

Philipp Hanno Boersch-Supan MRes PhD

Senior Ecological Statistician

British Trust for Ornithology
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I am a quantitative ecologist with an active interest in data analysis and Bayesian and frequentist inference approaches for models of biological systems. I am particularly interested in the interplay between dynamic environments and the foraging and life-history strategies of birds and marine animals. I develop open-source research software that generalizes solutions from my own work for the use in other fields. While my current work is largely computational, I have organized and conducted fieldwork in habitats from the tropics to the polar zones, and I enjoy working at the interface between science, policy, and society.

EDUCATION

2014	PhD in Marine Biology Pelagic Ecology Research Group, University of St Andrews Ocean Research and Conservation Group, University of Oxford
2011	Certificate in Oceanography Open University, Milton Keynes, United Kingdom
2010	Master of Research in Environmental Biology (Distinction) Universities of St Andrews and Dundee, United Kingdom
2008	Vordiplom in Chemistry (Distinction), Certificates in Biochemistry and Zoology Philipps-Universität Marburg, Germany

EMPLOYMENT AND ACADEMIC APPOINTMENTS

2018 –	British Trust for Ornithology, Thetford, UK Senior Ecological Statistician (2021 –) Ecological Statistician (2018 – 2021)
2016 – 2022	Department of Geography, University of Florida, Gainesville, FL Courtesy Research Faculty (2017 – 2022) Postdoctoral Associate (2016 – 2018)
2014 – 2017	Integrative Biology, University of South Florida, Tampa, FL Adjunct Instructor, Biostatistics (2017) Postdoctoral Research Scholar (2014 – 2016)
2013 – 2014	British Antarctic Survey, Cambridge, UK Zoological Analyst
2013	Freelance Consultant (Science Communication) Client: Global Ocean Commission, Oxford, UK
2005	Wadden Sea National Park of Lower Saxony, Germany Field Ornithologist/Park Warden

SKILLS

Software	Data analysis, visualisation, statistical modelling and package development in R, Stan, JAGS, custom samplers; spatial analysis with ArcGIS, GRASS, R; shell scripting; databases (Oracle, PostgreSQL); version control (git); \LaTeX ; basic knowledge of Python, MATLAB, C, and C++.
Field/Labwork	> 9 months of ornithological surveys; assisted in banding, tagging efforts; >100 days at-sea: fisheries acoustics, net & trawl sampling, remotely operated submersible surveys, stomach & otolith sampling of fish; DNA preparation, DNA barcoding.
Languages	English, German

PEER-REVIEWED PUBLICATIONS

33. **Boersch-Supan PH**, Lee ATK, Oschadleus HD (2023): *A demonstration of the value of recapture data for informing moult phenology models for species with imperfect moult data*. Ostrich [10.2989/00306525.2023.2248396](https://doi.org/10.2989/00306525.2023.2248396)
32. Oschadleus HD, **Boersch-Supan PH** (2023): *Sunning in Yellow Bishops Euplectes capensis*. Ostrich [10.2989/00306525.2023.2216375](https://doi.org/10.2989/00306525.2023.2216375)
31. Evans L, Melero Y, Schmucki R, **Boersch-Supan P**, Brotons L, Fontaine C, Jiguet F, Kuussaari M, Massimino D, Robinson R, Roy D, Schweiger O, Settele J, Stefanescu C, van Turnhout C, Oliver T (2023): *Mechanisms underpinning community stability along a latitudinal gradient: insights from a niche-based approach*. Global Change Biology [10.1111/gcb.16684](https://doi.org/10.1111/gcb.16684)
30. Barnes AE, Davies JG, Martay B, **Boersch-Supan PH**, Harris SJ, Noble DG, Pearce-Higgins JW, Robinson RA (2023): *Rare and declining bird species benefit most from designating protected areas for conservation in the UK*. Nature Ecology & Evolution [10.1038/s41559-022-01927-4](https://doi.org/10.1038/s41559-022-01927-4)
29. Hanmer HJ, **Boersch-Supan PH***, Robinson RA (2022): *Differential changes in lifecycle-event phenology provide a window into regional population declines*. Biology Letters [10.1098/rsbl.2022.0186](https://doi.org/10.1098/rsbl.2022.0186)
*corresponding author
28. Evans L, Melero Y, Schmucki R, **Boersch-Supan P**, Brotons L, Fontaine C, Jiguet F, Kuussaari M, Massimino D, Robinson R, Roy D, Schweiger O, Settele J, Stefanescu C, van Turnhout C, Oliver T (2022): *Bioclimatic context of species' populations determines community stability*. Global Ecology and Biogeography [10.1111/geb.13527](https://doi.org/10.1111/geb.13527)
27. Robinson O, Socolar J, Stuber E, Auer T, Berryman A, **Boersch-Supan P**, Brightsmith D, Burbidge A, Butchart S, Davis C, Dokter A, Di Giacomo A, Farnsworth A, Fink D, Hochachka W, Howell P, La Sorte F, Lees A, Marsden S, Martin R, Martin R, Masello J, Miller E, Moodley Y, Musgrove A, Noble D, Ojeda V, Quillfeldt P, Royle J, Ruiz-Gutierrez V, Tella J, Yorio P, Youngflesh C, Johnston A (2022): *Extreme uncertainty and unquantifiable bias do not inform population sizes*. Proceedings of the National Academy of Sciences. [10.1073/pnas.2113862119](https://doi.org/10.1073/pnas.2113862119)
26. Johnston DT, Thaxter C, **Boersch-Supan PH**, Humphreys E, Bouten W, Scragg ES, Masden EA, Barber LJ, Conway G, Clark NA, Burton NHK, Cook ASCP (2022): *Investigating avoidance and attraction responses in lesser black-backed gulls Larus fuscus to offshore wind farms*. Marine Ecology Progress Series [10.3354/meps13964](https://doi.org/10.3354/meps13964)
25. Woodward ID, Austin GE, **Boersch-Supan PH**, Thaxter CB, Burton NK (2022): *Assessing drivers of winter abundance change in Eurasian Curlews Numenius arquata in England and Wales*. Bird Study [10.1080/00063657.2022.2049205](https://doi.org/10.1080/00063657.2022.2049205)
24. **Boersch-Supan PH** (2021): *[Re] Modeling Insect Phenology Using Ordinal Regression and Continuation Ratio Models*. ReScience C [10.5281/zenodo.5006004](https://doi.org/10.5281/zenodo.5006004)
23. Nguyen KH*, **Boersch-Supan PH***, Hartman RB, Mendiola SY, Harwood VJ, Civitello DJ, Rohr JR (2021): *Interventions can shift the thermal optimum for parasitic disease transmission*. Proceedings of the National Academy of Sciences. [10.1073/pnas.2017537118](https://doi.org/10.1073/pnas.2017537118)
*joint corresponding authors
22. O'Brien DA, Taylor ML, Masonjones HD, **Boersch-Supan PH**, O'Shea OR (2021): *An experimental assessment of social tolerance and den ecology in a high-density octopus population*. Marine Biology 168:61 [10.1007/s00227-021-03865-4](https://doi.org/10.1007/s00227-021-03865-4)
21. Humphries EM, Austin GE, Frost T, Mellan H, **Boersch-Supan PH**, Burton NK, Balmer DE (2021): *Wader populations on the UK's open coast: results of the 2015/16 Non-Estuarine Waterbird Survey (NEWS-III) and a review of population trends*. Bird Study 67:371–384. [10.1080/00063657.2021.1884184](https://doi.org/10.1080/00063657.2021.1884184)
20. O'Brien DA, Taylor ML, Masonjones HD, **Boersch-Supan PH**, O'Shea OR (2020): *Drivers of Octopus briareus Robson abundance and density in a saltwater Bahamian lake: A 30-year comparison*. Journal of Experimental Marine Biology and Ecology. [10.1016/j.jembe.2020.151377](https://doi.org/10.1016/j.jembe.2020.151377)
19. **Boersch-Supan PH**, Trask AE, Baillie SR (2019): *Robustness of simple avian population trend models for semi-structured citizen science data is species-dependent*. Biological Conservation. [10.1016/j.biocon.2019.108286](https://doi.org/10.1016/j.biocon.2019.108286)

