

Kayla Christina King

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My research group studies the evolutionary and ecological dynamics of host-pathogen interactions across environments and the tree of life.

Personal Details:

Nationality: Canadian/British

Periods of Maternity Leave: November 2014 – May 2015 and November 2017 – May 2018

Current Position:

2023-present Professor, Departments of Zoology and Microbiology & Immunology, University of British Columbia

Co-Director, PrePARE Research Cluster

Professorial Research Fellow, Department of Biology, University of Oxford

Education and Previous Positions:

2019-2023 Professor in Evolutionary Ecology, Department of Biology, University of Oxford

2021-2022 International Research Scholar, Peter Wall Institute for Advanced Studies and Biodiversity Research Centre, UBC

2013-2019 Associate Professor, Department of Biology, University of Oxford
Tutorial Fellow, Christ Church

2011-2013 Royal Society Newton Fellow, Institute of Integrative Biology, University of Liverpool
(Advisor: G.D.D. Hurst)

2006-2011 PhD. in Evolution and Genetics. Department of Biology, Indiana University (Advisor: C.M. Lively)

2004-2006 MSc. Department of Biology, Concordia University, Canada. (Advisor: D.J. Marcogliese)

2001-2004 BSc. in Ecology and Genetics. Department of Zoology, University of British Columbia, Canada. (Advisor: D. Schluter)

Grant Funding:

2023 Natural Science & Engineering Research Council of Canada Discovery Grant '*Host-parasite interactions in a changing environment*' (PI, 60 months, \$520,000 CAN)

2022 Natural Environment Research Council UK Standard Research Grant, '*Host-parasite coadaptation in a warming world*' (PI, Co-PI Tim Barraclough, Thomas Richards, Daniel Bebbler, 36 months, £750,000)

2021 NERC Standard Research Grant, '*Tempo and mode of evolutionary dynamics in wild bacterial communities*' (Co-I, P-I Tim Barraclough, 36 months, £845,000)
NERC Environmental 'Omics Facility Grant (£9,000)
NEOF Environmental Grant (£8,864)

- 2019 Christ Church College Research Grant, 'Heat and pathogen evolution' (PI, 12 months, £30,000)
- 2018 European Research Council Starter Grant '*COEVOPRO: Drivers and consequences of coevolution in a protective symbiosis*' (PI, 66 months, €1,500,000)
Oxford University Returning Carer's Fund (£5,000)
- 2017 Philip Leverhulme Prize (PI, 24 months, £100,000)
Wellcome Trust ISSF Grant '*Establishing an animal-microbiota model: can good microbes shape host responses to pathogens?*' (PI, 18 months, £99,790)
- 2015 Leverhulme Project Grant '*Transitions to defensive mutualism: an experimental coevolution approach*' (PI, 36 months, £227,000)
Oxford University Returning Carer's Fund (£5,000)
- 2014 John Fell Fund '*Protective bacteria: establishing an evolving gut microbiome in C.elegans*' (PI, 18 months, £93,000)
Royal Society Grant '*Can gut microbiota drive parasite evolution?*' (PI, 12 months, £13,000)
British Ecological Society Small Grant '*Beyond the Red Queen: do gut microbiota impact snail-trematode coevolution?*' (PI, 24 months, £5,000)
- 2012 Royal Society Newton International Fellowship '*Coinfection and coevolution: an experimental evolution approach*' (PI, 20 months, £105,000) *fellowship published success rate is 7%
- 2011 NERC Standard Research Grant '*Beyond the Red Queen: are elevated parasite evolutionary rates driven by host shifts?*' (Co-I, PI Greg Hurst, 36 months, £560,000)

Awards and Fellowships:

- 2023 Canadian Society of Zoologists R.A. Wardle Medal for Parasitism, Immunity, and Environment
Elected Fellow of Linnean Society of London
- 2022 Zoological Society of London Scientific Medal
Elected Fellow of Zoological Society of London
- 2021 University of British Columbia Peter Wall Institute International Scholar Fellowship
- 2020 Linnean Society of London Bicentenary Medal
- 2018 Philip Leverhulme Prize for Biological Sciences
- 2017 Oxford University Student's Union Outstanding Graduate Supervisor Award
- 2013 American Society of Naturalists Jasper Loftus-Hills Young Investigator Prize
- 2012 Royal Society Newton International Fellowship '*Coinfection and coevolution: an experimental evolution approach*' (PI, 20 months, £105,000)
University of Liverpool Junior Faculty Fellowship (36 months, £45,000 + salary; declined)
- 2011 Swiss Institute of Aquatic Science and Technology post-doctoral fellowship (24 months, 210,000 Fr.; declined)
- 2010 Indiana University Doctoral Fellowship (12 months, \$22,500 US)
- 2009 ThinkSwiss Research grant (3,000 Swiss Fr.)
College of Arts & Science award, Indiana University (\$1,000 US)
Society for the Study of Evolution award (\$1,000 US)
Evolution, Ecology, and Behaviour grant, Indiana University (\$2,500 US).
- 2007 Natural Science and Engineering Research Council Canada PhD fellowship (36 months,

