Colin Lewis-Beck

CONTACT INFORMATION

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Department of Statistics
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RESEARCH INTERESTS

Reliability, hierarchical modeling, economics and elections, and public policy

EDUCATION

PhD, Statistics
Iowa State University, 2018

Dual MPP/MA, Public Policy and Applied Statistics
University of Michigan, 2010

BA, French
Middlebury College, 2005

PUBLICATIONS

Lewis-Beck C., Walker V., Niemi J., Caragea P., Hornbuckle B., "Extracting Agronomic Information from SMOS Vegetation Optical Depth in the US Corn Belt Using a Nonlinear Hierarchical Model." *Remote Sensing.* 2020; 12(5):827.

Lewis-Beck C., Zhengyuan Z., Mondal A., Jin Song J., Hobbs, J., Hornbuckle B., Patton J., "A Parametric Approach to Unmixing Remote Sensing Crop Growth Signatures." *Journal of Agricultural and Biological Statistics.* 24(3) (2019) 502-516.

Mittman E., Lewis-Beck C., Meeker W.Q., "A Hierarchical Model for Heterogenous Reliability Field Data." *Technometrics.* 61, No. 3 (2019): 354-368.

Lewis-Beck C., Lewis-Beck M. Applied Regression: An Introduction, Second Edition. Sage Publications, 2015

Lewis-Beck C., Abouzaid S., Xie L., Baser O., Kim E. "Analysis of relationship between psoriasis severity and quality of life, work productivity, and activity impairment among patients with moderate to severe psoriasis using structural equation modeling." *Preference and Adherence.* 2013:7 1-7

Wang, L., Lewis-Beck, C., Baser, E., Fritschel, E. and Baser, O. "Applied Comparison of Meta-analysis Techniques." *Value in Health.* 2013 Nov 1; 16(7):A701

ACADEMIC POSITIONS

Visiting Assistant Professor, University of Iowa
Department of Statistics & Actuarial Science — **Fall 2018-present**

WORK EXPERIENCE

Software Developer, NIMBLE, Berkeley, CA — **Summer 2017**
Interned as part of the Google Summer of Code program

- Wrote and tested an R package to fit ecological statistical models
- Collaborated with other programmers using GitHub
- Wrote code that went into the main nimble R package

Statistical Analyst, STATinMED Research, Ann Arbor, MI — **2011-2012**
Research Department

- Analyzed large claim databases using advanced statistical techniques (e.g., GLMs, SEMs, propensity score matching, and meta-analysis)
- Drafted statistical protocols and wrote final manuscripts analyzing and interpreting study results for client, as well as academic, publication
- Worked directly with clients, senior researchers, and programmers to ensure projects were completed correctly and on schedule

Teaching Experience

Instructor, University of Iowa **2018-present**

- *Econometric Analysis* (Spring 2019)
- *Mathematical Statistics I* (Fall 2018, Fall 2019)
- *Mathematical Statistics II* (Spring 2019, Spring 2020)
- *Statistics & Society* (Fall 2018, Spring 2019, Fall 2019, Spring 2020)

Instructor, University of Michigan **Summer 2018 - present**
Interuniversity Consortium for Political and Social Research (ICPSR) Summer Program

- *Introduction to Meta-Analysis* (Summer 2018)
- *Introduction to Regression Analysis* (Summer 2019, 2020)

Instructor, Iowa State University **2017-2018**

- *Statistical Methods for Research Workers (Graduate Course)* (Summer 2018)
- *Probability and Statistical Inference for Engineers* (Spring 2018)
- *Engineering Statistics* (Spring 2017, Fall 2017)

Teaching Assistant, Iowa State University **2014-2015**

- *Applied Statistical Modeling (Graduate Course)* (Fall 2015)
- *Introduction to Statistics* (Fall 2014, Spring 2015)

Graduate Student Instructor, University of Michigan **2007-2010**

- *Introduction to Statistical Reasoning* (Fall 2009, Spring 2010)
- *Introduction to Statistics and Data Analysis* (Spring 2009)
- *Statistics for Public Policy (Graduate Course)* (Spring 2008, Fall 2008)
- *Introduction to Microeconomics for Public Policy* (Fall 2007)

Presentations and Workshops

"Using the M-RA Approximation to Integrate Multiple Data Sources on Temperature." Presentation, Joint Statistical Meetings (JSM), Denver, CO (July 2019)

"A Hierarchical Model for Heterogenous Reliability Field Data." Colloquium Speaker, Department of Statistics and Actuarial Science, University of Iowa, Iowa City, IA (March 2019)

"A Parametric Approach to Unmixing Remote Sensing Crop Growth Signatures." Presentation, Joint Statistical Meetings (JSM), Vancouver, BC (August 2018)

"A Nonlinear Hierarchical Approach for Modeling Crop Growth in the US Corn Belt." Presentation, Kansas State University Conference on Applied Statistics in Agriculture, Manhattan, KS (May 2018)

"A Hierarchical Model for Heterogenous Reliability Field Data." Poster, Joint Statistical Meetings (JSM), Baltimore, MD (August 2017)

Graduate Workshop on Environmental Data Analytics, National Center for Atmospheric Research (NCAR), Boulder, CO (June 2017)

Speaker (with Hal Stern), Center for Statistics and Applications in Forensic Evidence (CSAFE), "An Introduction to Statistical Thinking for Forensic Practitioners." Palm Beach County Sheriff's Office, Palm Beach, FL (March 2016)

Invited Blalock Lecturer (with Michael Lewis-Beck), Interuniversity Consortium for Political and Social Research (ICPSR), University of Michigan, "Regression Questions You Always Wanted to Ask." (July 2015)

"Analysis of relationship between psoriasis severity and quality of life, work productivity, and activity impairment among patients with moderate to severe psoriasis using structural equation modeling." Poster, International Society for Pharmacoeconomics and Outcomes Research (ISPOR), Washington, DC (June 2012)

Awards

Teaching Excellence Award, Iowa State University, Dept. of Statistics (2018)

SAGE Cornerstone Author Award for publication (with Michael Lewis-Beck) of Applied Regression: An Introduction, Second Edition (2015)

Outstanding Teaching Award, University of Michigan, Dept. of Statistics (2010)

Other Experience

Summer Program Computing Consultant **Summer (2006, 2013, 2014)**
ICPSR, University of Michigan

- Assisted program participants and faculty with a wide range of statistical and programming backgrounds with questions in R, Stata, SPSS, and SAS
- Promoted to Team Leader (2013, 2014). Responsible for supervising a staff of 8 Computer Consultants.

Computer Skills

Scientific Programming: R, Rcpp, SAS, STAN, and Stata
Markup Languages: LaTeX, Markdown
Software Development: GitHub

Professional Memberships

American Statistical Association