18. Isaac NJB, Jarzyna MA, Keil P, **Boersch-Supan PH**, Browning E, Dambly LI, Freeman SN, Golding N, Guillera-Arroita G, Henrys P, Jarvis S, Lahoz-Monfort J, Pagel J, Pescott OL, Schmucki R, Simmonds E, O'Hara RB (2019): *Data Integration for Large Scale Ecological Models of Species Distributions*. Trends in Ecology & Evolution. [10.1016/j.tree.2019.08.006](https://doi.org/10.1016/j.tree.2019.08.006)
17. **Boersch-Supan PH**, Johnson LR (2018): *Two case studies detailing Bayesian parameter inference for dynamic energy budget models*. Journal of Sea Research. [10.1016/j.seares.2018.07.014](https://doi.org/10.1016/j.seares.2018.07.014)
16. Youker-Smith E, **Boersch-Supan PH**, Gibbs J, Ryan SJ (2018): *Environmental drivers of Frog Virus 3 in free living amphibians in constructed ponds*. EcoHealth. [10.1007/s10393-018-1350-5](https://doi.org/10.1007/s10393-018-1350-5)
15. **Boersch-Supan PH**, Johnson LR, Phillips RA, Ryan SJ (2017): *Surface temperatures of albatross eggs and nests*. Emu - Austral Ornithology. [10.1080/01584197.2017.1406311](https://doi.org/10.1080/01584197.2017.1406311)
14. Ryan SJ, Lippi CA, **Boersch-Supan PH**, Heydari N, Silva N, Adrian J, Noblecilla LF, Ayala EB, Encalada M, Larsen DA, Krisher JT, Krisher L, Fregosi L, Stewart-Ibarra AM (2017): *Quantifying Seasonal and Diel Variation in Anopheline and Culex Human Biting Rates in Southern Ecuador*. Malaria Journal 16:479. [10.1186/s12936-017-2121-4](https://doi.org/10.1186/s12936-017-2121-4)
13. Johnson LR, **Boersch-Supan PH**, Phillips RA, Ryan SJ (2017): *Changing measurements or changing movements? Sampling scale and movement model identifiability across multiple generations of biologging technology*. Ecology and Evolution. [10.1002/ece3.3461](https://doi.org/10.1002/ece3.3461)
12. Sydeman WJ, Thompson SA, Anker-Nilssen T, Arimitsu M, Bennison A, **Boersch-Supan PH**, Bransome N, Boyd C, Crawford RJM, Daunt F, Furness R, Gianuca D, Gladics A, Koehn L, Lang J, Logerwell E, Morris T, Phillips EM, Provencher J, Punt A, Saraux C, Shannon L, Sherley R, Simeone A, Wanless R, Wanless S, Zador S (2017): *Best Practices for Assessing Forage Fish Fisheries - Seabird Resource Competition*. Fisheries Research 194:209-221 [10.1016/j.fishres.2017.05.018](https://doi.org/10.1016/j.fishres.2017.05.018)
11. Djurhuus A, **Boersch-Supan PH**, Mikalsen S, Rogers AD (2017): *Microbial biogeography traces water-mass features of a dynamic oceanic frontal system*. Royal Society Open Science 4:170033 [10.1098/rsos.170033](https://doi.org/10.1098/rsos.170033)
10. **Boersch-Supan PH**, Ryan SJ, Johnson LR (2016): *deBInfer: Bayesian inference for dynamic models in R*. Methods in Ecology and Evolution. [10.1111/2041-210X.12679](https://doi.org/10.1111/2041-210X.12679)
9. Borrelle SB, **Boersch-Supan PH**, Gaskin CP, Towns DR (2016): *Influences on seabird recolonization to offshore islands following predator eradication*. Oryx. [10.1017/S0030605316000880](https://doi.org/10.1017/S0030605316000880)
8. Rogers A, Alvheim O, Bemanaja E, Benivary D, **Boersch-Supan PH**, Bornman T, Cedras R, Du Plessis N, Gotheil S, Høines A, Kemp K, Kristiansen J, Letessier T, Mangar V, Mazungula N, Mørk T, Pinet P, Pollard R, Read J, Sonnekus T (2016): *Pelagic communities of the South West Indian Ocean seamounts: R/V Dr Fridtjof Nansen Cruise 2009-410*. Deep Sea Research II [10.1016/j.dsr2.2016.12.010](https://doi.org/10.1016/j.dsr2.2016.12.010)
7. **Boersch-Supan PH** (2016): *rucrdtw: Fast time series subsequence search in R*. Journal of Open Source Software 1(7):1-2 [10.21105/joss.00100](https://doi.org/10.21105/joss.00100)
6. Letessier TB, Meeuwig JJ, Cox MJ, **Boersch-Supan PH**, Brierley AS (2016): *Enhanced pelagic biomass around coral atolls*. Marine Ecology Progress Series 546:271–276 [10.3354/meps11675](https://doi.org/10.3354/meps11675)
5. **Boersch-Supan PH**, Rogers AD, Brierley AS (2015): *The distribution of pelagic scattering layers in the southwest Indian Ocean*. Deep Sea Research II [10.1016/j.dsr2.2015.06.023](https://doi.org/10.1016/j.dsr2.2015.06.023)
4. Letessier TB, De Grave S, **Boersch-Supan PH**, Kemp KM, Brierley AS, Rogers AD (2015): *Seamount influences on mid-water shrimps (Decapoda) and gnathophausiids (Lophogastridea) of the South-West Indian Ridge*. Deep Sea Research II [10.1016/j.dsr2.2015.05.009](https://doi.org/10.1016/j.dsr2.2015.05.009)
3. Laptikovskiy V, **Boersch-Supan PH**, Kemp KM, Letessier TB, Rogers AD (2015): *Cephalopods of the South-west Indian Ocean Ridge: a hotspot of extreme biological diversity and absence of endemism*. Deep Sea Research II [10.1016/j.dsr2.2015.07.002](https://doi.org/10.1016/j.dsr2.2015.07.002)
2. **Boersch-Supan PH**, Boehme L, Read JF, Rogers AD, Brierley AS (2012): *Elephant seal foraging dives track prey distribution, not temperature: Comment on McIntyre et al. (2011)*. Marine Ecology Progress Series 461:293–298 [10.3354/meps09890](https://doi.org/10.3354/meps09890)

