Erik **Kusch**

☐ (+45) 60 90 60 12 | ✉ erik@i-solution.de | R⁶ Erik Kusch | ⓘ 0000-0002-4984-7646 | 🏠 www.erikkusch.com | ▣ ErikKusch | ▼ KuschErik

Research Profile

I am a macroecologist specialised in streamlining work-flows, integration, and analysis of big data. My research uses quantitative tools to study ecosystem resilience, vegetation dynamics, and patterns of landscape-scale biodiversity to understand past, present, and future trajectories of ecosystems. My current work includes inference and analysis of ecological networks, simulation-based frameworks for ecological network inference assessments, and software development for climate data retrieval and aggregation.

Education

PhD in Biology; Specialisation on Ecoinformatics and Biodiversity

01/2020 - PRESENT
(expected graduation: 01/2023)

Aarhus University (AU) & Oxford University (OX)

Dissertation: Resilience Of Ecological Networks In The Age Of Extinctions

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)

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)

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*

Hierarchical Modelling of Species Communities with the R-package Hmsc *Helsinki, Finland*

University of Helsinki *02/11/2020 - 06/11/2020*

Modelling Challenges for Mountain Ecosystems *Hamburg, Germany*

University of Hamburg *23/02/2020 - 28/02/2020*

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*

Student Assistant

Botanical Institute, Technical University Dresden (TUD) *05/2016 - 08/2016; 02/2015 - 08/2015*

Zoological Collection, Technical University Dresden (TUD) *04/2016 - 05/2016; 11/2013 - 08/2015*

Teaching & Supervision Activity

AU Bayes Study Group   🌐 *Personal Course Web Page*
Author & Lecturer   🌐 *Official Course Web Page*

Excursions into Biostatistics   🌐 *Course Web Page*
Author & Lecturer   🔾 *GitHub Repository*

An Introduction to Biostatistics Using R   🌐 *Course Web Page*
Author & Lecturer   🔾 *GitHub Repository*

Biological Research in Theory and Praxis (BFTP)   🌐 *Course Web Page*
Author   *Aarhus University*

Teaching Assistant   *Aarhus University*
Applied Statistics   *22/03/2021 - 14/05/2021*
Statistical and Geospatial Modelling   *03/09/2020 - 18/12/2020*
Geospatial Information Systems   *27/10/2020 - 18/12/2020*

Instructor & Advisor
Ecoinformatics & Biodiversity Masters Seminars (EBMS), Aarhus University   *03/02/2021 - 05/05/2021*
Centre of Excellence in Biodiversity Education (BioCeed), University Of Bergen   *08/2017 - 07/2018*

Talks & Workshops

Climate Data with the KrigR Pipeline Workshop   *Aarhus, Denmark*
Author & Speaker, 5th Conference of Nordic Society OIKOS 2022   *07/07/2022*

Ecological Network Inference - Pipedream or Pipeline   *Oxford, England*
Invited Speaker, SalGo Team, University of Oxford   *22/05/2022*

KrigR - The R Package   *Hamburg, Germany*
Speaker, AK Klima Interimstreffen   *25/03/2021*

KrigR - Downscaling State-of-the-Art Climate Data for Macroecologists   *Aarhus, Denmark*
Author & Speaker, BIOCHANGE Methods Workshops   *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   *Bergen, Norway*
Invited speaker, BIO Day, University of Bergen   *15/03/2019*

Inferring Vegetation Memory from Remote Sensing Data   *Glasgow, Scotland*
Invited speaker, Spatial Ecology Group, University of Glasgow   *09/01/2019*

Posters

KrigR — Downloading and Statistically Downscaling Climate Reanalysis Data   *London, England*
Poster author and presenter, BES Climate Science for Ecological Forecasting Symposium 2022   *11/05/2022*

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*

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*

Leader & Dungeon Master — *Aarhus, Denmark*

AARHUS UNIVERSITY SECTION FOR ECOINFORMATICS DUNGEONS & DRAGONS GROUP	*03/2022 - PRESENT*

Elected Member: Students Council of Biology Studies at the TUD — *Dresden, Germany*

TECHNICAL UNIVERSITY OF DRESDEN	*10/2013 - 10/2015*

Writing

A novel trophic cascade between cougars and feral donkeys shapes desert wetlands

ERICK LUNDGREN, DANIEL RAMP, OWEN MIDDLETON, EAMONN WOOSTER, **ERIK KUSCH**, [...], ARIAN WALLACH

Journal of Animal Ecology - *2022*

MOSAIC: A Unified Trait Database to Complement Structured Population Models

CONNOR BERNARD, GABRIEL SILVA SANTOS, [...], **ERIK KUSCH**, [...], ROBERTO SALGUERO-GÓMEZ

℞ *Preprint* - *2022*

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

ERIK KUSCH, RICHARD DAVY, ALISTAIR SEDDON

Journal of Ecology - *2022*

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

ERIK KUSCH, RICHARD DAVY

Environmental Research Letters - *2022*

Reconciling high resolution climate datasets using KrigR

RICHARD DAVY, **ERIK KUSCH**

Environmental Research Letters - *2021*

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*