

# Philipp Hanno Boersch-Supan MRes PhD

Quantitative Ecologist

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I am a quantitative ecologist with a background in marine ecology and an active interest in data analysis and Bayesian and frequentist inference approaches for mechanistic models of biological systems. I am particularly interested in the interplay between dynamic environments and the foraging and life-history strategies of 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 exclusively computational, I have organized and conducted fieldwork in marine 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 & ACADEMIC APPOINTMENTS

04/2018 –	Ecological Statistician British Trust for Ornithology, Thetford, UK
2016 – 2018	Postdoctoral Associate & Courtesy Research Faculty Department of Geography, University of Florida, Gainesville, FL
2017	Adjunct Instructor Integrative Biology, University of South Florida
2014 – 2016	Postdoctoral Research Scholar Integrative Biology, University of South Florida, Tampa, FL
2013 – 2014	Zoological Analyst Predator Group, Ecosystems Programme, British Antarctic Survey, Cambridge
2013	Freelance Consultant (Science Communication) Client: Global Ocean Commission, Oxford
2005	Field Ornithologist/Park Warden Wadden Sea National Park of Lower Saxony, Germany

## SKILLS

Software	Data analysis, visualisation, statistical modelling and package development in R; Bayesian inference with Stan, JAGS, and custom samplers; spatial statistics, geodata handling, mapping and survey planning with ArcGIS, GRASS, R, netCDF Operators and GMT; shell scripting in UNIX and Windows; databases (Oracle, PostgreSQL); version control (git); $\text{\LaTeX}$ ; basic knowledge of Python, MATLAB, C, and C++.
Fieldwork	> 9 months of ornithological surveys; assisted in banding and tagging efforts; >100 days of at-sea surveys: fisheries acoustics, net & trawl sampling, remotely operated submersible surveys, stomach & otolith sampling of fish; clean driving license.
Molecular	DNA preparation, DNA barcoding.

Languages English, German

## PEER-REVIEWED PUBLICATIONS

- In press **Boersch-Supan PH**, Johnson LR, Phillips RA, Ryan SJ: *Surface temperatures of albatross eggs and nests*. *Emu - Austral Ornithology*. Preprint: [pboesu.github.io/in-press](https://pboesu.github.io/in-press)
- In press 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: *Quantifying Seasonal and Diel Variation in Anopheline and Culex Human Biting Rates in Southern Ecuador*. *Malaria Journal*. Preprint: [10.1101/192773](https://doi.org/10.1101/192773)
- 2017 Johnson LR, **Boersch-Supan PH**, Phillips RA, Ryan SJ: *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)
- 2017 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: *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)
- 2017 Djurhuus A, **Boersch-Supan PH**, Mikalsen S, Rogers AD: *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)
- 2016 **Boersch-Supan PH**, Ryan SJ, Johnson LR. *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)
- 2016 Borrelle SB, **Boersch-Supan PH**, Gaskin CP, Towns DR: *Influences on seabird recolonization to offshore islands following predator eradication*. *Oryx*. [10.1017/S0030605316000880](https://doi.org/10.1017/S0030605316000880)
- 2016 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 *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)
- 2016 **Boersch-Supan PH** *rucrdtw: Fast time series subsequence search in R*. *The Journal of Open Source Software* 1(7):1-2 [10.21105/joss.00100](https://doi.org/10.21105/joss.00100)
- 2016 Letessier TB, Meeuwij JJ, Cox MJ, **Boersch-Supan PH**, Brierley AS: *Enhanced pelagic biomass around coral atolls*. *Marine Ecology Progress Series* 546:271–276 [10.3354/meps11675](https://doi.org/10.3354/meps11675)
- 2015 **Boersch-Supan PH**, Rogers AD, Brierley AS: *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)
- 2015 Letessier TB, De Grave S, **Boersch-Supan PH**, Kemp KM, Brierley AS, Rogers AD: *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)
- 2015 Laptikovsky V, **Boersch-Supan PH**, Kemp KM, Letessier TB, Rogers AD: *Cephalopods of the Southwest 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)
- 2012 **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)
- 2012 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)