1. Rogers AD, Tyler PA, Connelly DP, Copley JT, James R, Larter RD, Linse K, Mills RA, Naveira-Garabato A, Pancost RD, Pearce DA, Polunin NVC, German CR, Shank T, **Boersch-Supan PH**, Alker B, Aquilina A, Bennett SA, Clarke A, Dinley RJJ, Graham ACG, Green D, Hawkes JA, Hepburn L, Hilario A, Huvenne VAI, Marsh L, Ramirez-Llodra E, Reid WDK, Roterman CN, Sweeting CJ, Thatje S, Zwirgmaier K (2012): *The discovery of new deep-sea hydrothermal vent communities in the Southern Ocean and implications for biogeography*. PLoS Biology 10(1):e1001234 [10.1371/journal.pbio.1001234](https://doi.org/10.1371/journal.pbio.1001234)

FORTHCOMING PUBLICATIONS (MANUSCRIPTS AVAILABLE ON REQUEST)

- Preprint **Boersch-Supan PH**, Hanmer HJ, Robinson RA: *Bayesian inference for models of moult duration and timing*. arXiv [10.48550/arXiv.2205.12120](https://arxiv.org/abs/10.48550/arXiv.2205.12120)
- Preprint **Boersch-Supan PH**, Robinson RA: *Integrating structured and unstructured citizen science data to improve wildlife population monitoring*. bioRxiv [10.1101/2021.03.03.431294](https://doi.org/10.1101/2021.03.03.431294)
- Submitted Johnston D, Thaxter C, **Boersch-Supan P**, ... , Humphries L: *Flight heights obtained from GPS versus altimeters influence estimates of collision risk with offshore wind turbines in Lesser Black-backed Gulls*
Submitted to Movement Ecology