\$63,000 CAN)

2006 and earlier METACyt Molecular Evolution award (\$5,000 US)
UK Overseas Research Student award (36 months, £30,000; declined)
Canadian Society of Zoology Murray Fallis prize (\$1,000 CAN)
American Society of Parasitologists prize (\$1,000 CAN)
Concordia University Graduate scholarship (\$5,000 CAN)
NSERC MSc fellowship (24 months, \$20,000 CAN)
Concordia University Graduate fellowship (\$10,000 CAN)
NSERC Undergraduate Student Research Award (\$5,000 CAN)
University of British Columbia Scholar (48 months, \$20,000 CAN)
Canadian Millennium Provincial Scholarship (48 months, \$16,000 CAN)
Queen's Golden Jubilee Medal

Publications:

1. Pike, V., Stevens, E., Griffin, A., King, K.C. **2023** Interactions between producer and non-producer parasites in nematode host populations. *Parasitology*. Accepted.
2. Hasik, A., King, K.C.*, Hawlena, H.* **2023**. Competition between host species can drive virulence evolution via a network of effects. *Biology Letters*. Accepted.
3. Santiago, I., King, K.C., Drew, G.C. **2023**. Interactions between insect vectors and plant pathogens span the parasitism-mutualism continuum. *Biology Letters*. In press.
4. King, K.C., Hall, M.D., Wolinska, J. **2023**. Infectious disease ecology and evolution in a changing world. *Philosophical Transactions of the Royal Society*. In press.
5. Hector, T.E., Gehman, A., King, K.C. **2023**. Infectious disease burdens under thermal stress: ecological and evolutionary implications. *Philosophical Transactions of the Royal Society*. In press.
6. Li, J.D., Bates, K.A., Hector, T.E., Hoang, K.L., Knowles, S.C., King, K.C. **2023**. Experimental temperatures shape host microbiome diversity and composition. *Global Change Biology* 29, 41-56.
7. Ford, S.A.* , Drew, G.C.* , King, K.C. **2022**. Immune-mediated competition benefits protective microbes over pathogens in a novel host species. *Heredity* 129, 327-335.
8. Hoang, K.L., King, K.C. **2022**. Symbiosis: partners in crime. *Current Biology* 32, PR1018-R1020.
9. Wu-Chuang, A., Bates, K.A., Obregon, D., King, K.C.*, Cabezas-Cruz, A.* **2022**. Rapid evolution of a novel beneficial microbe into keystone taxon in *C.elegans* microbiota. *Scientific Reports* 12, 14045.
10. Ordovás-Montañés, M., Preston, G., Hoang, K.L., Rafaluk-Mohr, C., King, K.C. Trade-offs in defence to pathogen species revealed in expanding nematode populations. **2022**. *Journal for Evolutionary Biology* 35, 1002-1011.
11. King, K.C. **2022**. Q&A. *Current Biology* 32, PR404-R406.
12. Hoang, K.L., King, K.C. **2022**. Symbiont-mediated immune priming in animals through an evolutionary lens. *Microbiology* 168.
13. Hector, T.E., Hoang, K., Li, J.D., King, K.C. **2022**. Symbiosis and host responses to heating. *Trends in Ecology and Evolution* 37, 611-624.
14. Bates, K.A., Neiman, M., Higgins, C., King, K.C. **2022**. Turning the tide on sex and the microbiota in aquatic animals. *Hydrobiologia*. Published online.

