

Erik Kusch

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Research Profile

I am a macroecologist specialised in remote sensing applications and spatio-temporal analyses. 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. Current work includes identification of species-interaction networks, software development for climate data retrieval and aggregation, and propagation of uncertainty of climatic data into biological analyses.

Education

PhD in Biology; Specialisation on Ecoinformatics and Biodiversity

01/2020 - PRESENT

AARHUS UNIVERSITY (AU) & OXFORD UNIVERSITY (OX)

Primary Advisor: Alejandro Ordonez (AU)

External Supervision: Roberto Salguero-Gómez (OX)

Contents: Climate data practices in biological research
Species interaction inference and network modelling
Species extinction and extinction cascade simulations

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

08/2017 - 08/2019

UNIVERSITY OF BERGEN (UiB) & NANSEN ENVIRONMENTAL AND REMOTE SENSING CENTER (NANSEN)

Primary Advisor: Alistair Seddon (UiB)

External Supervision: Richard Davy (Nansen)

Thesis: Inferring Vegetation Memory from Remote Sensing Data and identifying Causal Links to Plant Function

B.Sc. in Biology

10/2013 - 07/2017

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

Primary Advisor: Alistair Seddon (UiB)

Secondary Supervision: Klaus Reinhardt (TUD)

Thesis: Remote Sensing And Predicting Shifts In Biome Distribution And Resilience Using NDVI Data

Specialised Training

7th Edition Species Distribution Modelling Course

Évora, Portugal

UNIVERSITY OF ÉVORA, SCIENCE RETREATS

26/04/2021 - 02/05/2021

An Introduction to Bayesian Statistics

Glasgow, Scotland

UNIVERSITY OF GLASGOW

06/04/2021 - 16/04/2021

Modelling Challenges for Mountain Ecosystems

Hamburg, Germany

UNIVERSITY OF HAMBURG

23/02/2020 - 28/02/2020

Plant Functional Traits Course 3

Wayquecha Biological Station, Peru

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

08/03/2018 - 24/03/2018

Bayesian Modelling Summer School

Lygra, Norway

NORWEGIAN UNIVERSITY OF LIFE SCIENCES (NMBU)

25/10/2017 - 29/10/2017

Experience

Research Station Co-Manager

Scoraig, Scotland

SPATIAL AND POPULATION ECOLOGY, UNIVERSITY OF GLASGOW

06/2019 - PRESENT

Research Fellow

Bergen, Norway

ECOLOGICAL AND ENVIRONMENTAL CHANGE RESEARCH GROUP, UNIVERSITY OF BERGEN

09/2019 - 12/2019

National Park Ranger & Environmental Education Guide

Saxony, Germany

NATIONAL PARK SAXON-BOHEMIAN SWISS

04/2016 - 06/2016

Research and Teaching Assistant

BEHAVIOURAL ECOLOGY RESEARCH GROUP, UNIVERSITY OF LEIPZIG

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

PRIMATE RESEARCH CENTRE, UNIVERSITY OF KYOTO

07/2018

GERMAN CENTRE FOR MARINE BIODIVERSITY RESEARCH, SENCKENBERG GROUP

05/2017 - 07/2017

Teaching & Supervision Activity

Author & Lecturer: AU Bayes Study Group

SEMINAR SERIES

Author & Lecturer: Excursions into Biostatistics

SEMINAR SERIES

Author & Lecturer: An Introduction to Biostatistics Using R

TALK SERIES

Author

BIOLOGICAL RESEARCH IN THEORY AND PRAXIS (BFTP)

Teaching Assistant

APPLIED STATISTICS

STATISTICAL AND GEOSPATIAL MODELLING

GEOSPATIAL INFORMATION SYSTEMS

Instructor & Advisor

ECOINFORMATICS & BIODIVERSITY MASTERS SEMINARS (EBMS), AARHUS UNIVERSITY

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

 [Personal Course Web Page](#)

 [Official Course Web Page](#)

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 [GitHub Repository](#)

 [Course Web Page](#)

 [GitHub Repository](#)

 [Course Web Page](#)

[Aarhus University](#)

[Aarhus University](#)

[22/03/2021 - 14/05/2021](#)

[03/09/2020 - 18/12/2020](#)

[27/10/2020 - 18/12/2020](#)

[03/02/2021 - 05/05/2021](#)

[08/2017 - 07/2018](#)

Extracurricular Activity

Group Member

STATISTICS JOURNAL CLUB, UNIVERSITY OF GLASGOW

[10/03/2021 - PRESENT](#)

SPATIAL SHARED-INTEREST GROUP, UNIVERSITY OF GLASGOW

[10/03/2021 - PRESENT](#)

BAYES STUDY GROUP, UNIVERSITY OF BERGEN

[09/2018 - 12/2019](#)

EECRG READING GROUP, UNIVERSITY OF BERGEN

[10/2017 - 12/2019](#)

Elected Member: Students Council of Biology Studies at the TUD

[Dresden, Germany](#)

TECHNICAL UNIVERSITY OF DRESDEN

[10/2013 - 10/2015](#)

Honours & Grants & Awards

SCHOLARSHIPS & GRANTS

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 **Project Grant**, L. Meltzers Høyskolefond

[Bergen, Norway](#)

2018/19 **Scholarship**, German Academic Scholarship Foundation (Studienstiftung des deutschen Volkes)

[Bonn, Germany](#)

AWARDS

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

SPEAKER, AK KLIMA INTERIMSTREFFEN

Hamburg, Germany

25/03/2021

KrigR - Downscaling State-of-the-Art Climate Data for Macroecologists

SPEAKER, BIOCHANGE METHODS WORKSHOPS

Aarhus, Denmark

12/11/2020

KrigR - Climate Data For Your Spatial Study

INVITED SPEAKER, SALGO TEAM, UNIVERSITY OF OXFORD

18/06/2020

SPEAKER, INTERNATIONAL STATISTICAL ECOLOGY CONFERENCE 2020

25/06/2020

Identifying Ecological-Memory Patterns in Drylands using Remote Sensing

INVITED SPEAKER, ECOSYSTEM RESEARCH GROUP, UNIVERSITY OF OXFORD

15/10/2019

SPEAKER, INTERNATIONAL SOCIETY FOR ECOLOGICAL MODELLING CONFERENCE 2019

04/10/2019

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

06/09/2019

Spatial Patterns of Plant Performance

INVITED SPEAKER, BIO DAY, UNIVERSITY OF BERGEN

Bergen, Norway

15/03/2019

Inferring Vegetation Memory from Remote Sensing Data

INVITED SPEAKER, SPATIAL ECOLOGY GROUP, UNIVERSITY OF GLASGOW

Glasgow, Scotland

09/01/2019

Posters

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

POSTER AUTHOR AND PRESENTER, INTERNATIONAL STATISTICAL ECOLOGY CONFERENCE 2020

25/06/2020

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

03/10/2019

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

16/09/2019

Writing

Reconciling high resolution climate datasets using KrigR

CO-AUTHOR

 Environmental Research Letters

2021

KrigR - A Tool for Downloading and Statistically Downscaling Climate Reanalysis Data

LEADING AUTHOR

Rx Preprint

2021

Vegetation memory effects and their association with vegetation resilience in global drylands

LEADING AUTHOR

Rx Preprint

2020