AIMEE SCHWAB-MCCOY

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PROFESSIONAL EXPERIENCE

2022 — **Data Science Content Developer**
zyBooks | Wiley — Remote, USA

2022 | 2021 — **Lecturer of Statistics and Health Informatics**
Institute of Technology Sligo — Sligo, Ireland

2021 | 2017 — **Assistant Professor of Statistics**
Creighton University — Omaha, NE

2017 | 2015 — **Assistant Professor of Statistics**
Xavier University — Cincinnati, OH

2015 | 2010 — **Graduate Teaching Assistant**
Department of Statistics, University of Nebraska-Lincoln — Lincoln, NE

EDUCATION

2015 | 2012 — **Ph.D, Statistics**
University of Nebraska-Lincoln — Lincoln, NE
• Dissertation: “Beta-Binomial Kriging: An Improved Method for Modeling Spatially Correlated Proportions”

2012 | 2010 — **M.S., Statistics**
University of Nebraska-Lincoln — Lincoln, NE
• Thesis: “Evaluating the Teaching Assistant Preparation Course at UNL”

2010 | 2005 — **B.S., Mathematics**
University of Nebraska-Lincoln — Lincoln, NE
• Honors: High distinction

PEER-REVIEWED ARTICLES

2021 — **“Developing Statistical Intuition Through Simulation Studies in a Second Statistics Course”**
IASE Virtual Satellite Proceedings (Invited) — Forthcoming
• Aimee Schwab-McCoy

RESEARCH INTERESTS

Statistics and data science curriculum and pedagogy

Generalized linear mixed models (applications in R)

Spatially correlated count data

Statistical consulting

PROFESSIONAL HIGHLIGHTS

Certified RStudio {tidvyerse} trainer

Program Chair: 2022 Joint Statistical Meetings Section on Statistics and Data Science Education

Developed Data Science Program (Major and Minor) at Creighton University

*Made w/ **pagedown** using Nick Strayer’s CV guide github.com/nstrayer/cv.*

Last updated: 2022-07-23.

2021 | 2020

“Misconceptions and Learning Gains about Statistical Inference in Introductory Biostatistics Courses”
Journal of Statistics Education — Under review
• Aimee Schwab-McCoy

2020

“Computing in the Data Science Curriculum: A Survey of Faculty Practices, Challenges, and Needs”
Journal of Statistics Education — https://doi.org/10.1080/10691898.2020.1851159
• Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper

2019

“Cellular prion protein gene polymorphisms linked to differential scrapie susceptibility correlate with distinct residue connectivity between secondary structure elements”
Journal of Biomolecular Structure and Dynamics
https://doi.org/10.1080/07391102.2019.1708794
• Patricia Soto, India Claflin, Alyssa Bursott, Aimee Schwab-McCoy, and Jason Bartz

2019

“The State of Statistics Education Research in Client Disciplines: Themes and Trends Across the University”
Journal of Statistics Education — https://doi.org/10.1080/10691898.2019.1687369
• Aimee Schwab-McCoy

2018

“The incidence of nursing students’ perceived stress and burnout levels at a private university in California”
Journal of Nursing Education — https://doi.org/10.5430/jnep.v8n10p138
• Reo J. F. Jones, Margaret M. Hansen, Mahmoud Kaddoura, Aimee Schwab-McCoy, Kirsten Tocchini

2018

“Bringing Mainstream Media into the Quantitative Literacy Classroom”
Shifting Contexts, Stable Core: Advancing Quantitative Literacy in Higher Education
E-ISBN: 9781614443247
• Aimee Schwab-McCoy

2017

“Life on an Island: Using Peer Consulting in Applied Statistics Courses”
CHANCE: Vol. 30, Special Issue on Climate Change
https://chance.amstat.org/2017/11/life-on-an-island/
• Aimee Schwab-McCoy

2016

“Developing a First-Year Seminar Course in Statistics and Data Science”
Promoting understanding of statistics about society. Proceedings of the Roundtable Conference of the International Association of Statistics Education (IASE), July 2016, Berlin Germany.
https://iase-web.org/documents/papers/rt2016/Schwab.pdf
• Aimee Schwab-McCoy