15. Ordovás-Montañés, M., Preston, G., Drew, G.C., Rafaluk-Mohr, C., King, K.C. **2022**. Reproductive consequences of transient pathogen exposure across host genotypes and generations. *Ecology and Evolution* 12, e8720.
16. Rafaluk-Mohr, C., Gerth, M., Sealey, J., Ekroth, A.K.E., Aboobaker, A.A., Kloock, A., King, K.C. **2022**. Microbial protection favours mortality tolerance and alters host-parasite coevolutionary dynamics. *Current Biology* 32, P1593-P1598.
17. Drew, G., King, K.C. **2022**. More or less? The role of symbiont density in protective mutualisms. *American Naturalist* 199.
18. Gomez-Chamorro, A., Hodzik, A., King, K.C.*, Cabezas-Cruz, A.* **2021**. An ecological and evolutionary perspective on coinfections in ticks. *Current Research in Parasitology and VectorBorne Diseases* 1:100049.
19. Bates, K.A., King, K.C. **2021**. *Leucobacter*. *Trends in Microbiology*.
20. Bates, K.A., Bolton, J.S., King, K.C. **2021**. A globally ubiquitous symbiont can drive experimental host evolution. *Molecular Ecology* 30, 3882-3892.
21. Stevens, E., Bates, K., King, K.C. **2021**. Host microbiota can facilitate infection. *PLoS Pathogens* 17, e1009514.
22. Marcogliese, D.J., King, K.C., Bates, K. **2021**. Effects of combined stressors in leopard frogs in agricultural wetlands. *Parasitology* 148, 827-834.
23. Drew, G.*, Stevens, E.*, King, K.C. **2021**. Microbial evolution and transitions along the mutualist-parasite continuum. *Nature Reviews Microbiology*.
24. Ekroth, A.K.E., Gerth, M., Stevens, E., Ford, S.A., King, K.C. **2021**. Host genotype and genetic diversity shape the evolution of a novel bacterial pathogen. *The ISME Journal* 15, 2146–2157.
25. Ford, S., King, K.C. **2021**. *In vivo* microbial coevolution favours host-protection and plastically downregulates immunity. *Molecular Biology and Evolution* 38, 1330-1338.
26. Bankers, L., Dahan, D., Neiman, M., Frost, C.L., Hurst, G.D.D., King, K.C. **2021**. Invasive freshwater snails form novel microbial relationships. *Evolutionary Applications* 14, 770-780.
27. Kloock, A., Bonsall, M.B., King, K.C. **2020**. Evolution and maintenance of microbe-mediated protection during occasional pathogen infection. *Ecology and Evolution* 10, 8634-8642.
28. King, K.C., Hurst, G.D.D., Lewis, Z. **2020**. Let's emerge from the pandemic lockdown into a fairer academic world. *Current Biology* 30, PR799.
29. Dahan, D., Preston, G., Sealey, J., King, K.C. **2020**. Impacts of a novel defensive symbiosis on the nematode host microbiome. *BMC Microbiology* 20, 159.
30. King, K.C., Drew, G., Stevens, E. **2020**. Microbiome: evolution in a world of interaction. *Current Biology* 30, R265-R267.
31. Frost, C.L., Siozios, S., Nadal-Jimenez, P., Brockhurst, M., King, K.C., Darby, A., Hurst, G.D.D. **2020**. Hypercomplex genome of an insect reproductive parasite highlights the importance of lateral gene transfer in symbiont biology. *mBio* 10.1128/mBio.02590-19.
32. Hall, A., Ashby, B., Bascompte, J., King, K.C. **2020**. Measuring coevolutionary dynamics in communities of more than two species. *Trends in Ecology and Evolution* 35, 539-550.
33. Pike, V., Ford, S.A., King, K.C., Rafaluk-Mohr, C. **2019**. Fecundity compensation due to stress response in *Caenorhabditis elegans*. *Ecology and Evolution* 9, 11957-11961.

