

Research Profile

I am a macroecologist specialised in remote sensing applications and spatio-temporal analyses of biodiversity dynamics. I use quantitative tools to research ecosystem resilience, vegetation dynamics, and patterns of landscape-scale biodiversity to understand past, present, and future trajectories of natural ecosystems.

Education

PhD in Biology; Specialisation on Ecoinformatics and Biodiversity

AARHUS UNIVERSITY & OXFORD UNIVERSITY

Species association and interaction networks;
Extinction debt consequences

Aarhus, Denmark
Oxford, United Kingdom

01/2020 - PRESENT

7th Edition Species Distribution Modelling Course

UNIVERSITY OF ÉVORA, SCIENCE RETREATS

Theoretical underpinnings of ecological niche models
Strengths and limitations of ecological niche models in the context of different uses
Design an ecological niche modelling study for a variety of uses
Ecological niche modelling using SDM R.

Évora, Portugal
26/04/2021 - 02/05/2021

Modelling Challenges for Mountain Ecosystems

UNIVERSITY OF HAMBURG

Addressing issues of limited data availability, data bias of unknown magnitude, poor availability of reference studies
Statistical Modelling of Climate Parameters
Modelling the Ecological Niche of a Treeline Species.

Hamburg, Germany
23/02/2020 - 28/02/2020

M.Sc. in Biology; Specialisation on Biodiversity, Ecology and Evolution

UNIVERSITY OF BERGEN (UiB)

08/2019 Graduation from UiB (M.Sc., overall grade: A)
08/2018 - 07/2019 Master's Thesis at UiB & Nansen Environmental and Remote Sensing Center:
"Inferring Vegetation Memory from Remote Sensing Data and identifying Causal Links to Plant Function" (grade: First/A)

Bergen, Norway
08/2017 - 08/2019

Plant Functional Traits Course 3

UNIVERSITY OF BERGEN (UiB), UNIVERSITY OF ARIZONA (UoA)

Introduction to plant functional trait based ecology;
Collecting plant functional trait data in the field;
Developing data management skills;
Assessing the impact of fire regimes on the Puna grasslands of the Peruvian Andes

Wayquecha Biological Station, Peru
08/03/2018 - 24/03/2018

Bayesian Modelling Summer School

NORWEGIAN UNIVERSITY OF LIFE SCIENCES (NMBU)

Introduction to the concepts of Bayesian statistics (priors, likelihoods, etc.);
Sampling methods (Markov Chain Monte Carlo, rejection sampling, etc.);
Bayesian modelling and hierarchical Bayesian models

Lygra, Norway
25/10/2017 - 29/10/2017

B.Sc. in Biology

TECHNICAL UNIVERSITY DRESDEN (TUD) / UNIVERSITY OF BERGEN (UiB)

07/2017 Graduation from TUD (Diploma/B.Sc., overall grade: 1.7)
09/2016 - 02/2017 Bachelor's Thesis at UiB (via ERASMUS):
"Remote Sensing And Predicting Shifts In Biome Distribution And Resilience Using NDVI Data" (grade: First/A)
08/2015 - 12/2015 Studies at UiB (via ERASMUS)

Dresden, Germany / Bergen, Norway
10/2013 - 07/2017

Experience

Research station co-manager

SPATIAL AND POPULATION ECOLOGY, UNIVERSITY OF GLASGOW

- Scientific consultant/advisor for selected course activities on-site
- Visitor introduction and orientation
- Visitor management
- Outreach to local communities
- Research station maintenance
- Converting croft to research station

Scoraig, Scotland

06/2019 - PRESENT

Research fellow

ECOLOGICAL AND ENVIRONMENTAL CHANGE RESEARCH GROUP, UNIVERSITY OF BERGEN

- Global dryland vegetation memory research
- Funded via Fast-Track-Initiative programme (see Honours & Awards)

Bergen, Norway

09/2019 - 12/2019

Research and Teaching Assistant

BEHAVIOURAL ECOLOGY RESEARCH GROUP, UNIVERSITY OF LEIPZIG

- Analysing primate odour profiles
- Assessing a variety of statistical methods for analytical power in identifying odour effects
- Generating data with various implemented odour effects on which to test the methods

