COMPUTATIONAL ECOLOGIST, BIOSTATISTICIAN, AND LECTURES

☑ 0000-0002-3191-8389 | ☑ G-1508-2013 | ☑ kxLDLlMAAAAJ&hl | ☑ b-c-r | 🛅 bjoern-c-rall

Professional Experience

Note that all the below mentioned jobs included research, publishing peer-reviewed papers, oral presentations (e.g. invited talks), and collaborating internationally.

Career Break

02/2023 - now

07/2022 - 01/2023

11/2021 - 06/2022

- · Since 10/2024: Job Seeking
- Since 04/2024: Professional Reorientation and Online Training in Data Science (see my DataCamp Profile)

Scientific Data Curator Frankfurt / Main, Germany

SENCKENBERG BIODIVERSITY AND CLIMATE RESEARCH CENTER (SBIK-F)

• e.g. Further Development of the Data Guidelines for the Kili-SES Research Group

Lecturer and Scientist Darmstadt, Germany

DARMSTADT UNIVERSITY OF TECHNOLOGY - BIOLOGY DEPARTMENT

- · Teaching in Higher Education (online): Ecology and Evolution using NetLogo, Moodle and Zoom
- Statistical Consultancy for Colleagues and Students
- Organizing a GitLab-Workshop

Effect Modeler and StatisticianHirschberg, Germany

• e.g. https://doi.org/10.1002/etc.5348

Scientist, Lecturer, and Statistical Consultant

Leipzig | Jena, Germany

01/2015 - 01/2020

IDIV HALLE-JENA-LEIPZIG | FSU JENA

- In-House Consultancy for Statistics
- · Teaching in Higher Education: Statistics in R, Rmarkdown with Github/GitLab, Computational and Theoretical Ecology
- · Raising Third-Party Funding
- Managing Projects | Supervising PhD and Postdoctoral Researchers | Academic Administration | Degree Program Planning
- Guest scientist at Umeå University, 06/2019 | Host: Sebastian Diehl

Postdoc Wageningen, The Netherlands

NETHERLANDS INSTITUTE OF ECOLOGY (NIOO-KNAW)

- Organizing and Lecturing a Workshop on Non-Linear Statistical Modeling in R
- Literature Research on Meta-Ecosystem Ecology

Lecturer / ScientistGöttingen, Germany

Georg-August-University Göttingen – Zoology Department

04/2010 - 12/2014

04/2014 - 09/2014

- Developing the Statistics Curriculum for Msc Biodiversity, Ecology and Evolution
- Teaching in Higher Education: Statistics in R, Theoretical and Computational Ecology, Animal Ecology, Field Studies, and Nature Conservation
- Supervising Bachelor Students, Master Students, PhD Students and Post-Doctoral Researchers
- Managing Scientific Projects | Academic Administration | Scientific Reviewer
- · Raising Third-Party Funding
- Leave of Absence for an External Research Stay (04/14-09/14)

PhD-Candidate / Scientist

Darmstadt, Germany 04/2006 - 03/2010

DARMSTADT UNIVERSITY OF TECHNOLOGY - BIOLOGY DEPARTMENT

- Autodidactic Learning the Statistical Programming Language R
- Statistical Consultancy for Colleagues and Students
- Organizing and Lecturing a Workshop on R-Statistics for Ecologists

Education

Darmstadt University of Technology - Biology Department

Darmstadt, Germany

DISSEPTATION

2006 - 2010

• Thesis Title: Allometry, Temperature and the Stability of Food Webs

DIPLOMA THESIS 2005 - 2006

· Thesis Title: Temperature and Enrichment Effects on Simple Consumer Resource Pairs and Complex Food Web Models

Studying Biology 1999 - 2006

• Majors: Animal Ecology, Animal Physiology, and Phylogeny

Skills and Expertises_

Tech Scientific Coding: R, R Markdown | Learning: Python, SQL, Shell | Basics: Matlab, Cpp, Shiny, NetLogo, LaTeX

