Colin Rundel

rundel@gmail.com / colin.rundel@duke.edu
204 Old Chemistry Building • Dept of Statistical Science, Duke University

RESEARCH INTERESTS	Applied spatial statistics with a focus on biological and ecological systems, Bayesian statistics, computational methods, statistics and computing education and pedagogy.

EDUCATION

University of California, Los Angeles, Department of Statistics

Ph.D. in Statistics, 2012
M.S. in Statistics, 2008

Dissertation Topic: Bayesian Methods for Spatial Assignment of Migratory Birds
Advisors: Jan de Leeuw and John Novembre

California Institute of Technology

B.S. in Biology, 2003

EMPLOYMENT

Assistant Professor of the Practice   June 2015 - Present
Department of Statistical Science, Duke University

Lecturer in Statistics and Data Science   May 2019 - May 2021
School of Mathematics, University of Edinburgh

Visiting Assistant Professor / Lecturer   January 2012 - May 2015
Department of Statistical Science, Duke University

Postdoctoral Associate   July 2012 - April 2014
Department of Statistical Science, Duke University

Graduate Student Researcher   September 2010 - December 2011
Novembre Lab, UCLA

Senior Statistical Consultant   March 2009 - December 2011
Statistical Consulting Center, UCLA

Graduate Teaching Assistant   September 2006 - July 2010
Dept. of Ecology and Evolutionary Biology, Dept. of Statistics, UCLA

TEACHING

Duke University
  Sta 30 - Statistics and Quantitative Literacy - Fa 12
  Sta 102 - Introductory Biostatistics - Sp 13, Sp 14, Fa 14, Sp 15, Fa 15, Sp 16, Su 16
  Sta 111 - Probability and Statistical Inference - Su 14
  Sta 112 - Better Living through Data Science - Fa 16
  Sta 230 - Probability - Fa 12, Sp 14
  Sta 323 - Statistical Computing - Sp 16, Sp 17, Sp 18, Sp 19
  Sta 444 / 644 - Spatio-Temporal Modeling - Sp 17, Sp 18, Fa 18
  Sta 523 - Statistical Programming - Fa 14, Fa 15, Fa 16, Fa 17, Fa 18, Fa 21
  Sta 790 - Advanced Statistical Computing - Sp 19

University of Edinburgh
  Math 08068 - Facets of Mathematics - Regression Modeling Theme - Sp 19
  Math 11176 - Statistical Programming - Sp 19, Sp 20
  Math 11205 - Machine Learning in Python - Fa 20, Fa 21

ONLINE TEACHING   Coursera - Statistics with R Specialization
                   Bayesian Statistics
                   Statistics with R Capstone

PUBLICATIONS   Poulsen, J., Beirne, C., Rundel, C., Baldino, M., Kim, S., Knorr, J., Minich, T., Jin, L.,
                   Núñez, C., Xiao, S., Mbamy, W., Obiang, G., Masseloux, J., Nkoghe, T, Ebanega, M., Clark,
                   C., Fay, M., Morkel, P., Okouyi, J., White, L., Wright, J. (2021). *Long distance seed dispersal
                   by forest elephants.* Frontiers in Ecology And Evolution (in revision).

                   Çetinkaya-Rundel, M., Hardin, J., Baumer, B. S., McNamara, A., Horton, N. J., Rundel,
                   C. (2021). *An educator's perspective of the tidyverse.* Technology Innovations in Statistics
                   Education (in revision), arXiv preprint arXiv:2108.03510.

                   Beckman M., Çetinkaya-Rundel M., Horton N., Rundel C., Sullivan A., Tackett M. (2020)
                   *Implementing Version Control With Git and GitHub as a Learning Objective in Statistics and
                   Data Science Courses.* Journal of Statistics Education. 29 (Sup 1), 132 - 144. DOI.

                   Johnson A., Rundel C., Hu J., Ross K., Rossman A. (2020) *Teaching an Undergraduate
                   Course in Bayesian Statistics: A Panel Discussion.* Journal of Statistics Education. 28 (3),
                   251 - 261. DOI.

                   Beirne C., Nuñez C., Baldino M., Kim S., Knorr J., Minich T., Jin L., Xiao S., Mbamy W.,
                   Obiang G., Masseloux J., Nkoghe T., Ebanega M., Rundel C., Wright J., Poulsen J. (2019)
                   Estimation of gut passage time of wild, free roaming forest elephants. Wildlife Biology. 2019
                   (1).

                   Cetinkaya-Rundel M., Rundel C.W. (2017) *Infrastructure and tools for teaching computing
                   throughout the statistical curriculum.* The American Statistician. 72 (1), 58 - 65.

                   Rundel C.W., Schliep E.M., Holland D., Gelfand A. (2015) *A data fusion approach for spatial
                   analysis of speciated $PM_{2.5}$ across time.* Environmetrics. 26 (8), 515 - 525.

                   Rundel C.W., Wunder M., Alvarado A.H., Ruegg K., Harrigan R., Schuh A., Jeffrey K., Siegel
                   R., DeSante D.F., Smith T.B., Novembre J. (2013) *Novel statistical methods for integrating
                   genetic and stable isotope data to infer individual-level migratory connectivity.* Molecular
                   Ecology. 22 (16), 4163 - 4176.

                   de Bocanegra H.T., Rostovsteva D., Çetinkaya M., Rundel C.W., Lewis C. (2011). *Quality
                   of reproductive health services to limited English proficient patients.* Journal of Health Care
                   for the Poor and Underserved, 22 (4), 1167 - 1178.

