

DAVID R. DAVERSA, PHD

La Kretz Center for California Conservation Science, University of California, Los Angeles
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CAREER OBJECTIVES

I aim to carry out research and teaching in ecology and conservation as faculty at a top-tier university, working at the forefront of the spatial ecology of infectious diseases.

RESEARCH POSITIONS

LA KRETZ POSTDOCTORAL FELLOW, La Kretz Center for California Conservation Science, Institute for the Environment and Sustainability, University of California, Los Angeles, USA; 2021-2023

Research topic: Optimizing landscape connectivity to protect species threatened by disease

POSTDOCTORAL RESEARCHER, National Great Rivers Research and Education Center (NGRREC), East Alton, Illinois, 62024, USA, 2016, 2020

Research topic: How individual movement determines the outcome of trophic interactions

POSTDOCTORAL RESEARCHER, Institute for Integrative Biology, University of Liverpool, Liverpool, United Kingdom, 2016-2019; joint position with the Institute of Zoology, Zoological Society of London (ZSL), London, United Kingdom

Research topic: determining species contributions to multi-host transmission dynamics

EDUCATION

PHD IN ZOOLOGY, Department of Zoology, University of Cambridge, Cambridge, United Kingdom, Oct. 2016; joint position with the Institute of Zoology, ZSL

Dissertation Title: Movement and parasitism in fragmented habitats.

BACHELOR OF SCIENCE IN FORESTRY, Summa Cum Laude with honors, May 2006

Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA

GRANTS AND FELLOWSHIPS

LA KRETZ POSTDOCTORAL FELLOWSHIP, 2021 - 2023 (\$120,000 + research expenses)

RESEARCH COORDINATION NETWORK WORKSHOP SCHOLARSHIP, 2019 (\$1200)

UK NATURAL ENVIRONMENT RESEARCH COUNCIL STANDARD GRANT, 2016 (£635,949)

CAMBRIDGE TRUSTS PHD EXTENSION GRANT, 2014 (£12,000)

BALFOUR TRUST FUND AWARD (£9,270)

ST. JOHN'S COLLEGE RESEARCH AND LEARNING FUND, 2011 (£500)

CAMBRIDGE INTERNATIONAL SCHOLARSHIP, 2011 (£32,625 + tuition fees for 3 years)

US NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIP, 2011 (\$75,000 + 3-year tuition fees, declined)

FULBRIGHT SCHOLARSHIP, 2009 (\$14,000)

WILLIAM AUGUST STUERMAN SCHOLARSHIP, 2004 (\$12,000)

NATIONAL SCIENCE FOUNDATION RESEARCH EXPERIENCE FOR UNDERGRADUATES, 2005 (\$5,000)

HONORS

OUTSTANDING GLOBAL HEALTH MENTOR AWARD, School of Public Health, Washington University of St. Louis, 2020

DAVID W. SMITH AWARD FOR OUTSTANDING SERVICE, 2006, College of Natural Resources, Virginia Tech

GOLD KEY NATIONAL HONORS SOCIETY, 2003 - present

PUBLICATIONS

2022

DAVERSA, DR, J BOSCH, AM MANICA, TWJ GARNER, A FENTON. 2022. Host identity matters – up to a point: the community context of *Batrachochytrium dendrobatidis* transmission. *The American Naturalist*. <https://doi.org/10.1086/720638>. (in press)

2021

DAVERSA, DR, R HECHINGER, A FENTON, E MADIN, J ROHR, A DELL, V RUDOLPH, K LAFFERTY. 2021. Broadening the ecology of fear: non-lethal effects arise from diverse responses to predation and parasitism. *Proceedings of the Royal Society: B* 288: 20202966. <http://doi.org/10.1098/rspb.2020.2966>

DAVERSA, DR, AM MANICA, H BINTANEL CENIS, P LOPEZ, TWJ GARNER, J BOSCH. 2021. Alpine newts (*Ichthyosaura alpestris*) avoid habitats previously used by parasite-exposed conspecifics. *Frontiers in Ecology and Evolution* 9: 636099. <http://doi.org/10.3389/fevo.2021.636099>

FARTHING, H, J JIANG, AJ HENWOOD, A FENTON, MC FISHER, DR DAVERSA, TWJ GARNER, DJS MONTAGNES. 2021. Microbial grazers may aid in controlling infections caused by aquatic zoospore fungi. *Frontiers in Microbiology* 11: 592286. <https://doi.org/10.1101/2020.02.03.931857>

2020

- COOKE, J, Y ARAYA, K BACON, J BAGNIEWSKA, L BATTY, T BISHOP, M BURNS, C MOYA, M CHARALAMBOUS, **DR DAVERSA**, *et al.* 2020. Teaching and learning in ecology: a horizon scan of emerging challenges and solutions. *Oikos* 00:1-14
- GREISCHAR, M, H ALEXANDER, F BASHEY, A BENTO, A BHATTACHARYA, M BUSHMAN, L CHILDS, **DR DAVERSA**, ...N MIDEO. 2020. Evolutionary consequences of feedbacks between within-host competition and disease control. *Evolution, Medicine, and Public Health* 10: 30–34. <https://doi.org/10.1093/emph/eoaa004>