Operating Systems: Windows, Ubuntu Linux, Linux Mint, DOS (all as user and private administrator)

Office: MS Office, Libre Office, Google Suite, Only Office

Online Cooperation: Zoom, Moodle, MS Teams, Slack, GitLab, GitHub, Overleaf, Hosting of Mailing lists Science/Dev Software: RStudio, Git, SVN (Tortoise), Geany, Gnuplot, Zotero, Endnote, Docker (basics) Statistical Methods: (Generalized) Linear Models, Mixed Effects Models, Structural Equation Models,

Non-Linear Models, t-test, ANOVA, ANCOVA, Correlation, Time-Series analyses

Numerical Methods: Maximum Likelihood Estimators, Bayesian Statistics, Monte-Carlo Simulations,

Bootstrapping, Newton Method, ODE Simulations, Agent Based Models

Selection Methods: Stepwise Regression, AIC / BIC / WAIC Selection Methods

Biology General: Theoretical, Computational, and Animal Ecology | Animal Physiology | Animal Systematics

Taxonomic Knowledge: Lycosidae and Carabidae | Basics in any other Animal Groups from any Realm

Experiments: Design and Management | Laboratory (Ecol.) | Field Samplings | O₂ Measurements

Managing Administration: Fundraising, Degree Program Planning, Academic Self-Governance

Supervision: Students, PhD Researchers, Postdocs and other Staff

Consultancy Statistics in R and Theoretical/Computational Ecology

Teaching: Statistics, Theoretical/Computational Ecology, Animal Ecology, Field Studies, Conservation

Organizing and Hosting: Conference Sessions, Workshops, and In-House Meetings

Languages: German (native), English (fluent)

Work Examples

Code Rall (2023): Rare Type III functional responses (Code): Version 1.0.0. https://doi.org/10.5281/zenodo.7637479 *ODE simulations*Find here the associated study and here the associated GitHub repository

Stats Dev Rosenbaum & Rall (2018): Fitting functional responses: direct parameter estimation by simulating differential equations. Methods Ecol Evol 9: 2076-2090. https://doi.org/10.1111/2041-210X.13039