Leipzig, Germany

08/2017 - 08/2019; 03/2017 - 04/2017

Research and Outreach Assistant

PRIMATE RESEARCH CENTRE, UNIVERSITY OF KYOTO

- Collecting faecal & recording behaviour samples of Japanese macaques
- Analysing behavioural interactions via network analyses
- Creating a text-based adventure game about behavioural studies

Nagata/Inuyama, Japan

07/2018

Research Assistant

GERMAN CENTRE FOR MARINE BIODIVERSITY RESEARCH (DZMB), SENCKENBERG GROUP

- Sorting benthos samples and meiofauna taxa
- Researching trophic networks between Antarctic meio- and macrobenthos over time via stable isotope analyses

Wilhelmshaven, Germany

05/2017 - 07/2017

Student Assistant

BOTANICAL INSTITUTE, TECHNICAL UNIVERSITY DRESDEN (TUD)

- Mapping distribution of moss species throughout the Elbsandsteingebirge

Dresden, Germany

05/2016 - 08/2016; 02/2015 - 08/2015

Student Assistant

ZOOLOGICAL COLLECTION, TECHNICAL UNIVERSITY DRESDEN (TUD)

- Restructuring the collection & carrying out a regular stocktaking

Dresden, Germany

04/2016 - 05/2016; 11/2013 - 08/2015

Ranger & Tour Guide

NATIONAL PARK SAXON-BOHEMIAN SWISS

- Conducting programmes concerning environmental and biodiversity education

Saxony, Germany

04/2016 - 06/2016

Teaching & Supervision Activity

Author & Lecturer: Excursions into Biostatistics

 [GitHub Repository](#)

SEMINAR SERIES

A diverse range of talks concerning biostatistics including (but not limited to) overviews of classification and regression methods as well as their application in R, statistical significance and the p-value conundrum, model selection and validation, coding practices, and basic statistical terminology.

Author & Lecturer: An Introduction to Biostatistics Using R

 [GitHub Repository](#)

TALK SERIES

An introductory biostatistics course for undergraduate and graduate students consisting of 13 lectures which provide an overview of the fundamentals of basic biostatistical methods and their application in R. The theoretical aspects of the course series are supplemented with hands-on exercises on a simulated data set of house sparrow morphology across the globe to simulate a coherent research project throughout the duration of the course.

Teaching Assistant

Aarhus University

APPLIED STATISTICS

22/03/2021 - 14/05/2021

- Assistance for B.Sc. students in solving exercises in the R and RCommander software environments

Teaching Assistant

Aarhus University

STATISTICAL AND GEOSPATIAL MODELLING

03/09/2020 - 18/12/2020

- Assistance for M.Sc. students in solving exercises in the R software environment
- Grading of student assignments

Teaching Assistant

Aarhus University

GEOSPATIAL INFORMATION SYSTEMS

27/10/2020 - 18/12/2020

- Assistance for B.Sc. and M.Sc. students in solving exercises pertaining to GIS software
- Grading of student assignments

Author

Aarhus University

BIOLOGICAL RESEARCH IN THEORY AND PRAXIS (BFTP)

- Project resources for biome classification analyses from NDVI data
- RMarkdown introductions to spatial ecology & k-cluster analyses

Instructor & Advisor

Aarhus University

ECOINFORMATICS & BIODIVERSITY MASTERS SEMINARS (EBMS)

03/02/2021 - 05/05/2021

- Feedback to student presentations
- Resources, presentations, and advisorship concerning biostatistics
- Arrangements for invited speaker presentations

Extracurricular Activity

Member: Statistics Journal Club

Glasgow, Scotland

UNIVERSITY OF GLASGOW

10/03/2021 - PRESENT

- Discussion of recent publications in the field of biostatistics

Member: Spatial Shared-Interest Group

Glasgow, Scotland

UNIVERSITY OF GLASGOW

10/03/2021 - PRESENT

- Discussion of recent publications, methodological developments, and ongoing research in the field of spatial ecology