REPORTS, BOOK CHAPTERS, THESES

- 2023 O'Hanlon NJ, Harris SJ, Thaxter CB, **Boersch-Supan PH**, Robinson RA, Burton NHK: *Seabird population and demographic monitoring in the UK: a review and recommendations for future sampling*. BTO Research Report 748. British Trust for Ornithology, Thetford. 55pp.
- 2022 White TB, Amano T, **Boersch-Supan P**, Christie A, Freckleton R, Quinzin MC, Rezaie1 AM, Sutherland WJ, Yamashita H: *Gathering and Assessing Pieces of Evidence*. Chapter 2 in Sutherland WJ (Ed.) *Transforming Conservation - A Practical Guide to Evidence and Decision Making*, Open Book Publishers [10.11647/OBP.0321](https://doi.org/10.11647/OBP.0321)
- 2022 **Boersch-Supan PH**, Robinson RA. *Evaluating terrestrial bird trends for Welsh Statement Areas*. JNCC Report No. 716. JNCC, Peterborough. 86pp. jncc.gov.uk
- 2022 Mancini F, **Boersch-Supan PH**, Robinson RA, Harris M and Pocock MJO. *An introduction to model based data integration for biodiversity assessments*. JNCC, Peterborough. 30pp. ISBN 978-1-86107-639-7 jncc.gov.uk
- 2022 Macgregor CJ, **Boersch-Supan PH**, Burton NHK, Carss DN, Newson SE, Pearce-Higgins JW, Robinson RA, Taylor RC: *Informing decisions on lethal control of Cormorant and Goosander in Wales: scenarios from population viability modelling*. Report to Natural Resources Wales. 78pp.
- 2021 **Boersch-Supan PH**, Thaxter CB, Cook ASCP: *Appraisal and analysis of flight height data collected in the Firth of Forth on behalf of SSE Renewables*. Report to SSE. 44pp.
- 2021 Taylor RC, **Boersch-Supan PH**, Cooper J, O'Connell P, Wetherhill A, Bowgen K, Calladine J: *Results from the 2020/21 winter census of Cormorant and Goosander in Wales*. Report to Natural Resources Wales.
- 2020 **Boersch-Supan PH**: *Puffinus puffinus - Manx shearwater*. Species account in Keller V et al. (Eds.) *European Breeding Bird Atlas 2*, Lynx Edicions
- 2020 Taylor RC, Austin GE, **Boersch-Supan PH**, Bowgen K, Burton NHK, Calladine J, Noble D, Robinson RA: *2020/21 winter census of cormorant and goosander in Wales*. NRW Science Report. Natural Resources Wales. 23pp.
- 2020 Austin GE, Balmer DE, **Boersch-Supan PH**, Calbrade NA: *Analysis of Wetland Bird Survey (WeBS) Data for Lindisfarne National Nature Reserve: site and count sector-level trends winter 1993/94 to 2018/19*. BTO Research Report No. 729 (under contract with Natural England). British Trust for Ornithology, Thetford. 101pp.
- 2019 Woodward ID, Austin GE, Balmer DE, **Boersch-Supan PH**, Irwin CG, Scott MS, Thaxter C, Webb A, Burton NHK: *Improving Methods for Counting Dispersed Bird Populations: Urban Gull Case Study*. Report to DEFRA. British Trust for Ornithology, Thetford. 54pp.
- 2019 Hayhow DB, Eaton MA, Stanbury AJ, Burns F, Kirby WB, Bailey N, Beckmann B, Bedford J, **Boersch-Supan P**, Coomber F, Dennis E, Dolman S, Dunn E, Hall J, Harrower C, Hatfield

- J, Hawley J, Haysom K, Hughes J, Johns D, Mathews F, McQuatters-Gollop A, Noble D, O'Brien D, Outhwaite C, Parry M, Pearce-Higgins J, Prescott O, Powney G, Symes N, Weighell T, Williams J: *The State of Nature 2019*. The State of Nature partnership. United Kingdom. 108pp.
- 2019 Border JA, Calladine J, **Boersch-Supan PH**, Hunt M, Pearce-Higgins JW: *Correlates of change in breeding bird populations of the Peak District Moorlands from 1990 and 2004/5 to 2018*. Report to Moors for the Future Partnership. Edale, United Kingdom. 86pp.
- 2019 Border JA, Massimino D, Newson SE, **Boersch-Supan PH**, Hunt M, Pearce-Higgins JW: *Changes in moorland breeding birds of the Peak District Moorlands*. Report to Moors for the Future Partnership. Edale, United Kingdom. 50pp.
- 2019 **Boersch-Supan PH**: *Integrating data sources to better estimate avian population trends - A case study reconstructing the colonisation of Eastern England by Cetti's Warbler*. Report to JNCC. British Trust for Ornithology, Thetford, United Kingdom. 8pp.
- 2013 **Boersch-Supan PH**: *The ecology of scattering layer biota around Indian Ocean seamounts and islands*. PhD Thesis, University of St Andrews, UK, 219pp. hdl.handle.net/10023/11440
- 2012 **Boersch-Supan PH**, Webster CN: *Net sampling and acoustic surveys of deep-scattering layers and their interactions with seamounts* in Rogers AD, Taylor, MT (Eds.) Benthic biodiversity of seamounts in the southwest Indian Ocean Cruise report – R/V James Cook 066 – Southwest Indian Ocean Seamounts expedition – November 7th – December 21st, 2011 University of Oxford / NERC, 235pp.
- 2009 Rogers AD, Alvheim O, Bemanaja E, Benivary D, **Boersch-Supan PH**, Bornman T, Cedras R, Du Plessis N, Gotheil S, Hoines A, Kemp K, Kristiansen J, Letessier T, Mangar V, Mazungula N, Mørk T, Pinet P, Read J, Sonnekus T *Cruise Report "Dr. Fridtjof Nansen" Southern Indian Ocean Seamounts (IUCN/ UNDP/ ASCLME/ NERC /EAF Nansen Project 2009 Cruise 410) 12th November – 19th December, 2009*. International Union for the Conservation of Nature, Gland, Switzerland, 188pp.
- 2009 **Boersch-Supan PH**: *Gelatinous zooplankton distribution along the western Irish shelf-edge*. MRes Thesis, University of St Andrews, United Kingdom, 67pp.