MLE statistics
ODE simulations

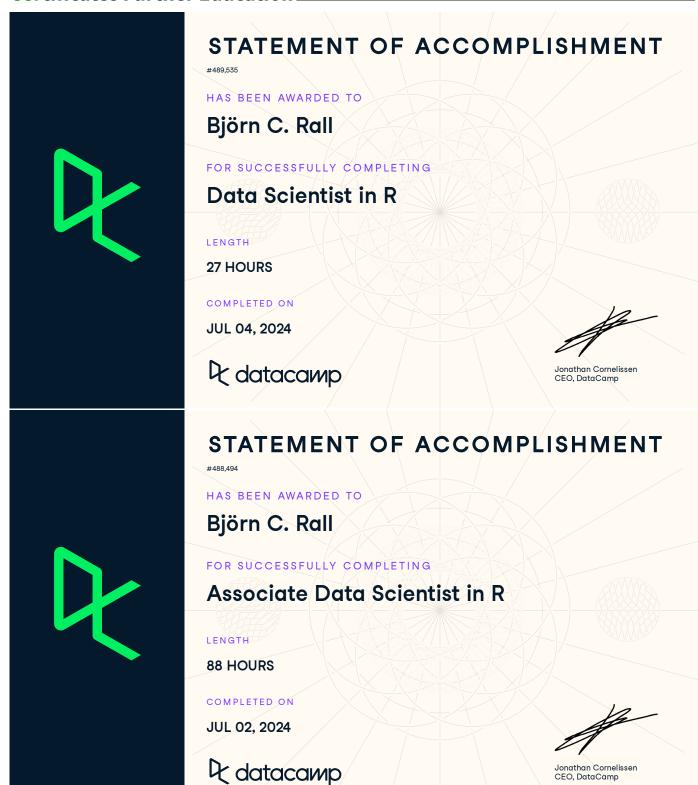
Find the associated manual here

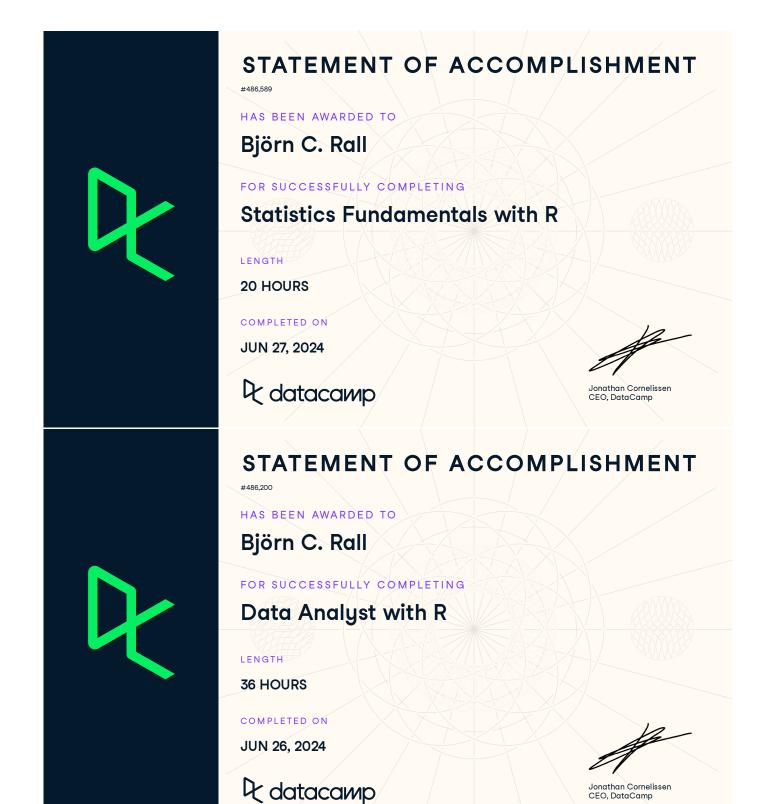
Study Rall et al. (2012): Universal temperature and body-mass scaling of feeding rates. Philos Trans R Soc B