34. Ekroth, A.K.E., Rafaluk-Mohr, C., King, K.C. **2019**. Host genetic diversity limits parasite success beyond agricultural systems: a meta-analysis. *Proceedings of the Royal Society B* 286.
35. Pike, V., Lythgoe, K.*, King, K.C.* **2019**. On the diverse and opposing effects of nutrition on pathogen virulence. *Proceedings of the Royal Society B* 286.
36. Meirmans, S., Butlin, R., Charmantier, A., Engelstaedter, J., Groot, A., King, K.C., Kokko, H., Reid, J., Neiman, M. Science policies: how should science funding be allocated? An evolutionary biologists perspective. **2019**. *Journal for Evolutionary Biology* 32, 754-768.
37. King, K.C. **2019**. Defensive Symbionts. *Current Biology* 29, R78-R80.
38. Betts, A., Gray, C., Zelek, M., Maclean, R.C.*, King, K.C.* **2018**. High parasite diversity accelerates host adaptation and diversification. *Science* 360, 907-911.
39. Rafaluk-Mohr, C., Ashby, B., Dahan, D., King, K.C. **2018**. Mutual fitness benefits arise during coevolution in a nematode-defensive microbe model. *Evolution Letters* 2, 246-256.
40. Decaestecker, E., King, K.C. **2018**. Red Queen dynamics. Elsevier Encyclopedia of Ecology.
41. Ashby, B., King, K.C. **2017**. Friendly foes: the evolution of host protection by a parasite. *Evolution Letters* 1, 211-221.
42. King, K.C., Bonsall, M.B. **2017**. The evolutionary and coevolutionary consequences of defensive microbes for host-parasite interactions. *BMC Evolutionary Biology* 17, 190.
43. Reznick, D.N., King, K.C. **2017**. Antibiotic resistance: evolution without trade-offs? News and Views. *Nature Ecology and Evolution*.
44. Ford, S.A., Williams, D., Paterson, S., King, K.C. **2017**. Coevolution between pathogens and defensive microbes driven by fluctuating selection. *Molecular Ecology* 26, 1778-1789.
45. Ford, S.A., Kao, D., Williams, D., King, K.C. **2016**. Microbe-mediated host defence drives the evolution of reduced pathogen virulence. *Nature Communications* 7, 13430.
46. Betts, A., Rafaluk, C., King, K.C. **2016**. Host-parasite evolution in a Tangled Bank. *Trends in Parasitology* 32, 863-873.
47. Takacs-Vesbach, C., King, K.C., Van Horn, D., Larkin, K., Neiman, M. **2016**. Distinct bacterial microbiomes in sexual vs. asexual *Potamopyrgus antipodarum*, a New Zealand freshwater snail. *PLoS One* 11, e0161050.
48. Parratt, S.R., Frost, C.L., Schenkel, M.A., Rice, A., Hurst, G.D.D.*, King, K.C.* **2016**. Superparasitism drives heritable symbiont epidemiology and host sex ratio in a wasp. *PLoS Pathogens* 12, e1005629.
49. Vale, P.F., Allen, J.E., Doeschl-Wilson, A., Domingo-Sananes, M.R., King, K.C., McNally, L., Popat, R., Soares, M.P., Kummerli, R. **2016**. Beyond killing: can we find new ways to manage disease? *Evolution, Medicine, and Public Health* 1, eow012.
50. Betts, A., Gifford, D., MacLean, C., King, K.C. **2016**. Parasite diversity and rapid evolution of host resistance in a bacteria-phage system. *Evolution* 70, 969-978.
51. Ford, S.A., King, K.C. **2016**. Harnessing the power of defensive microbes: evolutionary implications in nature and disease control. *PLoS Pathogens* 12, e1005465.
52. King, K.C., Brockhurst, M.A., Vasieva, O., Paterson, S., Betts, A., Ford, S.A., Frost, C.L., Horsburgh, M., Haldenby, S., Hurst, G.D.D. **2016**. Rapid evolution of microbe-mediated protection against pathogens in a worm host. *The ISME Journal* 10, 1915-1924.