Leader: AU Bayes Study Group

AARHUS UNIVERSITY

Aarhus, Denmark

19/11/2020 - PRESENT

- Introduction to the concepts of Bayesian statistics (priors, likelihoods, etc.)
- Sampling methods (Markov Chain Monte Carlo, rejection sampling, etc.)
- Bayesian modelling and hierarchical Bayesian models
- Using published literature as tutorials

Member: Bayes Study Group

UNIVERSITY OF BERGEN

Bergen, Norway

09/2018 - 12/2019

- Understanding Bayesian statistics in theory and practice
- Using published literature as tutorials

Member: EECRG Reading Group

UNIVERSITY OF BERGEN

Bergen, Norway

10/2017 - 12/2019

- Proof-reading other students'/researchers' writing
- Providing own writing to be proof-read

Tutor: BiOrakel Team

CENTRE OF EXCELLENCE IN BIODIVERSITY EDUCATION (BIOCEED), UNIVERSITY OF BERGEN

Bergen, Norway

08/2017 - 07/2018

- Answering study-topic related questions from students
- Tutoring students on how to use statistical programmes
- Explaining how to do proper referencing

Core Member: Students Council of Biology Studies at the TUD

TECHNICAL UNIVERSITY OF DRESDEN

Dresden, Germany

10/2013 - 10/2015

- Student coordinator of exchange programs

Honours & Grants & Awards

SCHOLARSHIPS & GRANTS

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|----------------------|--|-----------------|
| 10/2020 | Scholarship for Academically Excellent Students , Frands Christian Frantsen's Scholarship | Aarhus, Denmark |
| 03/2019 | Funding for Particularly Talented Students , Lina Asbjørnsens Stipendiefond | Bergen, Norway |
| 02/2019 | Fast-Track-Initiative Funding , FTI, Bjerknessenteret | Bergen, Norway |
| 03/2018 - 08/2019 | Project Grant , L. Meltzers Høyskolefond | Bergen, Norway |
| 03/2018 - 08/2019 | Scholarship , German Academic Scholarship Foundation (Studienstiftung des deutschen Volkes) | Bonn, Germany |

AWARDS

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|---------|--|-------------------|
| 10/2019 | Best Poster: Student and Early Career Researcher , International Society for Ecological Modelling | Salzburg, Austria |
| 10/2019 | Modeller's Choice Poster Award , International Society for Ecological Modelling | Salzburg, Austria |

Talks

KrigR - The R Package

Hamburg, Germany

Sydney, Australia

SPEAKER, AK KLIMA INTERIMSTREFFEN

25/03/2021

26/03/2021

- Introducing the KrigR R Package
- Era5(-Land) download functionality
- Geostatistical downscaling (kriging) of spatial products

KrigR - Climate Data For Your Spatial Study

INVITED SPEAKER, SALGO TEAM, UNIVERSITY OF OXFORD

SPEAKER, INTERNATIONAL STATISTICAL ECOLOGY CONFERENCE 2020

- Introducing the KrigR R Package
- Climate data products
- Era5(-Land) download functionality
- Geostatistical downscaling (kriging) of spatial products
- Kriging pitfalls and recommendations

Oxford, United Kingdom

Sydney, Australia

18/06/2020

25/06/2020

Remote Sensing Vegetation Memory as a Proxy of Resilience and Demographies

INVITED SPEAKER, SALGO TEAM, UNIVERSITY OF OXFORD

- Linking resilience components and vegetation memory
- Using state-of-the-art climate reanalysis data sets
- Global generalisations of vegetation memory across dryland regions
- Linking remote sensed resilience proxies of vegetation communities with vegetation demography

Oxford, United Kingdom

16/10/2019

Identifying ecological-memory patterns in drylands using remote sensing and state-of-the-art climate-reanalysis products