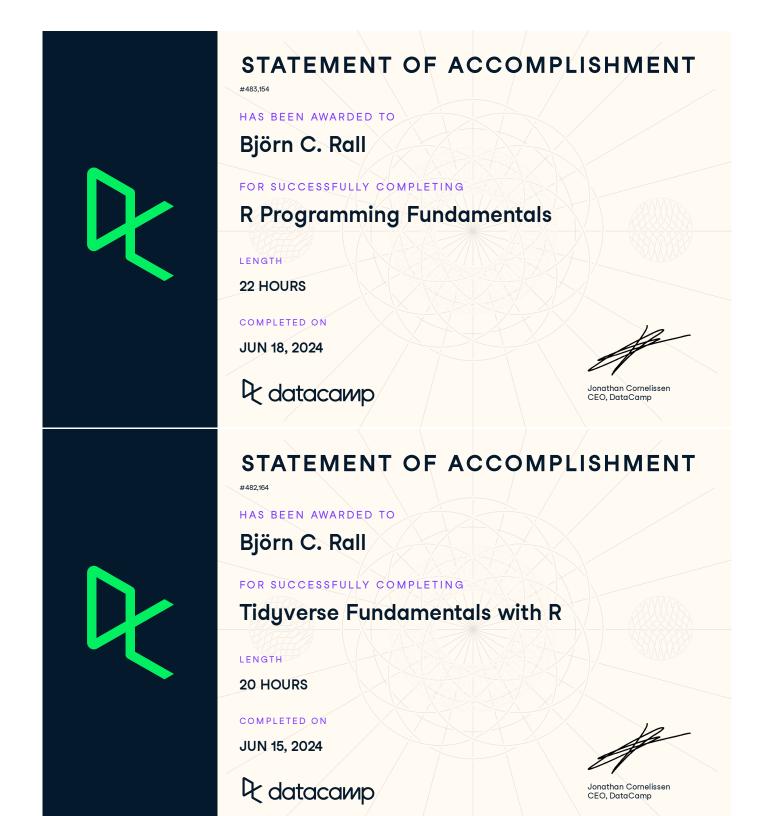
Mixed Eff. Models

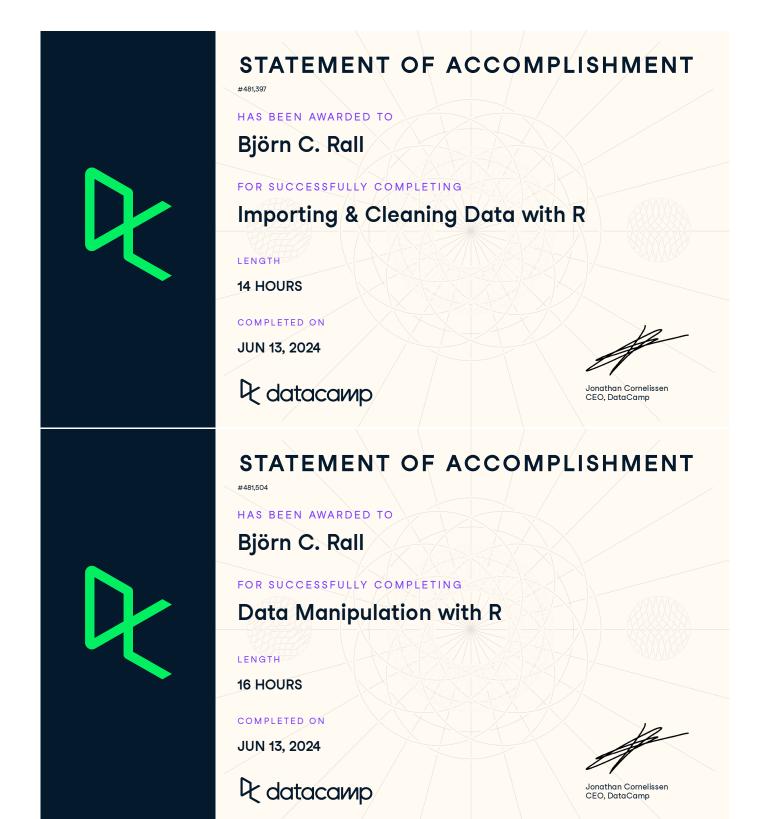
367: 2923-2934. https://doi.org/10.1098/rstb.2012.0242

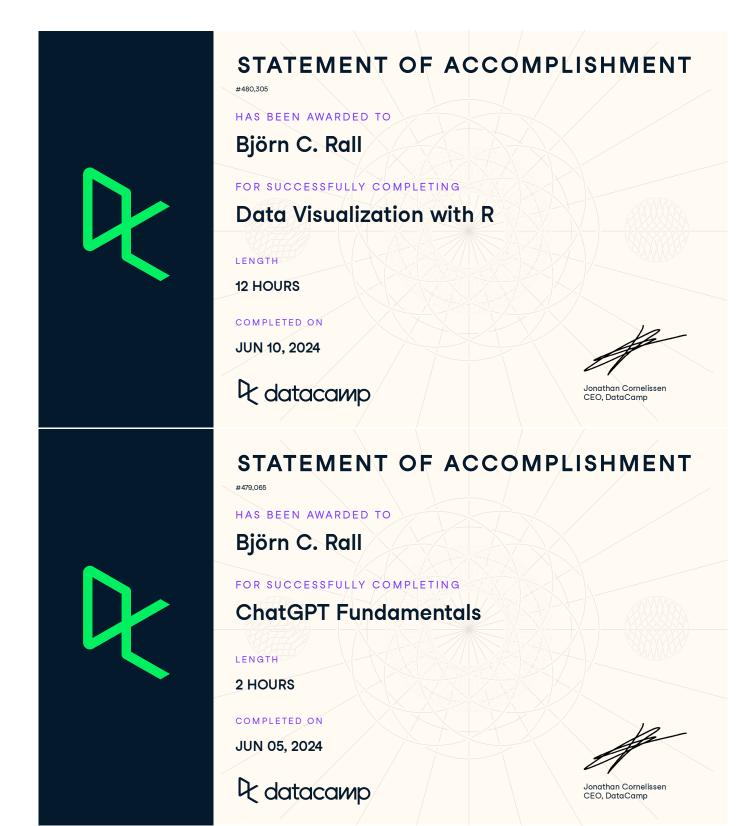
Find my full publication list here.