                   Walker D.W., Muffat J, Rundel C.W., Benzer S. (2006). *Overexpression of a Drosophila
                   Homolog of Apolipoprotein D Leads to Increased Stress Resistance and Extended Lifespan.*
                   Current Biology, 16 (7), 674 - 679.

MAGAZINES   Rundel, C.W., Cetinkaya-Rundel M. (2016) La Quinta is Spanish for next to Denny's, Chance
                   29 (2), 53 - 57

                   Rundel C.W. (2002) *Genes, Aging, and the Future of Longevity* Engineering & Science, 65
                   (4), 36 - 40.

TALKS &   RStudio Global 2021   January 2021
WORKSHOPS   parsermd - parsing R Markdown for fun and profit
                   TLMSCO   September 2020
                      Teaching computing using git and GitHub

JSM 2020 (Invited)   August 2020
    Computation Infrastructure for Teaching Bayesian Modeling

Teaching Statistics and Data Science Online (Online Workshop)   July 2020
    Workshop 1: Teaching R online with RStudio Cloud
    Workshop 2: Building interactive tutorials in R
    Workshop 3: Teaching computing with Git and GitHub

RStudioConf 2020   January 2020
    livecode: broadcast your live coding sessions from and to RStudio

JSM 2019   August 2019
    ghclass: an R package for managing classes with GitHub

JSM 2019 (Workshop)   July 2019
    Reproducible Computing

UseR! 2019   July 2019
    ghclass: an R package for managing classes with GitHub

SDSS 2019 (Invited)   May 2019
    Using Rocker containers and CI for teaching R-based courses

ICOTS10 2018 (Workshop)   July 2018
    Teaching Data Science, Reproducibly

ISBA World Meeting 2018 (Short Course)   June 2018
    Reproducible Computing

Joint Statistical Meetings 2017 (Invited)   August 2017
    Moving Away from Ad Hoc Statistical Computing Education

UseR! 2017 (Tutorial)   July 2017
    Data Carpentry: Open and Reproducible Research with R

Joint Statistical Meetings 2016 (Invited)   August 2016
    Statistical Computing as an Introduction to Data Science

UseR! 2016   July 2016
    Continuous Integration and Teaching Statistical Computing with R

Joint Statistical Meetings 2015   August 2015
    Teaching statistical computing leveraging the github ecosystem

UseR! 2015   July 2015
    Teaching R using the github ecosystem

Data Analytics in Business and Social Science Seminar, Duke SSRI   April 2015
    Geospatial data and the R ecosystem

Joint Statistical Meetings 2014   August 2014
    A Data Fusion Approach for Space-Time Analysis of Speciated $PM_{2.5}$

Duke Dept of Statistical Science Seminar   February 2014
    Using GPUs to improve the computational efficiency of Gaussian process models

Joint Statistical Meetings 2013   August 2013
    GPUs, linear algebra, and efficient computing for Gaussian process models

UseR! 2013   July 2013
    Leveraging GPU libraries for efficient computation of Gaussian process models in R

Joint Statistical Meetings 2012   August 2012
    Leveraging GPU Libraries for Efficient Computation of Bayesian Spatial Assignment Models in R

UseR! 2012   June 2012
    rgeos: spatial geometry predicates and topology operations in R

Joint Statistical Meetings 2011   August 2011
    Spatial Models for Bird Origin Assignment Using Genetic and Isotopic Data

SERVICE	Guest Associate Editor, Journal of Statistics and Data Science Education	Fall 2021

SERVICE   Guest Associate Editor, Journal of Statistics and Data Science Education   Fall 2021
             Special Issue on Teaching Reproducibility and Responsible Workflow

             DSS Master's Advisory Committee   Fall 2017 - Spring 2019

             Duke's Information Technology Advisory Council   Fall 2017 - present

             DSS Computing Committee   Summer 2014 - Spring 2019, Fall 2021 - present
                 Chair, Spring 2017 - Spring 2019, Fall 2021 - present

             ASA DataFest @ Duke   Fall 2011 - Spring 2019
                 Co-organizer

             Bayes Impact at Duke   Fall 2014 - Spring 2016
                 Scientific Registry of Transplant Recipients
                 Motion Math

SOFTWARE   `md4r`: R wrapper of the md4c markdown parsing library.

             `checklist`: Tools for automating checking of R projects, with a focus on automated feedback via CI tooling like GitHub actions.

             `parsermd`: Tools for parsing and programmatically interacting with R Markdown documents.

             `learnrhash`: Tools for recording student results for questions and exercises in learnr documents.

             `livecode`: Library for broadcasting source files during live codeing sessions.

             `ghclass`: Library for managing classroom and assignment related tasks on github.

             `rgeos`: R interface to the Geometry Engine, Open Source (GEOS) library.

             `isoscatR`: R package for smoothed and continuous assignment testing (SCAT) of genetic samples

             `timezone`: A small R package for finding timezone names from geographic coordinates

             `RcppGP`: Tools for efficiently working with Gaussian Processes in R / C++

             `mapnik`: parser and generator for the carto map style language.

MEMBERSHIPS American Statistical Association
             International Society for Bayesian Analysis