INVITED SPEAKER, ECOSYSTEM RESEARCH GROUP, UNIVERSITY OF OXFORD

SPEAKER, INTERNATIONAL SOCIETY FOR ECOLOGICAL MODELLING CONFERENCE 2019

INVITED SPEAKER, ECOINFORMATICS AND BIODIVERSITY RESEARCH GROUP, UNIVERSITY OF AARHUS

- Use of statistical downscaling approaches of state-of-the-art climate reanalysis products in macroecology
- Metric of cross-community vegetation resilience expressed through vegetation memory patterns

Oxford, United Kingdom

Salzburg, Austria

Aarhus, Denmark

15/10/2019

04/10/2019

06/09/2019

Rmarkdown - Manuscript Workflow Revisited

INVITED SPEAKER, BEHAVIOURAL ECOLOGY GROUP, UNIVERSITÄT LEIPZIG

- Introduction to Rmarkdown and its capabilities
- Latex-based compilation of manuscripts and R codes via Rmarkdown

Leipzig, Germany

18/06/2019

Statistical Significance in Biology - Conventions, Abstractions, and the Future

INVITED SPEAKER, BEHAVIOURAL ECOLOGY RESEARCH GROUP, UNIVERSITÄT LEIPZIG

- Overview to the reproducibility crisis in contemporary research
- Guidelines to proper statistical conduct in biological sciences

Leipzig, Germany

18/06/2019

Spatial Patterns of Plant Performance

INVITED SPEAKER, BIO DAY, UNIVERSITETET I BERGEN

- Metrics of plant performance through time-series analyses
- Explaining plant response to climate events through ecosystem function

Bergen, Norway

15/03/2019

Inferring Vegetation Memory from Remote Sensing Data

INVITED SPEAKER, SPATIAL ECOLOGY GROUP, UNIVERSITY OF GLASGOW

- Use of state-of-the-art climate reanalysis products in macroecology
- Spatio-temporal approaches to ecosystem resilience through vegetation memory on regional scales

Glasgow, Scotland

09/01/2019

Aktivurlaub als Hämophilie-Patient

INVITED SPEAKER, CENTRAL GERMAN CONFERENCE OF THE GERMAN HAEMOPHILIA AGENCY (DHG)

- Why to keep active as a haemophilia patient
- How to organise travels as a haemophiliac
- Recommendations of activities that are permissible for haemophiliacs

Leipzig, Sachsen, Germany

03/03/2015

Posters

Intrinsic vegetation memory as a proxy of engineering resilience may be an oversimplification

*Bergen, Norway
Salzburg, Austria
Sydney, Australia*

POSTER AUTHOR AND PRESENTER, BJERKNES CENTRE FOR CLIMATE RESEARCH ANNUAL MEETING 2019

16/09/2019

POSTER AUTHOR AND PRESENTER, INTERNATIONAL SOCIETY FOR ECOLOGICAL MODELLING CONFERENCE 2019

03/10/2019

POSTER AUTHOR AND PRESENTER, INTERNATIONAL STATISTICAL ECOLOGY CONFERENCE 2020

25/06/2020

- Understanding resilience components through vegetation memory characteristics
- Using state-of-the-art climate reanalysis data sets
- Making policy decisions based on vegetation memory

The role of meiofauna in benthic functioning - a question of time

*Corpus Christi, Texas, USA
Rostock, Germany*

Co-AUTHOR OF DFG SPP 1158 ANTARCTIC RESEARCH REPORT COLLOQUIUM

03/2018

- Research considering trophic networks between Antarctic meio- and macrobenthos over time via stable isotope analyses

Memberships and Affiliations

- Research Collaborator with the SalGo Team at Oxford University
- Research Station Co-Manager with Spatial and Population Ecology, University of Glasgow
- Member of the International Society For Ecological Modelling (ISEM)
- Member of the International Biogeography Society (IBS)
- Alumni of the German Academic Scholarship Foundation (Studienstiftung des deutschen Volkes)
- Member of the British Ecological Society (BES)
- Member of the German Hemophilia Association (DHG)
- Member of the DNT Norge (Norwegian Trekking Association)
- Member of the International Youth Hostelling Organization (DJH)

Activities and Interests

- Hiking and mountaineering
- Rock climbing
- Sports (endurance and strength training)
- Photography
- Archery
- Choir singing

References

References are available on request.