- |           |  |
|-----------|--|
| Submitted | <b>PH Boersch-Supan</b> , LR Johnson: <i>A tutorial on Bayesian inference for dynamic energy budget models</i> . Submitted to the Journal of Sea Research.   |
| Submitted | SB Borrelle, HP Jones, <b>PH Boersch-Supan</b> , DR Towns: <i>Seabird island nitroscapes: predictors of the distribution of seabird nutrient enrichment in soils and leaves</i> . Submitted to the New Zealand Journal of Ecology. |
| Submitted | Youker-Smith E, <b>Boersch-Supan PH</b> , Gibbs J, Ryan SJ: <i>Environmental drivers of Frog Virus 3 in free living amphibians in constructed ponds</i> . Submitted to EcoHealth.  |

### ONGOING ANALYSES

A portfolio showcasing selected data analysis and software projects can be found at [pboesu.github.io/portfolio](https://pboesu.github.io/portfolio).

- Hierarchical parameter inference for dynamic energy budget models of seabirds  
 Lead: PH Boersch-Supan; with LR Johnson (VirginiaTech), SJ Ryan (UF), RA Phillips (British Antarctic Survey)  
 Approach: Bayesian inference for differential equation models with Stan and custom MCMC samplers.
- Foraging and migration phenology and provisioning strategies of macaroni penguins  
 Lead: PH Boersch-Supan; with PN Tratham and HJ Peat (British Antarctic Survey)  
 Approach: Supervised classification of massive dataset; Phenological curve fitting, hurdle models for repeated measures data, errors-in-variables GLMMs (Bayesian estimation with Stan)
- Effects of burrowing seabirds on plant communities and soil nutrient distributions on seabird islands  
 Lead: SB Borrelle (Auckland University of Technology/Northern New Zealand Seabird Trust)  
 Approach: Spatially explicit GLMs, model-based analysis of environment-trait associations (ML estimation)
- Temperature dependence of life-history traits in the human parasite *Schistosoma mansoni*  
 Lead: K Nguyen (University of South Florida)  
 Approach: Zero-inflated GLMMs for repeated measures data (ML estimation with glmmTMB)

### PEER-REVIEWED RESEARCH SOFTWARE

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

### OTHER RESEARCH SOFTWARE

- |                  |  |
|------------------|--|
| seabirdeb        | Compiled bioenergetics models for seabirds (Work in progress)<br><a href="https://github.com/pboesu/seabirdeb">https://github.com/pboesu/seabirdeb</a> [R, C]                                    |
| microclimloggers | Data parsing functions for microclimate loggers such as iButtons (Work in progress)<br><a href="https://github.com/RyanLab/microclimloggers">https://github.com/RyanLab/microclimloggers</a> [R] |
| penguinwb        | Interface and analysis framework for a large database of penguin body mass records<br>Closed-source package for internal use at the British Antarctic Survey [R, SQL]                            |

## REPORTS AND THESES

- 2013 **Boersch-Supan PH**  
*The ecology of scattering layer biota around Indian Ocean seamounts and islands.* PhD Thesis, University of St Andrews, United Kingdom, 219pp. <http://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.

## AWARDS AND SCHOLARSHIPS

- 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 Institution 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

- 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 *Argyropelecus aculeatus*  
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

- 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

- 06/2017 **Boersch-Supan, PH**, Phillips, RA, Ryan, SJ, Johnson, LR "Bayesian parameter estimation for Dynamic Energy Budget models of albatross growth" (Talk)  
5<sup>th</sup> 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)  
6<sup>th</sup> 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)  
6<sup>th</sup> 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)  
14<sup>th</sup> 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)  
2<sup>nd</sup> 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)  
2<sup>nd</sup> 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)  
14<sup>th</sup> Deep-sea Biology Symposium, Aveiro, Portugal