2019

- CANESSA, S, A. SPITZEN-VAN DER SLUIJS, T. STARK, P. BISHOP, M. BLETZ, C. BRIGGS, **D.R. DAVERSA**, M. GRAY, R.A. GRIFFITHS, R.N. HARRIS, X.A HARRISON, J. T. HOVERMAN, P. JERVIS, E.L. MUTHS, D.H. OLSEN, C.L. RICHARDS-ZAWACK, J. ROBERT, G.M. ROSA, B.C. SCHEELE, B.R. SCHMIDT, T.W.J. GARNER. 2019. Conservation decisions under pressure: Lessons from an exercise in rapid response to wildlife disease. *Conservation Science and Practice*. 2019;e141. <https://doi.org/10.1111/csp2.141>
- PAUWELS, O., P. CARLINO, L. CHIRIO, **D.R. DAVERSA**, J. LIPS, R. OSLISLY AND O. TESTA. 2019. Amphibians and reptiles found in caves in Gabon, western Equatorial Africa. *Cave and Karst Science* 46 (1): 3-12.

2018

- DAVERSA, D.R.**, A. MANICA, J. BOSCH, T.W.J. GARNER. 2018. Routine habitat switching alters the likelihood and persistence of infection with a pathogenic parasite. *Functional Ecology*. 32:1262–1270. DOI: 10.1111/1365-2435.13038
- DAVERSA, D.R.**, C. MONSALVE-CARCAÑO, LM CARRASCAL, J BOSCH. 2018. Seasonal migrations, body temperature fluctuations, and infection dynamics in adult amphibians. *PeerJ* 6:e4698; DOI 10.7717/peerj.4698

2017

- DAVERSA, D.R.**, A. FENTON, T.W.J. GARNER, A. DELL, A. MANICA. 2017. Infections on the move: How transient phases of host movement influence disease spread. *Proceedings of the Royal Society B* 284: 20171807. DOI: <http://dx.doi.org/10.1098/rspb.2017.1807>

2011-2012

- DAVERSA, DR**, E MUTHS AND J BOSCH. 2012. Terrestrial movement patterns of the Common Toad (*Bufo bufo*) in Central Spain reveal habitat of conservation importance. *Journal of Herpetology* 46: 658-664.
- DAVERSA, DR**, J BOSCH AND K JEFFREY. 2011. First survey of the disease-causing fungus, *Batrachochytrium dendrobatidis*, in amphibian populations of Gabon, Africa. *Herpetology Review* 42 (1): 67-69.

PREPRINTS

- GREEN, ET, AI DELL, J CRAWFORD, E BIRO, **DR DAVERSA**. 2020. Habitat patchiness drives spatial structure in morphological trait variation and co-variation in spotted salamanders (*Ambystoma maculatum*). Biorxiv. <https://doi.org/10.1101/2020.06.15.153312> (under review at Journal of Herpetology)

DISTINGUISHED SCIENCE ESSAYS

I strive to communicate science to more general audiences. The following essays were written for non-experts, were published, and received distinctions for their quality.

- DAVERSA, D.R. 2013. How heels help people walk. *Access to Understanding*. Europe Pubmed Central. http://europepmc.org/docs/A2U_programme_web_2013.pdf (essay competition finalist)
- DAVERSA, D.R. 2012. The future of science. *In NextGen voices. Science* 335 (6064): 36 – 38. (Top 10 essay)
- DAVERSA, D.R. 2012. The definition of a successful scientist. *In NextGen voices. Science* 336 (6077): 32-34. <http://www.sciencemag.org/content/336/6077/32/suppl/DC1> (Top 50 essay)

MENTORING AND TEACHING

Teaching

- 2022 – Advisor, Senior Practicum in Environmental Science, University of California, Los Angeles
Guest Lecturer, Disease Ecology undergraduate/graduate Seminar, University of California, Los Angeles
- 2015 - Behavioural Ecology advanced undergraduate course, University of Cambridge
- 2014 - Animal Behaviour undergraduate course, University of Cambridge
Population Biology advanced undergraduate course, University of Cambridge
- 2008 - Excel for Beginners training course, 2008, National Federal Emergency Management Agency

Mentoring

2021 - Primary Supervisor, summer undergraduate intern, US National Park Service

Research topic: Disease and body temperature variation in endangered Yosemite toads (*Anaxyrus canorus*)

2020 - Global Health PhD and postdoc mentor (4 mentees), Washington University of St. Louis School of Public Health

(recipient of the Outstanding Global Health Mentor award)

2017 - Co-supervisor, PhD student, University of Liverpool

2019 Research topic: within-host infection dynamics for co-infecting pathogens

Co-supervisor, Master's and undergraduate research, University of Liverpool

Research topic: Thermal performance of infective stages of fungal parasites

Co-supervisor, Wild animal Biology Master's student, Institute of Zoology, Zoological Society of London

Research topic: the effects of tagging methods on amphibian behaviour and welfare

Invited participant, working group on teaching in ecology, British Ecological Society

2016 - Primary supervisor, summer undergraduate intern, National Great Rivers Research and Education Center

Research topic: Morphological and behavioural variation in spotted salamanders (*Ambystoma maculatum*)

(intern is now a Ecology PhD candidate at the University of North Carolina, Chapel Hill)

OTHER PROFESSIONAL POSITIONS

These professional experiences instilled leadership skills, expanded my appreciation of cultural diversity, and equipped me to coordinate large projects that integrate science, conservation, and public policy.