2016

“Emerging Patterns in Multi-Sourced Data Modeling Uncertainty”
Spatial Statistics: Special Issue on Emerging Patterns
https://doi.org/10.1016/j.spasta.2016.05.005
• Alexander Kolovos, Lynette Smith, Aimee Schwab-McCoy, Sarah Gengler, Hwa-Lung Yu

2015

“Beta-Binomial Kriging: An Improved Model for Spatial Rates”
Procedia Environmental Sciences — https://doi.org/10.1016/j.proenv.2015.07.101
• Aimee Schwab, David Marx

PRESENTATIONS

Note: Virtual conference presentations can be viewed on my YouTube channel

2021 **"Developing Statistical Intuition Through Simulation Studies in a Second Statistics Course"**
IASE Virtual Satellite — Remote
• Aimee Schwab-McCoy

2021 **Toronto Data Workshop: Invited Teaching Panel**
University of Toronto — Remote
• Panelists: Aimee Schwab-McCoy, Ashley Juavinett, Chris Papalia, and Samantha-Jo Caetano

2021 **"Statistics Education Across the University: A Systematic Review"**
UNL x-DBER Virtual Conference — Remote
• Aimee Schwab-McCoy

2020 **"Moving Backward: Designing an R Ecosystem for Academic Programs"**
Use-R 2020! — Remote (COVID-19)
• Aimee Schwab-McCoy

2020 **"Is a Consensus Curriculum on the Horizon?"**
UC Berkeley Workshop on Data Science Education — Remote (COVID-19)
• Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper

2020 **"Data Science in 2020: Computing, Curricula, and Challenges for the Next 10 Years"**
Symposium on Data Science and Statistics — Remote (COVID-19)
• Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper

2020 **"Subsemble Estimation for Spatial Count Data"**
Conference on Statistical Practice — Sacramento, CA
• Aimee Schwab-McCoy, Mark May

2019 **"Toward Interpretable Machine Learning"**
Omaha Women in Machine Learning and Data Science (Invited) — Omaha, NE
• Aimee Schwab-McCoy

2019 **"Pre-Conceptions of Statistical Inference in Biostatistics"**
University of Nebraska Medical Center Department Colloquium (Invited) — Omaha, NE
• Aimee Schwab-McCoy

2019 **"Pre-Conceptions of Statistical Inference in Biostatistics"**
Joint Statistical Meetings — Denver, CO
• Aimee Schwab-McCoy

2019 **"Applications of Subsemble Estimation in Multivariate Spatial Models"**
Joint Statistical Meetings — Denver, CO
• Mark May, Aimee Schwab-McCoy

2019 **“Pre-Conceptions of Statistical Inference in Biostatistics”**
US Conference on Teaching Statistics — State College, PA
• Aimee Schwab-McCoy

2018 **“Statistics Education Across the University: A Systematic Review”**
Joint Statistical Meetings — Vancouver, BC, Canada
• Aimee Schwab-McCoy

2018 **“Spatial Simulation and Estimation of Generalized Linear Mixed Models with Non-Normal Data”**
BERD Big Data Methodology Workshop — Omaha, NE
• Lynette Smith, Aimee Schwab-McCoy, David Marx

2017 **“Data-Focused Activities and Lessons in Seminar-Style Introductory Courses”**
US Conference on Teaching Statistics — State College, PA
• Aimee Schwab-McCoy, Ming-Wen An Wissman, Adam Molnar

2018 **“Life in the Data Deluge: A First-Year Seminar on the Implications of Data Science for Daily Life”**
Joint Mathematics Meetings — San Diego, CA
• Aimee Schwab-McCoy

2016 **“Developing a First-Year Seminar Course in Statistics and Data Science”**
IASE Roundtable Conference (Invited) — Berlin, Germany
• Aimee Schwab-McCoy

2015 **“Statistical Consulting: Making Connections Across the Curriculum”**
US Conference on Teaching Statistics — State College, PA
• Aimee Schwab, Pamela Fellers

2016 **“Peer Consulting in Undergraduate Statistics Courses”**
Joint Mathematics Meetings — Seattle, WA
• Aimee Schwab-McCoy