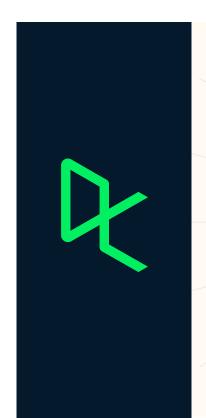












STATEMENT OF ACCOMPLISHMENT

#468,246

HAS BEEN AWARDED TO

Björn C. Rall

FOR SUCCESSFULLY COMPLETING

Understanding Data Topics

LENGTH

10 HOURS

COMPLETED ON

MAY 02, 2024

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A

Jonathan Cornelissen CEO, DataCamp



CERTIFICATE

Björn Rall

has successfully participated in the yDiv course

Introduction to Bayesian statistics using R and Stan for ecologists

on 21 - 23 October 2019 and gained 1 Credit Point.

Course leader:

Dr Benjamin Rosenbaum

Department for Theory in Biodiversity Science German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig

Contents:

- Introduction to the concepts of Bayesian statistics (priors, likelihood, posterior distribution, MCMC)
- Discussion and coding of ecological models from basic ANOVA or linear regression to nonlinear models

Didactic elements:

- Lectures, discussions, hands-on sessions

German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig

Leipzig, 23 October 2019

Dr Nicole Sachmerda-Schulz yDiv coordinator

ibiv is a central facility of Leipzig University within the meaning of Section 92 (t) of the Act on Academic Freedom in Higher Education in Saxony (Sächsisches Hochschulfreiheitsgesetz, SächsHSFG). It is run together with the Martin Luther University Halle-Wittenberg and the Friedrich Schiller University Jena, as well-as in cooperation with the Helmholtz Centre for Environmental Research – UFZ. The following non-university research institutions are involved as cooperation partners: the Helmholtz Centre for Environmental Research – UFZ, the Max Planck Institute for Biogeochemistry (MPI BGC), the Max Planck Institute for Chemical Ecology (MPI CE), the Max Planck Institute for Chemical Institute DSMZ-German Collection of Microorganisms and Cell Cuttures, the Leibniz Institute of Plant Biochemistry (IPB), the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) and the Leibniz Institute Senckenberg Museum of Natural History Görlitz (SMNG).

iDiv is a research centre of the

DEG Deutsche Forschungsgemeinschaft



Albert-Ludwigs-Universität Freiburg, Biometry and Environmental System Analysis Tennenbacherstr. 4, 79098 Freiburg

Björn Rall

Certificate of participation

To whom it may concern,

this is to certify that Björn Rall has successfully participated in the international summer school "An Introduction to Bayesian Modeling for Ecologists" held 28th July to 2nd August 2013 at the University of Freiburg, Germany.

The content of this a one-week full-time statistical training included

- Introduction to Bayesian statistics (Priors, Likelihoods, etc.)
- Theory of Markov Chain Monte Carlo algorithms
- Implementation of Bayesian models in the BUGS language
 - The JAGS sampler
 - Bayesian species distribution models
 - Hierarchical Bayesian models
 - State space models
- Bayesian model selection
- Approximate Bayesian Computation (ABC) and similar simulationbased methods

Albert-Ludwigs-Universität Freiburg

Faculty of Environment and Natural Resources

Biometry and Environmental System Analysis

Dr. Florian Hartig

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Sincerely,

Dr. Florian Hartig

Uni Freiburg

Dr. Jörn Pagel

Uni Potsdam / Montpellier

Dr. Joseph Chipperfield

Uni Trier