PEER-REVIEWED RESEARCH SOFTWARE

- deBInfer Bayesian inference for differential equation models in R (with SJ Ryan, LR Johnson)
<https://cran.r-project.org/package=deBInfer> [R, C]
- rucrdtw Fast dynamic time warping algorithms for time-series data mining in R
<https://cran.r-project.org/package=rucrdtw> [R, C++]

OTHER SOFTWARE

- moultmlcmc Bayesian inference for avian moult phenology models
<https://github.com/pboesu/moultmlcmc> [R, Stan]
- ewp Regression models for underdispersed count data
<https://github.com/pboesu/ewp> [R, C++]
- seabirdeb Compiled bioenergetics models for seabirds
<https://github.com/pboesu/seabirdeb> [R, C]
- DEButilities Utility functions for dynamic energy budget models
<https://github.com/pboesu/DEButilities> [R]
- microclimloggers Data parsing functions for microclimate loggers such as iButtons (Work in progress)
<https://github.com/RyanLab/microclimloggers> [R]
- penguinwb Interface and analysis framework for a large database of penguin body mass records
Closed-source package for internal use at the British Antarctic Survey [R, SQL]
- cowsay Allows printing of character strings as messages/warnings/etc. with ASCII animals
Contributor. Lead developer: Scott Chamberlain <https://cran.r-project.org/package=cowsay> [R]

AWARDS AND SCHOLARSHIPS

2020	Software Sustainability Institute Fellowship (£3000)
2016	Enderby Trust Scholarship (\$5000, Travel to sub-Antarctic islands of New Zealand)
2010 – 2013	Doctoral Fellowship of the Cusanuswerk (€41,400)
2010 – 2013	Doctoral Fellowship of the German National Academic Foundation (non-stipendiary)
10/2011	Visiting Researcher Award, Rehbock Fund, Scripps Inst. of Oceanography Archives (\$ 2,100)
2009 – 2012	Hilton-Brown Scholarship (Fees), University of St Andrews (£ 10,500)
2009 – 2010	Scholarship to Study Abroad, German National Academic Foundation (€ 4,450)
2008 – 2009	Hölderlin-Scholarship, SAP AG and German National Academic Foundation (€ 5,000)
2008 – 2009	MRes Studentship (Fees), UK Natural Environment Research Council (£ 3,500)
2007 – 2010	Undergraduate Fellowship of the Cusanuswerk (non-stipendiary)
2006 – 2010	Undergraduate Fellowship of the German National Academic Foundation (€ 4800)

GRANTS AND RESEARCH CONTRACTS

2022 – 2023	A toolkit to inform and advance site-based conservation solutions for migratory marine birds Cambridge Conservation Initiative (£60,481); Co-I and BTO lead, PI: Maria Dias (BirdLife International)
12/2019	Research Contract: Lindisfarne NNR Low Tide and High Tide Bird Count Analyses Natural England (£15,775 ex VAT); Co-I with Graham Austin (BTO)
04/2015	Travel grant: Workshop on Seabird Fisheries Competition, Cape Town, South Africa Farallon Institute (\$ 500)
04/2015	Travel grant: Workshop on Computational Frameworks in Ecology, Durham, NC Statistical and Applied Mathematical Sciences Institute (\$ 1100)
07/2013	Conference travel grant: Deep-sea Fish Biology Symposium, Glasgow, UK Marine Alliance for Science and Technology for Scotland (£ 250)
05/2013	Small grant: Microsatellite genotyping of the hatchetfish <i>Argyropelecus aculeatus</i> Marine Alliance for Science and Technology for Scotland (£ 544)
12/2012	Small grant: Tuna-micronekton interactions in the Chagos Archipelago, Fisheries Society of the British Isles (£ 2,940)
11/2012	Fieldwork travel grant: Echosounder surveys in the Chagos Archipelago, Cusanuswerk (€ 2,369)
06/2010	Conference travel grant: Deep-sea Biology Symposium, Reykjavik, Iceland, German National Academic Foundation (€ 250)

INVITED TALKS AND SEMINARS

01/2020	"Integrating citizen science data to better estimate bird population dynamics" Statistics Seminar, University of Glasgow
11/2019	"Integrating citizen science data to estimate bird population trends" Workshop on integrated modelling approaches, UK Centre for Ecology and Hydrology
01/2019	"Monitoring bird populations through volunteer-collected observations" NERC Advanced Training Course "Statistical models for wildlife population assessment and conservation", University of Kent
04/2018	"Measuring and modelling the lives of ocean wanderers" Invited Seminar, British Trust for Ornithology
09/2017	"Measuring and modelling the lives of ocean wanderers" Geography Colloquium, University of Florida
03/2017	"Understanding determinants of albatross growth with dynamic energy budget theory" Mathematical Biology Seminar Series, Virginia Tech

- 03/2017 "Unravelling physiological and ecological determinants of albatross chick growth and survival"
Integrative Organismal Biology Seminar Series, Virginia Tech
- 07/2016 "Linking seabird energetics to population dynamics while propagating uncertainty across scales"
Gordon Research Seminar on Unifying Ecology Across Scales, Biddeford, ME
- 11/2014 "The Pelagic Ecology of Indian Ocean Seamounts and Islands"
Integrative Biology Seminar Series, University of South Florida, Tampa, FL
- 10/2011 "Pelagic sound scattering layers and trophic interactions around Indian Ocean seamounts"
NOAA Southwest Fisheries Science Center, La Jolla, CA, USA
- 06/2011 "Preliminary Results from *RV Nansen* Cruise 2009-410"
IUCN Indian Ocean Governance Workshop, Grahamstown, South Africa