RESEARCH ASSOCIATE, UNIVERSITY OF CALIFORNIA, BERKELEY, JUNE –2007, 2010

Topics: Field tests of probiotic treatments of diseased amphibians in Sequoia-Kings Canyon National Park

RESEARCH ASSOCIATE, STATION D'ETUDES DES GORILLES ET CHIMPANZÉS/WILDERNESS CONSERVATION SOCIETY, GABON, 2008

Topics: Primate monitoring and conservation in Lope National Park; Disease surveillance in amphibians of Gabon

GIS SPECIALIST, UNITED STATES FEDERAL EMERGENCY MANAGEMENT AGENCY, 2006 –2011

Topic: Using geospatial analyses to measure the economic and environmental impacts of natural disasters

PROJECT MANAGER, PEACEWORK, 2006 –2011

Topic: Service-based partnerships between US institutions and communities in Central America and Africa

Service

CO-ORGANIZER, Thematic Session at 2021 British Ecological Society Annual Meeting, Liverpool, UK

Session title: What determines host species roles in multi-host disease dynamics?

WILEY SCIENCE ADVISOR, 2012 – 2015

Served on panels and working groups for publishing ethics, policy, and development

SCIENCE EDUCATION ASSISTANT, SEEDS, BLACKSBURG, VA, 2004 - 2006

Taught grade school students field biology principles with the non-profit Seek Education Explore DiScover (SEEDS)

Peer Review

Proceedings of the Royal Society B, Biological Reviews, Ecological Applications, Journal of Animal Ecology, Functional Ecology, Biology Letters, Scientific Reports, Parasitological Research, Diseases of Aquatic Organisms

Reviewed for a chapter of the 2019 book *Wildlife Disease Ecology: Linking Theory to Data and Applications*

INVITED PRESENTATIONS

MOVEMENT ECOLOGY AND IMPROVE ANIMAL HEALTH, WELFARE, AND CONSERVATION, Bristol Veterinary School, University of Bristol, United Kingdom, September, 2021 (virtual)

MOVEMENT ECOLOGY PROVIDES SOLUTIONS FOR MITIGATING DISEASE SPREAD. La Kretz Center Seminar, Institute of the Environment and Sustainability, University of California, Los Angeles, March, 2020.

HOW MOVEMENT ECOLOGY CAN IMPROVE PREDICTIONS FOR DISEASE SPREAD. Disease Ecology Seminar, Dept. of Zoology, University of Oxford, October 2019.

FACTORING AMPHIBIAN BEHAVIOUR INTO CHYTRID MITIGATION STRATEGIES. Amphibian and Reptile Conservation Scientific Meeting 2018, Bournemouth, United Kingdom, Dec 2018.

MOVING FORWARD WITH SPATIAL DISEASE MODELS. CEID seminar, University of Georgia, August 2018

THE NON-LETHAL CONSEQUENCES OF PARASITISM VERSUS PREDATION. Ecological Society of America Annual Meeting, New Orleans, LA, August 2018.

MOVEMENT AND PARASITISM IN FRAGMENTED HABITATS. Ecology and Evolution Seminar, Department of Biology, Pennsylvania State University, USA. March 2016.

CONTRIBUTED PRESENTATIONS AND POSTERS

SPECIES CONTRIBUTIONS TO TRANSMISSION IN MULTI-HOST COMMUNITIES. Jacques Monod Conference: *Open Questions in Disease Ecology and Evolution: from Basic Research to Evolutionary Medicine*. Roscoff, France. October 2017. (poster)

THE ROLE OF HABITAT HETEROGENEITY AND HOST BEHAVIOUR IN INFECTION DYNAMICS. Ecology and Evolution of Infectious Diseases, Santa Barbara, California, June 2017. (presentation)

HIGH THROUGHPUT AUTOMATED IMAGING SYSTEM FOR QUANTIFYING BEHAVIOUR AND TROPHIC INTERACTIONS. Gordon Research Conference: Predator-Prey Interactions, Ventura California, January 2017. (poster)

EXPOSURE FREQUENCY AND HABITAT ALTER INFECTION DYNAMICS. British Ecological Society Joint Meeting, Lille France. Dec. 2014. (presentation)

DISEASE SPREAD IN AMPHIBIAN METACOMMUNITIES. Student Research Conference, Zoological Society of London, February 2014. (*Runner-up for best talk*)