- 04/2015 **Boersch-Supan, PH**, Phillips, RA, Ryan, SJ, Johnson, LR "Modelling Albatross Bioenergetics and Foraging Behaviours" (Poster)  
4<sup>th</sup> 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 Southwest 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 Southwest Indian Ocean Ridge" (Poster)  
12<sup>th</sup> 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)  
12<sup>th</sup> Deep-sea Biology Symposium, Reykjavik, Iceland

#### WORKSHOPS AND INFORMAL TRAINING

- 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 "8<sup>th</sup> 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**

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

**MENTORING**

- Graduate Nicholas Dowhaniuk (PhD-track, Research Assistant at UF, 2016)  
Sarah Burgan (MS-track, Research Assistant at USF, 2014/2015)  
Jennifer Freer (MRes at Oxford/Glasgow, 2012)  
Celia Bell (MSc at Oxford, 2011)
- Undergraduate Kaleigh Nelson (USF, 2016)  
Luc Olivier (USF, 2015/2016)  
Chris Taylor (Oxford, 2012)  
Lauren Sumner-Roney (Oxford, 2011)
- High-School Owen Hallett (Waynflete Programme, Magdalen College School Oxford, 2014)  
Clara Kloecker (Work experience student, Oxford 2012)
- 2004 – 2008 Mentor at the Heidelberg Life-Science Lab (STEM Initiative of the German Cancer Centre)  
*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*

**POLICY AND OUTREACH**

- 2009 – Contribution of texts, photographs, and scientific visualisations to press releases and blogs  
Clients/media outlets included BBC Nature News, International Union for the Conservation of Nature, Global Ocean Commission and various expedition blogs. Selected posts at [pboesu.github.io/blog](https://pboesu.github.io/blog)
- 12/2017 Public Outreach Lecture on Polar Seabirds (Invited Talk)  
Tampa Audubon Society, Tampa FL
- 07/2017 Co-presenter "Bringing Polar Research to your Classroom"  
National Science Teachers Association, STEM Forum, Orlando, FL
- 02/2016 Polar-ICE Science Communication Workshop  
Audubon Aquarium, New Orleans, LA

02/2013	Curation of an exhibition showcasing deep-sea habitats and biodiversity Launch event of the Global Ocean Commission, London, UK
04/2012	Workshop on Integrated Solutions for Synergistic Ocean Stresses and Impacts (Member of organising team) International Programme on the State of the Oceans, Oxford, UK
06/2011	Indian Ocean Governance Workshop (Invited Speaker) International Union for the Conservation of Nature, Grahamstown, South Africa
04/2011	Workshop on Ocean Stresses and Impacts (Member of organising team) International Programme on the State of the Oceans, Oxford, UK
01/2010	Public Outreach Lecture on Deep-sea Research (Invited Talk) Symposium on the History of Exploration, Darmstadt, Germany

### FIELDWORK EXPERIENCE

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 <i>MV Pacific Marlin</i> , Chagos Archipelago, 3 Weeks
11 – 12/2011	Research cruise in the SW Indian Ocean <i>RRS James Cook</i> and <i>ROV KIEL6000</i> , Cruise JCO66/67, SW Indian Ocean, 7 Weeks
2009	Research cruises in the NE Atlantic and SW Indian Ocean <i>RV Celtic Explorer</i> , Cruise CE0911, Porcupine Seabight, 2 Weeks <i>RV Dr. Fridtjof Nansen</i> , 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 Daily surveys of waterfowl, shorebirds, raptors and passerines during the breeding season; bi-monthly counts of roosting shorebirds in salt marsh, beach, and urban habitats; bi-monthly beached bird surveys.

### SERVICE AND PROFESSIONAL SOCIETIES

Journal Review	Marine Ecology Progress Series, Animal Conservation, Biological Reviews, PLoS ONE, Deep-Sea Research I, ReScience, Journal of Open Source Software, Journal of Open Research Software
Grant Review	French National Polar Program, British Ecological Society Research and Outreach Grants
Member	The Seabird Group, British Ecological Society, The Oceanography Society, Association for the Sciences of Limnology and Oceanography, Fisheries Society of the British Isles