2015 **“Beta-Binomial Kriging: An Alternative Model for Spatial Rates”**
Joint Statistical Meetings — Seattle, WA
• Aimee Schwab, David Marx

2015 **“Beta-Binomial Kriging: An Alternative Model for Spatial Rates”**
Spatial Statistics 2015: Emerging Patterns — Avignon, France
• Aimee Schwab, David Marx

2014 **“Spatial Simulation and Estimation of Generalized Linear Mixed Models with Non-Normal Data”**
METMA-GRASPA Joint Meeting — Turino, Italy
• Lynette Smith, Aimee Schwab, David Marx

2014 **“Using the Island to Develop Consulting Skills”**
Joint Statistical Meetings — Boston, MA
• Aimee Schwab

2014 **“Developing New Statistics Instructors and Student Leaders Through Peer Mentoring”**
CAUSE Webinar — Online webinar
• Erin Blankenship, Aimee Schwab

2013 **“Facebook Friend Data: Analyzing Non-Random Samples in the Introductory Course”**
Joint Statistical Meetings — Montreal, Canada
• Aimee Schwab

2013 **“Using StatCrunch Friend Data to Illustrate Consequences of a Non-Random Sample”**
US Conference on Teaching Statistics — Raleigh, NC
• Aimee Schwab

GRANTS

2020 **“Nebraska Institute in Human-Powered AI for Bioimaging”**
National Science Foundation (NSF 20-503) — Amount: $45,822 (Under review)
• Creighton PI: Aimee Schwab-McCoy; Subaward from UNL

2019 **“Nebraska Center for Modeling, Analysis, Prediction, and Imaging of Data”**
Nebraska EPSCoR RII Pre-Proposal — Amount: $13,633,045 (Declined)
• PI: Jennifer Clarke (UNL); Co-PIs: Martin Centurion (UNL), Bertrand Clarke (UNL), Mikil Foss (UNL), Adam Larios (UNL), Mahbubal Majumder (UNO), Nathan Pennington (Creighton), Petronela Radu (UNL), Aimee Schwab-McCoy (Creighton), Stephen Scott (UNL)

2019 **“MAPping Data Science: Establishing an Institute for Meaningful Assessment Practices in Data Science”**
National Science Foundation (NSF 19-549) — Amount: $434,917 (Declined)
• PI: Aimee Schwab-McCoy; Co-PIs: Catherine Baker, Rebcca Gasper

2019 **“Applications of Subsemble Estimation in Multivariate Spatial Models”**
Creighton Haddix President’s Faculty Research Fund — Amount: $5,000 (Awarded)
• PI: Aimee Schwab-McCoy

2019 **“Faculty Development Grant: Introduction to Data Science”**
CURAS Certificate in Research and Scholarship — Amount: $2,000 (Awarded)
• PI: Aimee Schwab-McCoy

2019 **“Faculty Development Grant: Biostatistics”**
CURAS Certificate in Research and Scholarship — Amount: $4,000 (Awarded)
• Co-PIs: Aimee Schwab-McCoy, Andrew Kraemer

2018 **“Honey Bees in Peril: An investigation of honey bee viral infection dynamics and modeling-implications for Colony Collapse Disorder”**
Haddix Interdisciplinary Project Grant — Amount: $15,000 (Awarded)
• PI: Carol Fassbinder-Orth; Co-Pis: Andrew Kraemer, Aimee Schwab-McCoy

2018 **"Exploring Student Understanding and Misconceptions of Statistical Inference in Biostatistics"**
Creighton Scholarship of Teaching and Learning Grant — Amount: $1,500 (Awarded)
• PI: Aimee Schwab-McCoy

2017 **"Statistics Education Across the University: A Systematic Review"**
Xavier Wheeler Award — Amount: $4,000 (Awarded)
• PI: Aimee Schwab-McCoy

2016 **"Creating a Xavier pilot program to support career specialization and persistence of female students in disciplines with underrepresentation"**
Xavier Women of Excellence Grant — Amount: $10,000 (Awarded)
• Co-PIs: Laura Wessels, Dena Morton, Aimee Schwab-McCoy, Heidrun Schmitzer