53. King, K.C.*, Stelkens, R.*, Webster, J.*, Smith, D., Brockhurst, M.A. **2015**. Hybridisation in parasites: consequences for adaptive evolution, pathogenesis, and public health in a changing world. *PLoS Pathogens* 11, e1005098.
54. Daoust, S., King, K.C., Roitberg, B., Roche, B., Brodeur, J., Thomas, F. **2015**. Making the best of a bad situation: partial resistance to behaviour manipulation. *Trends in Parasitology* 31, 413-418.
55. Ashby, B, King, K.C. **2015**. Diversity and the maintenance of sex by parasites. *Journal of Evolutionary Biology* 28, 511-520.
56. Ducasse, H., Arnal, A., Vittecoq, M., Daoust, S.P., Ujvari, B., Ewald, P., Gatenby, R.A., King, K.C., Brodeur, J., Renaud, F., Solary, E., Roche, B., Thomas, F. **2015**. Cancer: an emergent property of disturbed resource rich environments? Ecology meets personalized medicine. *Evolutionary Applications* 8, 527-540.
57. Brockhurst, M.A., Chapman, T., King, K.C., Mank, J., Paterson, S., Hurst, G.D.D. **2014**. Running with the Red Queen: role of biotic conflicts in evolution. *Proc Roy Soc Ser B* 281, 20141382.
*Special 2014 Darwin Review
58. Soper, D.M., King, K.C., Vergara, D., Lively, C.M. **2014**. Parasite exposure increases promiscuity in a freshwater snail. *Biology Letters* 10, 2013191.
59. Vergara, D., Lively, C.M., King, K.C., Jokela, J. **2013**. Geographic mosaic of sex and infection in lake populations of a New Zealand snail at multiple spatial scales. *American Naturalist* 182, 484-493.
60. King, K.C., Auld, S.K.J.R., Wilson, P.J., James, J., Little, T. **2013**. The bacterial parasite *Pasteuria ramosa* is not killed if it fails to infect: implications for coevolution. *Ecology and Evolution* 3, 1972-203. * Issue Cover
61. Brockhurst, M.A., King, K.C. **2012**. Coevolution. In *Oxford Bibliographies in Ecology*. Eds. Gibson, D. New York: Oxford University Press.
62. King, K.C., Lively, C.M. **2012**. Can genetic diversity limit disease spread in host populations? *Heredity* 109, 199-203.
63. King, K.C., Seppälä, O., Neiman, M. **2012**. Is more better? Polyploidy and parasite resistance. *Biology Letters* 8, 598-600.
64. Leung, T.L.F., King, K.C., Wolinska, J. **2012**. Escape from the Red Queen: an overlooked scenario in co-evolutionary studies. *Oikos* 121, 641-645.
65. King, K.C., Delph, L.F., Jokela, J., Lively, C.M. **2011**. Coevolutionary hotspots and coldspots for host sex and parasite local adaptation in a snail-trematode interaction. *Oikos* 120: 1335-1340.
66. King, K.C., Jokela, J., Lively, C.M. **2011**. Parasites, sex, and clonal diversity in natural snail populations. *Evolution* 65: 1474-1481.
67. King, K.C., Jokela, J., and Lively, C.M. **2011**. Trematode parasites infect or die in snail hosts. *Biology Letters* 7, 265-268.
68. King, K.C. and Hurst, G.D.D. **2010**. Losing the desire: selection can promote obligate asexuality. *BMC Biology* 8, 101-104.
69. King, K.C., McLaughlin, J.D., Boily, M., and Marcogliese, D.J. **2010**. Effects of agricultural landscape and pesticides on parasitism in native bullfrogs. *Biological Conservation* 143, 302-310.
70. King, K.C., Delph, L.F., Jokela, J., and Lively, C.M. **2009**. The geographic mosaic of sex and the Red Queen. *Current Biology* 19, 1438-1441. *Faculty of 1000 recommendation

71. King, K.C. and Lively, C.M. **2009**. Geographic variation in sterilizing parasite species and the Red Queen. *Oikos* 118, 1416-1420.
72. Wolinska, J. and King, K.C. **2009**. Environment alters selection in host-parasite interactions. *Trends in Parasitology* 25, 236-244.
73. Marcogliese, D.J., King, K.C., Salo, H., Fournier, M., Brousseau, P., Spear, P., Champoux, L., McLaughlin, J.D., and Boily, M. **2009**. Interactions between agriculture and parasitism: effects on biomarkers in the bullfrog, *Rana catesbeiana*. *Aquatic Toxicology* 91, 126-134.
74. Wolinska, J., King, K.C., Vigneux, F., and Lively, C.M. **2008**. Virulence, cultivating conditions, and phylogenetic analyses of oomycete parasites in *Daphnia*. *Parasitology* 135, 1667-1678.
75. King, K.C., Gendron, A.D., McLaughlin, J.D., Giroux, I., Brousseau, P., Cyr, D., Ruby, S.M., Fournier, M., and Marcogliese, D.J. **2008**. Short-term seasonal changes in parasite community structure in northern leopard froglets (*Rana pipiens*) inhabiting agricultural wetlands. *Journal of Parasitology* 94, 13-22.
76. King, K.C., McLaughlin, J.D., Gendron, A.D., Pauli, B.D., Giroux, I., Rondeau, B., Boily, M., Juneau, P., and Marcogliese, D. J. **2007**. Impacts of agriculture on the parasite communities of northern leopard frogs (*Rana pipiens*) in southern Quebec, Canada. *Parasitology* 134, 2063-2080.