CONTRIBUTED PRESENTATIONS

- 04/2023 **Boersch-Supan PH** "Modelling life cycle-event phenology using biometrics collected by citizen science ringers" (Talk)
EURING Analytical Meeting, Montpellier, France
- 06/2022 **Boersch-Supan PH** "Bayesian inference for categorical and censored regression models for phenological data" (Talk)
International Statistical Ecology Symposium, Cape Town, South Africa
- 11/2021 **Boersch-Supan PH** "Top-down and bottom-up approaches for regional biodiversity trend estimation" (Talk)
BOUsci21 - Developments in monitoring science
- 08/2021 **Boersch-Supan PH** "moult and moultmcmc: Inference for moult phenology models" (Talk)
AOS & SCO-SOC Virtual Meeting 2021
- 06/2021 **Boersch-Supan PH** "Categorical regression models for phenological data" (Talk)
Meeting of the National Centre for Statistical Ecology 2021
- 06/2021 **Boersch-Supan PH**, Hanmer HJ, Robinson RA "Bayesian inference for models of avian moult timing" (Poster)
EURING Analytical Meeting June 2021 [10.6084/m9.figshare.14601513.v2](https://doi.org/10.6084/m9.figshare.14601513.v2)
- 11/2020 Nguyen KH, **Boersch-Supan PH**, Harwood VJ, Rohr JR "Mismatches in thermal optima of *Schistosoma mansoni* and *Biomphalaria* spp. life-history traits shift the thermal optimum of schistosomiasis transmission under different intervention scenarios" (Talk)
American Society for Tropical Medicine and Hygiene annual meeting (virtual conference)
- 06/2020 **Boersch-Supan PH** "Integrating citizen science data sets to improve a national bird monitoring scheme" (Talk)
International Statistical Ecology Conference (virtual conference)
- 07/2019 **Boersch-Supan PH**, Trask A, Baillie S "Population trend estimation from semi-structured citizen science data" (Talk)
Meeting of the National Centre for Statistical Ecology 2019, Edinburgh, UK
- 04/2019 **Boersch-Supan PH**, Trask A, Baillie S "Population trend estimation from semi-structured citizen science data" (Talk)
EBCC Bird Numbers 2019, Evora, Portugal
- 09/2018 **Boersch-Supan PH**, Peat HJ, Trathan PN "Opportunistic central-place foraging in an otherwise rigid annual movement cycle" (Talk)
Seabird Group Conference 2018, Liverpool, UK
- 07/2018 **Boersch-Supan PH**, Peat HJ, Trathan PN "Determining the phenology of marked and unmarked seabirds from a very large force sensor data set" (Talk)
International Statistical Ecology Conference, St Andrews, UK
- 07/2018 **Boersch-Supan, PH** "Bayesian inference for bioenergetic models" (Poster)
British Ecological Society Quantitative Ecology SIG Meeting, St Andrews, UK

- 06/2018 **Boersch-Supan PH** "Counting and weighing penguins really fast with Rcpp" (Talk)
satRday, Cardiff, UK
- 06/2017 **Boersch-Supan PH**, Phillips RA, Ryan SJ, Johnson LR "Bayesian parameter estimation for Dynamic Energy Budget models of albatross growth" (Talk)
5th Symposium on Dynamic Energy Budget Theory, Tromsø, Norway
- 09/2016 **Boersch-Supan PH**, Phillips RA, Ryan SJ, Johnson LR "Unravelling physiological and ecological determinants of albatross chick growth" (Talk)
6th International Albatross and Petrel Conference, Barcelona, Spain
- 09/2016 Borrelle SB, **Boersch-Supan PH**, Gaskin CP, Towns DR: "Influences on seabird recolonization to offshore islands following predator eradication" (Talk)
6th International Albatross and Petrel Conference, Barcelona, Spain
- 06/2016 **Boersch-Supan PH** and Johnson LR "deBInfer: Bayesian inference for dynamic models in R" (Talk)
International Statistical Ecology Conference, Seattle, WA
- 06/2016 Johnson LR, **Boersch-Supan PH**, Ryan SJ, Phillips RA "Changing measurements of changing movements? Detecting movement patterns across multiple generations of tracking technology" (Poster)
International Statistical Ecology Conference, Seattle, WA
- 06/2016 Johnson LR and **Boersch-Supan PH** "deBInfer: Bayesian inference for dynamic models in R" (Poster)
International Society for Bayesian Analysis World Meeting, Sardinia, Italy
- 06/2016 Gajewski ZJ, Stevenson L, **Boersch-Supan PH**, Pike D, Roznik E, Johnson LR "Do strains of the amphibian chytrid fungus exhibit local adaptation?" (Poster)
14th Ecology and Evolution of Infectious Disease Meeting, Ithaca, NY
- 10/2015 **Boersch-Supan PH**, Peat HJ, Trathan PN "The timing of foraging, moult, and migration in breeding macaroni penguins" (Poster)
2nd World Seabird Conference, Cape Town, South Africa
- 10/2015 **Boersch-Supan PH**, Burgan S, Phillips RA, Ryan SJ, Johnson LR "Unravelling physiological and ecological determinants of albatross chick growth" (Talk)
2nd World Seabird Conference, Cape Town, South Africa
- 09/2015 Kemp KM, **Boersch-Supan PH**, Rogers AD "Pelagic fish community composition of the South West Indian Ocean ridge" (Talk)
14th Deep-sea Biology Symposium, Aveiro, Portugal
- 04/2015 **Boersch-Supan, PH**, Phillips, RA, Ryan, SJ, Johnson, LR "Modelling Albatross Bioenergetics and Foraging Behaviours" (Poster)
4th Symposium on Dynamic Energy Budget Theory, Marseille, France
- 04/2015 **Boersch-Supan, PH**, Phillips, RA, Ryan, SJ, Johnson, LR "Modelling Albatross Bioenergetics and Foraging Behaviours" (Poster)
SAMSI Workshop on Computational Frameworks in Ecology, Durham, NC
- 07/2013 **Boersch-Supan, PH**, Freer JJ, Brierley, AS, Rogers, AD "Topographic blockage contributes to the diet of Indian Ocean seamount fishes" (Talk)
FSBI Symposium 2013, Glasgow, UK
- 07/2013 Freer JJ, **Boersch-Supan, PH**, Rogers, AD "Population genetics of the hatchetfish *Argyropelecus aculeatus* in the southwest Indian Ocean" (Talk)
FSBI Symposium 2013, Glasgow, UK
- 10/2011 Bell C, **Boersch-Supan PH**, Rogers AD "Molecular Analysis of Larval Diversity in the South-west Indian Ocean Ridge" (Talk)
World Conference on Marine Biodiversity, Aberdeen, UK
- 10/2011 Rogers AD, **Boersch-Supan PH**, Kemp KM "High Seas Deep-Sea Fisheries in an Ecosystem Context: The South West Indian Ocean Ridge Project" (Digital Poster)
World Conference on Marine Biodiversity, Aberdeen, UK

