EDWARD A. ROUALDES

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Academic Employment

Assistant Professor   2015 - present
Department of Mathematics and Statistics, CSU, Chico

Education

PhD Statistics, University of Kentucky   2010-2015

MS Economics, Tufts University   2009-2010

BS Mathematics, CSU, Chico   2003-2008
BA Economics *with honors*
Minor Business Administration

Publications

Banet, A. I., Healy, S. J., Eliason, E. J., Roualdes, E. A., Patterson, D. A., and Hinch, S. G. *Simulated maternal stress reduces offspring aerobic swimming performance in Pacific salmon.* Accepted.

Whitney, T. D., Sitvarin, M. I., Roualdes, E. A., Bonner, S. J., and Harwood, J. D. *Selectivity underlies the dissociation between seasonal prey availability and prey consumption in a generalist predator.* Molecular Ecology (2018). DOI: 10.1111/mec.14554

Rounsaville, T., Baskin, C. C., Roualdes, E. A., McCulley, R. L., and Arthur, M. A. *Seed dynamics of the liana Euonymus fortunei and implications for invasibility.* Torrey Botanical Society (2018). DOI: 10.3159/TORREY-D-17-00033

Zou, C., Pearce, R. C., Grove, J. H., Coyne, M. S., Roualdes, E. A., and Li, Y. *The Stability of indicators for net soil nitrogen mineralization in tobaccos rotation and tillage systems.* Soil Science Society of America Journal (2017). DOI: 10.2136/sssaj2017.08.0263

Van Dusen, B., J-S. S., Roualdes, E. A. *The impact of learning assistants on inequities in physics student outcomes.* Physics Education Research Conference (PERC) 2016 proceedings.

Van Dusen, B., J-S. S., Roualdes, E. A. *The systemic impacts of learning assistants on student learning of physics.* Physics Education Research Conference (PERC) 2016 proceedings.

Fenger, C. K., Tobin, T., Casey, P. J., Roualdes, E. A., Langemeier, J. L., Cowles, R., and Haines, D. M. *Enhanced bovine colostrum supplementation shortens the duration of respiratory disease in thoroughbred yearlings.* Journal of Equine Veterinary Science, 42:77 – 81, 2016. DOI: 10.1016/j.jevs.2016.03.012

Roualdes, E. A., Bonner, S. J., Whitney, T. D., Harwood, J. D. *Formal modelling of predator preferences using molecular gut-content analysis.* Environmental and Ecological Statistics, 23(2):317 – 336, 2016. DOI: 10.1007/s10651-016-0341-3

Roualdes, E. A. *Bayesian Trend Filtering.* arXiv.org http://arxiv.org/abs/1505.07710

Fenger, C. K., Tobin, T., Casey, P. J., Roualdes, E. A., Langemeier, J., Haines, D. M. Comparative Exercise Physiology 11/2014; 10(4):233-238. *Bovine colostrum supplementation optimises earnings, performance and recovery in racing Thoroughbreds.* DOI: 10.3920/CEP140023

Courses Taught

CSCI 111 Programming and Algorithms I
Introduction to computer programming; taught in C++

CSCI/MATH 385 Introduction to Data Science
Introductory data science; taught in R

MATH 130 Introduction to R
Interdisciplinary introduction to computer programming; taught in R

MATH 314 Probability and Statistics for Science and Technology
Statistics directed towards, but not limited to, computer science and engineering majors; lecture notes

MATH 350, 351, 450 Introduction to Probability and Statistics I,II,II
Three course sequence of calculus based introduction to probability and statistics

Grants

AB 798 Round 2: College Textbook Affordability Act of 2015; $46,000   2019

Affordable Learning Solutions; $15,000   2018

AB 798: College Textbook Affordability Act of 2015; $50,000   2017

Textbook Affordability Project; $1,000 each   2016, 2017, 2018

Software Development

Developer for `Stan`: probabilistic programming language for statistical inference.
https://mc-stan.org/

Roualdes, E. A. `btf`: Estimates univariate function via Bayesian trend filtering. R package
version 1.0. http://cran.r-project.org/web/packages/btf/index.html

Roualdes, E. A., Bonner, S. J., `spiders`: fits our predator preferences model. R package version
1.0. https://github.com/roualdes/spiders

Roualdes, E. A. `NextAllele`: a bioinformatic program written in Python to phase haplotypes of
diploid animals. https://code.google.com/p/nextallele/

Presentations

Roualdes, E. A. Presented at the Affordable Learning Solutions Annual Conference. Long
Beach, CA, 2020.

Esposito, C. M., Mehl, S., Houk, E., Brown, D., Roualdes, E. A. *Incorporating Projected Land Use
Changes into the CVHM.* Presented at the California Water and Environmental Modeling
Forum. Folsom, CA, 2019.

Roualdes, E. A. *Using Python for Exploratory Data Analysis*. Data Science Seminar Series,
California State University, Chico, 2018.

Roualdes, E. A. *An Introduction to Bayesian Statistics*. Department of Mathematics's Colloquium
Series, Humboldt State University, 2018.

Roualdes, E. A. *Introduction to Bayesian Modelling*. Data Science Seminar Series, California State
University, Chico, 2018.

Roualdes, E. A. *An Introduction to Bayesian Statistics*. Department of Mathematics and Statistics's Colloquium Series, California State University, Chico, 2018.

Roualdes, E. A. *An Introduction to Expectation-Maximization Algorithms*. Department of Economics's Brown Bag Series, California State University, Chico, 2016.

Fenger, C. K., Tobin, T., Casey, P. J., Roualdes, E. A., Langemeier, J., Haines, D. M. *Bovine Colostrum Supplementation Improves Earnings, Performance and Recovery in Racing Thoroughbreds*. International Conference of Racing Analysts and Veterinarians, 2014, Mauritius

Roualdes, E. A. *Bayesian trend filtering*. Joint Statistical Meeting, 2014, Boston, MA

Mays, H. L. Jr., McKay, B. D. , Hoffman, S., Spinelli, M., Weisrock, D., O'Neill, E., Roualdes E. A., Nishiumi, I., Yao, C., Wu, Y., Li, H., Zou, F. *The utility of microfluidics PCR libraries and other next-generation sequencing approaches in avian phylogeography: A case study for Light-vented (Pycnonotus sinensis) and Taiwan Bulbuls (Pycnonotus taivanus)*. International Ornithological Congress, 2013, Tokyo, Japan

Roualdes, E. A., O'Neill E., Weisrock, D. *NextAllele: a bioinformatic pipeline for next generation sequence data*. Dominican University of California, 2012, San Rafael, CA

Roualdes, E. A., Yoshida, R. *Nonparametric species delimitation*. International Symposium of Mathematical Programming, 2012, Berlin, Germany, *invited*

Roualdes, E. A., Yoshida, R. *Nonparametric species delimitation*. Society for Industrial and Applied Mathematics, 2012, Minneapolis, MN

Roualdes, E. A. *Calculating the ECDF via computationally efficient binning*. University of Kentucky, 2011, Lexington, KY

Poster Presentations

Roualdes, E. A., O'Neill E., Weisrock, D. *NextAllele: a bioinformatic pipeline for next generation sequence data*. Joint Statistical Meeting, 2013, Montreal, Canada

Awards

R.L. Anderson Research Award, University of Kentucky, Department of Statistics	2014
Economic Service Award, CSU, Chico, Economics Department	2008
Wall Street Journal Award for Achievement, CSU, Chico, Economics Department	2008
Lt. Robert Merton Rawlins Merit Award, CSU, Chico	2007
John Smale Award for Excellence in Economics, CSU, Chico, Economics Department	2006