Invited presentations (showing 2016-present):

- 2023 Conference Symposium, Canadian Society of Zoologists, Saskatchewan, Canada
 Conference Symposium, EMBL Symposium on Cellular Symbiosis, Heidelberg, Germany
 Conference Symposium, GRC Animal-microbe symbioses, Tuscany, Italy
 William H. Telford Endowed Lecture, University of Pennsylvania, USA
 Seminar, University of Mondsee, Austria
 Seminar, University of Padova, Italy
 Seminar, University of Bath, UK
- 2022 Conference Plenary, European Society for Evolutionary Biology, Czech Republic
 Conference Plenary, Umea Centre for Microbial Research, Sweden
 Conference Plenary, EMBO/EMBL Symposium on Symbiosis, Heidelberg, Germany
 Conference Plenary, Society for Molecular Biology and Evolution, online conference.
 Seminar, MPI – Chemical Biology, Jena, Germany
 Seminar, University of Central Florida, USA
 Seminar, University of Illinois, USA
 Seminar, University of Lancaster, UK
 Seminar, Bournemouth University, UK
 Seminar, Life Sciences Institute, University of British Columbia, Canada
 Seminar, Department of Zoology, University of British Columbia, Canada
 Seminar, Faculty of Forestry, University of British Columbia, Canada
 Seminar, Faculty of Land and Food Systems, University of British Columbia, Canada
 Seminar, University College London, UK
 Seminar, Vancouver Island University, Canada
- 2021 Conference Plenary, MPI-Evolutionary Biology ‘Coevolution and communities’, Germany
 Conference Symposium, GRC on Animal-Microbe Symbiosis, Italy
 Gutenberg Workshop Symposium, University of Mainz, Germany
 Distinguished Lecture, Cornell University, USA
 Seminar, ERATO Evolving Symbiosis Project International Seminar Series, Japan

- Seminar, University of South Bohemia, Czech Republic
 Seminar, Royal Holloway – University of London, UK
 Seminar, University of California – Berkeley, USA
 Seminar, University of Calgary, Canada
 Seminar, Biodiversity Research Centre, University of British Columbia, Canada
 Seminar, University of Victoria, Canada
 Seminar, Simon Fraser University, Canada
 Seminar, York University, Canada
 Seminar, Johannes Gutenberg University Mainz, Germany
- 2020 John Maynard Smith Anniversary Conference Plenary, University of Sussex, UK
 Conference Plenary, Evolutionary Medicine, Hamburg, Germany
 Conference Plenary, Eco-Evolutionary Dynamics EVENET KU Leuven, Belgium
 Conference Plenary, Indian National Science Academy Series on Genetics/Evolution, India
 Seminar, University of East Anglia, UK
 Seminar, University of Trinity College Dublin, Ireland
 Seminar, University of Cambridge, UK
 Seminar, University of Lund, Sweden
 Seminar, Stockholm University, Sweden
 Seminar, University of Oxford, UK
 Seminar, Oxford Brookes University, UK
 Seminar, University of Muenster, Germany
 Seminar, Joint virtual series between University of British Columbia/University of East Anglia
 Seminar, Emory University, USA
 Seminar, CNRS Montpellier, France
 Seminar, VU University Amsterdam, Netherlands
 Seminar, UNIQ+ University of Oxford, UK
 Seminar, Vancouver Island University, Canada
- 2019 Conference Plenary, Int'l Society for Evolution, Medicine, and Public Health, Zurich, CH
 Conference Symposium, International Society for Evolution and Ecology of Cancer, UK
 Conference Symposium, European Society for Evolution Biology, Turku, Finland
 Conference Symposium, GRC on Animal-Microbe Symbiosis, USA
 Conference Symposium, GRC on Microbial Population Biology, USA
 Conference Symposium, Excellence Ecofect – University of Lyon, France
 Conference Symposium, OxBacNet – University of Oxford, UK
 Seminar, Wageningen University, Netherlands
 Seminar, Freie University Berlin, Germany
 Seminar, University of Sheffield, UK
 Seminar, University of Illinois - Urbana, USA
 Seminar, Trinity College Dublin, Ireland
 Seminar, University of Nottingham, UK
 Seminar, University of Exeter, UK
 Seminar, Imperial College London – Silwood Park, UK
 Seminar, IST-Austria, Austria
 Seminar, University of Ottawa, Canada
- 2018 Conference Symposium, International *C.elegans* Conference, Los Angeles, USA
 Conference Symposium, International Society for Microbial Ecology, Leipzig, Germany