SERVICE

2022 **Program Chair; Section on Data Science and Statistics Education**
Joint Statistical Meetings — Washington, DC
• Coordinate invited and contributed talks at the 2022 Joint Statistical Meetings, as well as organize Birds of a Feather sessions (in-person and virtually) for the 2021 JSM

2021 | 2020 **Goldwater Scholarship Committee**
Member — Creighton University
• Review and mentor Goldwater scholarship applications

2021 | 2020 **OpenIntro Statistics**
Contributor — openintro.org
• Contribute multiple choice questions developed using the Rexams framework to the OpenIntro Statistics Project

2021 | 2020 **Magis Core Curriculum Assessment Committee**
Member — Creighton University
• Review assessment rubrics and plans for Magis Core Curriculum

2020 | 2019 **Ratio Studiorum Program**
Freshman advisor — Creighton University
• Advise first-year students in the Ratio Studiorum Program

2020 | 2017 **Reviewer**
Journal and conference reviews — Various
• Journal of Statistics Education, Spatial Statistics, Journal of University Teaching and Learning, SIGSCE (Special Interest Group on Computer Science Education) Technical Symposium

2020 | 2018 **Reviewer**
Textbook reviews — Various
• Review proposed and revised textbooks: "Foundations of Statistics with R", "The Analysis of Biological Data", "STAT2: Building Models for a World of Data", "Principles of Biostatistics", "Modern Data Science with R"

2020 **Clare Boothe Luce Scholarship Award Committee**
Member — Creighton University
• Review applications for Clare Boothe Luce tuition and research scholarship

2017 | 2016 **Quantitative Reasoning Committee**
Member — Xavier University
• Review and approve course proposals for Quantitative Reasoning Flag in core curriculum

2017 | 2016 **Hiring Committee**
Member — Xavier University
• Review and interview candidates for open positions in statistics

AWARDS

2019 **Best Young Investigator Award**
Winner — ASA Section on Teaching Statistics in the Health Sciences

2014 **Best Contributed Paper Award - JSM**
Winner — ASA Section on Teaching Statistics in the Health Sciences

2013 **Outstanding Graduate Teaching Assistant Award (UNL)**
Honorable Mention — University of Nebraska-Lincoln

STUDENT RESEARCH

2022 | 2021 **Exercise Habits and Knowledge of the Menstrual Cycle in Female Athletes**
IT Sligo — Student: Amber Hunter (MS)
• Create and analyze a survey of Irish female athletes to understand knowledge and behaviors regarding exercise, training, and the menstrual cycle

2022 | 2021 **Exploring Ergogenic Use Prevalence in Irish Athletes**
IT Sligo — Student: Victoria Harris (MS)
• Create and analyze a survey of Irish athletes to explore the use and knowledge of ergogenic aids such as creatine in athletic training

2021 | 2020 **Modeling social distancing adherence during the COVID-19 pandemic**
Creighton University — Student: Josh Eason (UG)
• Use dimension reductions to create a “mapping” of counties in the US to use in a spatial-temporal model of adherence to social distancing restrictions

2021 **Exploring Attitudes Toward Probiotics on Twitter via Text Mining**
IT Sligo — Student: Catherine Fallon (UG)
• Use text mining to explore social media discourse promoting the use of probiotics

2021 **Global Nutrition Project: Progress on Nutrition in Ireland and Abroad**
IT Sligo — Student: Sara Bourke (UG)
• Combine data from the Global Nutrition Project and other online databases to explore progress toward adequate nutrition in Europe and the developing world

2021

A Systematic Review of Dietary Changes During the COVID-19 Pandemic

IT Sligo — Student: Ruth Maloney (UG)

- Use systematic review and meta-analysis to understand changes in dietary habits - particularly snacking - during the pandemic

2019

Subsemble estimation applied to spatial GLMMs

Creighton University — Student: Mark May (UG)

- Apply subsemble estimation for estimating spatial parameters in a generalized linear mixed model (GLMM).

2018

Analysis of high dimensional case-control study

Creighton University — Student: Jessica Sandcork (UG)

- Evaluate resampling-based multiple testing and adaptive Benjamini-Hochberg procedures to test for statistically significant differences between subjects in a small sample case-control study. Used machine learning to adjust for correlation between variables.