- 03/2011 Bell C, **Boersch-Supan PH**, Rogers AD "Molecular Analysis of Larval Diversity in the South-west Indian Ocean Ridge" (Poster)
12th Student Conference on Conservation Science, Cambridge, UK
- 02/2011 Rogers AD, **Boersch-Supan PH**, Kemp KM "High Seas Deep-Sea Fisheries in an Ecosystem Context: The South West Indian Ocean Ridge Project" (Poster)
ZSL Symposium: Marine Protected Areas on the High Seas, London, UK
- 06/2010 **Boersch-Supan PH**, Read J, Brierley AS, Rogers AD "Distribution of epi- and mesopelagic scattering layers around Indian Ocean seamounts" (Talk)
12th Deep-sea Biology Symposium, Reykjavik, Iceland

PROFESSIONAL DEVELOPMENT AND WORKSHOP ATTENDANCE

- 06/2020 "Spatial modeling and visualization of species distribution and disease risk using R and INLA"
Workshop led by Paula Moraga at ISEC 2020
- 06/2020 "Stan for modern ecological modelling"
Workshop led by A. MacDonald, D. Simpson and V. Leos-Barajas at ISEC 2020
- 07/2018, 11/2019 "Data Integration for Large Scale Ecological Models"
Two workshops led by N. Isaac, Centre for Ecology and Hydrology, Wallingford, UK
- 03/2018 "Spatial Capture Recapture Models"
Workshop taught by A. Royle, A. Fuller, and R. Chandler, Banff, Canada
- 08/2017 "Software Carpentry Instructor Training"
- 06/2016 "Bayesian Decision Theory and Model Selection"
Workshop taught by M. Hooten, P. Williams, and T. Hefley, Seattle, WA
- 11/2015 "Guidelines and Best Practices to Determine Seabird-Fisheries Competition"
Department of Environmental Affairs, Cape Town, South Africa
- 08/2015 "Bayesian Modeling for Socio-Environmental Data"
National Socio-Environmental Synthesis Center, Annapolis, MD
- 04/2015 "Computational Frameworks for the Ecological Sciences"
Workshop combining software carpentry training and scientific case studies
Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC
- 02 – 04/2015 "8th International Course on Dynamic Energy Budget Theory"
University of South Florida and Centre International de Rencontres Mathématiques, Marseille, France
- 02/2014 "Agent-based Modelling", Oxford, UK
IT Learning Programme, University of Oxford
- 07/2011 "Applied Spatio-temporal Data Analysis with FOSS: R+OSGeo", Landau, Germany
Summer school taught by various R and GIS developers
- 06/2011 "Introduction to Bayesian Analysis and MCMC" and
"Hierarchical Modelling of Spatial and Temporal Data", Southampton, UK
Short courses taught by A. Gelfand (Duke University) and S. Sahu (University of Southampton)
- 11/2010 Taxonomic Workshop at the South African Institute of Aquatic Biodiversity
Identifying mesopelagic fishes and cephalopods and processing for curation.
- 09/2009 "Climate Modelling", Guidel, France
Summer School of the German National Academic Foundation

TEACHING

- 2019 – 2023 Guest Lecturer: Big Data in Conservation
Undergraduate level course in Applied Ecology, University of Cambridge
- 2019 – 2023 A Basic Introduction to Statistics for Conservation Science: Study Design and Analysis
Workshop at the Student Conference on Conservation Science, University of Cambridge
(The 2020 edition of this workshop was cancelled on short notice due to the COVID-19 pandemic)
- 2018 Guest Lecturer: Seabird Ecology
Undergraduate level course in Marine Biology, University of Essex