ESEB Workshop Symposium, Experimental Tests of Coevolution, Paris, France
'Living Systems' Symposium, Max-Planck Institute Tubingen, Germany
Seminar, University of Lisbon IGC, Portugal
Seminar, University of Bristol, UK
Seminar, University of Edinburgh, UK
Seminar, University College-London, UK
Seminar, University of Birmingham, UK

2017 Conference Symposium, Canadian Society of Ecology and Evolution, Victoria, Canada
Conference Symposium, European Society for Evolutionary Biology, Groningen, Netherlands
Seminar, ETH-Zurich, Switzerland
Seminar, Basel University, Switzerland
Seminar, University of York, UK
Seminar, Max Planck Institute-Plön, Germany

2016 Conference Symposium, British Ecological Society, Liverpool, UK
Conference Symposium, Society for General Microbiology, Liverpool, UK
Seminar, University of Alberta, Canada
Seminar, University of Cambridge, UK
Seminar, University of Helsinki, Finland
Seminar, University of British Columbia, Canada
Seminar, University of London Queen Mary, UK
Seminar, University of Oxford, UK
Seminar, Stokes Society, University of Cambridge, UK
Seminar, University of Kiel, Germany

Leadership Activities (only showing 2013-present):

I am on four editorial boards for top evolutionary biology journals and have acted as the lead organizer for three international conference symposia and four specialist seminar series.

2023-present Co-Director of PrePARE Cluster
2022-2025 Associate Editor, *Evolution Letters*
2022-2025 Associate Editor, *Molecular Ecology*
2021-2022 Organising specialist issues in *Philosophical Transactions of the Royal Society* ('Impact of Environment on Infectious Disease Evolution') and *iScience* ('Evolutionary genomics of host-microbial interactions')
2020-2023 Editorial Board, *Advances in Parasitology*
2019 Reviewing Editor, *eLife*
2017-2021 Council Member, ESEB
2017-2022 Editorial Board, *Biology Letters*
2017-2020 Associate Editor, *Evolution*
2017 Symposium Organiser, ESEB Conference – '*Evolution across the mutualist-parasite continuum*'
2016 Committee Advisor for BES '*Microbial Ecology*' Special Interest Group
Symposium Organiser, BES Conference - '*Worlds within worlds: host-microbe interactions in nature, agriculture, and medicine*'
2015-2022 Associate Editor, *BMC Evolutionary Biology*
2014-2022 Reviewing Editor, *Journal of Evolutionary Biology*
2013 Symposium Organiser, European Society for Evolutionary Biology Conference –

2013 *'Evolution and ecology of symbiotic interactions in communities: novel approaches'*
Lead Organiser, Ecology and Evolution of Parasites and Symbionts seminars, Oxford

Supervision:

I have supervised ten post-doctoral researchers, 13 doctoral students, two technicians, and numerous undergraduate research projects. My PhD students have been funded through the Biotechnology and BioSciences Research Council (BBSRC), Natural Environment Research Council (NERC), Engineering and Physical Sciences Research Council (EPSRC), and the Studienstiftung des deutschen Volkes. To date, all post-doctoral researchers, PhD students, and most undergraduates have pursued careers in science. In addition to internal prizes and scholarships, my lab group members have received awards from American Society of Naturalists, National Geographic, the Royal Society of London, and the Microbiology Society UK.

Post-doctoral researchers/fellows:

Dr. Duhita Sant (2022-2023), NERC PDRA

Dr. Tobias Hector (2021-2026), Leverhulme Prize PDRA and NERC PDRA

Dr. Kim Hoang (2020-2023), NSF Fellow and JRF at Kellogg College

Dr. Emily Stevens (2019-2024), ERC PDRA and JRF at Linacre College

Dr. Georgia Drew (2019-2024), ERC PDRA and JRF at Sommerville College

Dr. Kieran Bates (2019-2023), Leverhulme Prize PDRA and St. Hilda's Junior Research Fellow

Dr. Andrea Gomez-Chamorro (2019-2021), SNSF Fellow

Dr. Suzanne Ford (2018-2020), Wellcome Trust PDRA

Dr. Charlotte Rafaluk-Mohr (2014-2020)

Dr. Alex Betts (2017-2018), St. Hilda's College Junior Research Fellow
Dr. Crystal Frost (2012-2015), NERC PDRA

Postgraduates:

Main advisor

Samuel Greenrod (2022-2025), BBSRC DPhil

Jingdi Li (2020-2023), Pembroke College DPhil

Victoria Pike (2018-2021), BBSRC DPhil

Alice Ekroth (2017-2020), NERC DPhil

Maria Ordovas-Montanes (2016-2020), BBSRC DPhil

Dylan Dahan (2016-2017), BBSRC MSc

Alex Betts (2014-2017), BBSRC DPhil

Suzanne Ford (2013-2016), EPSRC DPhil

Co-advisor

Luna Li (2022-2026), iCASE BBSRC DTP with Alison Woollard (Biochemistry)

Carla Wagener (2021-2025), NERC DTP with Sarah Knowles (Biology)

Emily Baker (2019-2023), BBSRC DTP with Alison Woollard (Biochemistry)

Signe Lagecrantz (2018-2023), BBSRC DTP with Kevin Foster (Biochemistry)

Steve Parratt (2010-2013), NERC co-advised by Prof. Greg Hurst (Liverpool)

Technicians:

Juli Cohen (2023-2025), NERC funded

Jordan Sealey (2017-2019), Leverhulme Trust

Teaching:

- 2013-2023 Senior Biology Tutor, Christ Church College (6hr/week tutorial hours)
- Co-director of 3rd year Infectious Disease Biology course. subjects: virulence, microbiome, environment, epidemiology
 - tutorial subjects: ecology, evolution, organisms, disease, statistics
 - lecture subjects in 2nd year Evolution course: sex, coevolution, virulence - lecture subjects in 1st year Ecology and Evolution course: coevolution, adaptation, sex, essay writing
 - postgraduate lectures on the ecology and evolution of species interactions for NERC and BBSRC doctoral programs
- 2021 Post-graduate Discussion reading group, 'Calling Bullshit'
Reverse Tutorials on race, gender, and inclusivity in science
- 2020 Post-graduate Discussion reading group, 'Superior'
- 2012 Field School Instructor, University of Liverpool
- 2008–2010 Guest lectures, Invertebrate Zoology, Indiana University
- 2007 Associate Instructor, Introductory Biology Laboratory, Indiana University
- 2006 Associate Instructor, Invertebrate Zoology, Indiana University; Tutor, Mathematics and Calculus, Concordia University
- 2004 Teaching Assistant, Advanced Biostatistics, Concordia University

Professional Service:

Journals American Naturalist, American Society of Microbiology, Biological Journal of Linnean Society, Biology Letters, BMC Biology, BMC Evolutionary Biology, BMC Microbiology, BMC Plant Biology, Cell Reports, Communications Biology, Current Biology, Ecological Entomology, EcoHealth, Ecological Applications, Ecology and Evolution, Ecology Letters, eLIFE, Emerging Infectious Diseases, Evolution, Evolutionary Applications, Evolutionary Biology, FEMS Microbiology Ecology, Frontiers in Genetics, Frontiers in Parasitology, Genetics, Global Change Biology, Heredity, Infection Genetics and Evolution, Insects, Integrative Zoology, International Journal for Parasitology, iScience, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Evolutionary Biology, Journal of Parasitology, Journal of Veterinary Research, Journal of Wildlife Diseases, Journal of Zoology, Marine Environmental Research, mBio, Microbiology, Molecular Ecology, Nature, Nature Communications, Nature Ecology & Evolution, Nature Scientific Reports, Naturwissenschaften, Oecologia, Oikos, Parasites and Vectors, Parasitology, Philosophical Transactions of the Royal Society, PLoS Biology, PLoS One, PLoS Pathogens, PNAS, PNAS Nexus, Proceedings of the Royal Society B, Science, Science Advances, Science of the Total Environment, Scientific Reports, The Lancet Planetary Health, Trends in Ecology and Evolution, Trends in Microbiology, Trends in Parasitology

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- 2023-present Committee member for nine students at UBC
- 2021-2023 Policy Committee member, European Society for Evolutionary Biology
- 2021 Promotion letters for colleagues at Princeton University, University of Exeter, University of York, University of Edinburgh, Queen Mary University of London

External evaluation for faculty candidates (National Taiwan University, Stockholm University, University of Liverpool)

2020-2023 Review Panel for Swedish Research Council

2018-2023 Review Panel for Schmidt Science Fellowships and Rhodes Scholarships Oxford

2013-2023 Internal Examiner on 21 DPhil/PhD Theses

External Examiner on eight PhD Theses

Committee member for 27 students at Oxford and Europe

Committee member for seven hiring panels

2016 Mentor for young women in science, British Ecological Society

2013 External examiner, Aquavit Symposium, Max-Planck Institute–Plön, Germany