding than meets the eye: maternal benefits of the hiding strategy.” Invited talk (Allee Symposium for Graduate Student Research). Princeton University, USA.
- Biology Department Seminar.** “The trials of motherhood: maternal behavior patterns and antipredator tactics in Thomson’s gazelle, a hiding ungulate.” Invited talk. University of Pennsylvania, Philadelphia, USA.
- 2013 **Animal Behavior Society Annual Meeting.** “Maternal strategies for reducing calf predation risk in Thomson’s gazelle.” Contributed talk. University of Colorado, Boulder, USA.
- American Society of Mammalogists Annual Meeting.** “The effects of perinatal behavior and maternal decisions on neonate survival in a hiding ungulate.” Contributed talk. Philadelphia, USA.

## SERVICE

- 2018 Member of Organizing Committee – Association for the Study of Animal Behavior 2019 Meeting
- 2016 Founding member and leader – EEB Women in Science Partnership, Princeton University
- 2015 Session Moderator – Animal Behavior Society Annual Meeting
- 2014 Volunteer instructor – Princeton University Prison Teaching Initiative
- 2013 Organized a departmental workshop on Visual Communication in the Sciences
- 2011–2017 Member – Informatics and Biodiversity Committees, American Society of Mammalogists
- Manuscript peer review (direct solicitation):** *The American Naturalist, Biology Letters, Behavioral Ecology, Animal Behaviour, Animal Cognition, Behavioural Processes, Journal of Ethology, African Journal of Ecology, International Journal of Biodiversity and Conservation*
- Grant review:** British Ecological Society Review College, Animal Behavior Society Student Grants
- Society Membership:** Association for the Study of Animal Behaviour, Animal Behavior Society, International Society for Behavioral Ecology, British Ecological Society, International Bio-Logging Society, Citizen Science Association, Graduate Women in Science, Phi Beta Kappa

## MEDIA AND OUTREACH

- 2018 Public Research Lecture, Max Planck Day
- 2016 Curator – @BioTweeps Twitter Account
- 2015 Visiting scientist – Monmouth Junction Elementary School Science Fair
- Media attention:** *bioGraphic, The Scientist*