Fall 2017	<p>Helper: Data Carpentry Workshop</p> <p>Two day workshop on R, SQL, and OpenRefine for data management and analysis</p> <p>University of Florida Informatics Institute</p>
Fall 2017	<p>Guest Lecturer: Data Management for Biologists</p> <p>Graduate level course in Biology, University of South Florida</p>
Spring 2017	<p>Instructor of Record: Biometry</p> <p>Graduate level course in Biology, University of South Florida</p>
Fall 2015	<p>Guest Lecturer: Data Analysis for Scientists</p> <p>Graduate level course in Biology, University of South Florida</p>
Spring 2015	<p>Guest Lecturer: Mathematical Biology</p> <p>Graduate level course in Biology, University of South Florida</p>
2010 – 2014	<p>Tutor in Marine Ecology, Animal Adaptations and Statistics for Biologists</p> <p>This consisted of small group teaching (1-3 students per session) to cover lecture material in depth.</p> <p>Biological Sciences Undergraduate Programme, University of Oxford</p> <p>Oxford Overseas Studies Program, Stanford University</p>
2010	<p>Teaching Assistant: Statistics with R (Intensive Course for 1st year PhD students)</p> <p>Department of Zoology, University of Oxford</p>

MENTORING

Graduate	N Dowhaniuk (PhD-track, UF, 2016), S Burgan (MS-track, USF, 2014/2015), J Freer (MRes Oxford/Glasgow, 2012), C Bell (MSc, Oxford, 2011)
Undergraduate	K Nelson (USF, 2016), L Olivier (USF, 2015/2016), C Taylor (Oxford, 2012), L Sumner-Roney (Oxford, 2011)
High-School	O Hallett (Waynflete Programme, Magdalen College School Oxford, 2014), C Kloecker (Work experience student, Oxford 2012)
2004 – 2008	<p>Mentor at the Heidelberg Life-Science Lab (STEM Initiative of the German Cancer Centre)</p> <p><i>Coorganisor of International Science Academy Estonia 2007 and the Ornithological Wadden Sea Excursion 2006; Mentoring of high-school students for research projects and lab courses 2004 – 2007</i></p>

POLICY AND OUTREACH

2009 –	<p>Contribution of texts, photographs, and scientific visualisations to press releases and blogs</p> <p>Clients/media outlets included BTO, BBC Nature News, IUCN, Global Ocean Commission and various expedition blogs. Selected posts at pboesu.github.io/blog</p>
2018 –	<p>Member of the Technical Advisory Group for the State of Nature Partnership</p> <p>The State of Nature Partnership is lead by RSPB rspb.org.uk/stateofnature</p>
12/2017	<p>Public Outreach Lecture on Polar Seabirds (Invited Talk)</p> <p>Tampa Audubon Society, Tampa FL</p>
07/2017	<p>Co-presenter "Bringing Polar Research to your Classroom"</p> <p>National Science Teachers Association, STEM Forum, Orlando, FL</p>
02/2016	<p>Polar-ICE Science Communication Workshop</p> <p>Audubon Aquarium, New Orleans, LA</p>
02/2013	<p>Curation of an exhibition showcasing deep-sea habitats and biodiversity</p> <p>Launch event of the Global Ocean Commission, London, UK</p>
04/2012	<p>Workshop on Integrated Solutions for Synergistic Ocean Stresses and Impacts (Member of organising team)</p> <p>International Programme on the State of the Oceans, Oxford, UK</p>
06/2011	<p>Indian Ocean Governance Workshop (Invited Speaker)</p> <p>International Union for the Conservation of Nature, Grahamstown, South Africa</p>
04/2011	<p>Workshop on Ocean Stresses and Impacts (Member of organising team)</p> <p>International Programme on the State of the Oceans, Oxford, UK</p>

01/2010 Public Outreach Lecture on Deep-sea Research (Invited Talk)
Symposium on the History of Exploration, Darmstadt, Germany

FIELDWORK EXPERIENCE

2018 – Volunteer bird surveyor for various BTO and RSPB surveys

2014, 2015 Assisted in capture of seabirds for biollogger deployment and ring recoveries
Faroe Islands, with Dr. J. Danielsen, 1 Week

11 – 12/2012 Research cruise in the central Indian Ocean
MV Pacific Marlin, Chagos Archipelago, 3 Weeks

11 – 12/2011 Research cruise in the SW Indian Ocean
RRS James Cook and *ROV KIEL6000*, Cruise JCO66/67, SW Indian Ocean, 7 Weeks

2009 Research cruises in the NE Atlantic and SW Indian Ocean
RV Celtic Explorer, Cruise CE0911, Porcupine Seabight, 2 Weeks
RV Dr. Fridtjof Nansen, Cruise 2009-410, SW Indian Ocean, 6 Weeks

04 – 12/2005 Ornithological Field Surveys on Langeoog Island
Wadden Sea National Park of Lower Saxony, Germany
Breeding bird territory mapping; shorebird roost counts; beached bird surveys.

SERVICE AND PROFESSIONAL SOCIETIES

Editorial Service Animal Conservation (Senior Editor since 2021; Associate Editor 2018–2021)

Journal Review Acta Tropica, Animal Conservation, Biodiversity and Conservation, Biological Reviews, Biology Letters, Deep-Sea Research I, Ecological Applications, Epidemics, Ibis, Journal of Applied Ecology, Journal of Open Research Software, Journal of Open Source Software, Marine Ecology Progress Series, Methods in Ecology and Evolution, Movement Ecology, PeerJ, PLoS ONE, Progress in Oceanography, ReScience, Royal Society Open Science

Grant Review French National Polar Program, British Ecological Society Research and Outreach Grants

Member National Centre for Statistical Ecology, The Seabird Group, British Ecological Society, American Ornithological Society