

# Daniel J. Eck

## Curriculum Vitae

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🌐 <http://campuspress.yale.edu/danieleck/>

### Experience

2017–present **Postdoctoral Associate**, *Biostatistics, Yale University*.  
Mentor: Forrest W. Crawford

### Education

2013–2017 **Ph.D. in Statistics**, *University of Minnesota*.  
Advisors: Charles J. Geyer and R. Dennis Cook

2009 **BS in Mathematics**, *Southern Illinois University in Carbondale*, Magna Cum Laude honors.

### Publications

**Eck, D. J.** (2018). Bootstrapping for multivariate linear regression models. *Statistics and Probability Letters*, **134**, pgs 141–149.

Kohler, R. J., Arnold, S. A., **Eck, D. J.**, and Pluhar, E. (2018). Short-term complications and risk factors in dogs undergoing craniotomy for intracranial neoplasia: 160 cases (2009–2015). *In press at Journal of the American Veterinary Medical Association*.

**Eck, D. J.** and Cook, R. D. (2017). Weighted envelope estimation to handle volatility in model selection. *Biometrika*, **104**, pgs 743–749.

**Eck, D. J.** and McKeague, I. W. (2016). Central Limit Theorems under additive deformations. *Statistics and Probability Letters*, **118**, pgs 156–162.

**Eck, D. J.**, Shaw, R. G., Geyer, C. J., and Kingsolver, J. (2015). An Integrated Analysis of Phenotypic Selection on Insect Body Size and Development Time. *Evolution*, **69**, pgs 2525–2532.

### Submitted/Working Papers

**Eck, D. J.**, Nachtsheim, C., Cook, R. D., and Albrecht, T. (2018). Dimensional analysis in multivariate design of experiments. *Under revision. Preprint at <https://arxiv.org/abs/1708.01481>*.

**Eck, D. J.** and Geyer, C. J. (2018). Computationally efficient likelihood inference in exponential families when the maximum likelihood estimator does not exist. *Submitted. Preprint at <https://arxiv.org/abs/1803.11240>*.

**Eck, D. J.**, Geyer, C. J., and Cook, R. D. (2018). Combining Envelope Methodology and Aster Models for Variance Reduction in Life History Analyses. *Submitted. Preprint at <https://arxiv.org/abs/1701.07910>*.

**Eck, D. J.**, Morozova, O., and Crawford, F. W. (2018). Randomization for infectious disease interventions in clustered study populations. *Submitted. Preprint at* <https://arxiv.org/abs/1808.05593>.

Cheng, S., **Eck, D. J.**, and Crawford, F. W. (2018). Estimating the size of a hidden finite set: large-sample behavior of estimators. *Submitted. Preprint at* <https://arxiv.org/abs/1808.04753>.

**Eck, D. J.** (2018). Challenging nostalgia and performance metrics in baseball. *Submitted*.

**Eck, D. J.**, Crawford, F. W., and Aronow, P. M. (2018). Conformal prediction for exponential families and generalized linear models.

## Technical Reports

**Eck D. J.**, Shaw, R. G., Geyer, C. J., and Kingsolver, J. G. (2015). Supporting Data Analysis for "An Integrated Analysis of Phenotypic Selection on Insect Body Size and Development Time." Technical Report No. 698. School of Statistics, University of Minnesota. <http://conservancy.umn.edu/handle/11299/172272>

**Eck D. J.** (2015). Supporting Data Analysis for "An Application of Envelope Methodology and Aster Models." Technical Report No. 699. School of Statistics, University of Minnesota. <http://conservancy.umn.edu/handle/11299/178384>

## Software

R package **envlpaster** (envelope estimators of aster model parameters). Current version 0.1-2. <https://cran.r-project.org/web/packages/envlpaster/index.html>

R package **gdor** (generic directions of recession). Current version 0.1-1. (beta-version) <https://github.com/DEck13/gdor/tree/master/package/gdor>

## Presentations

"Weighted Envelope Estimation to Handle Variability in Model Selection," August, 2018. Talk given at the Joint Statistical Meetings in Vancouver.

"Conformal prediction for generalized linear models," April, 2018. Talk given at the Crawford Lab, Yale University.

"Reproducible Research," November, 2017. Talk given at the Crawford Lab, Yale University.

"Maximum Likelihood Estimation in Exponential Families," May, 2017. Talk given at the Student Seminar, University of Minnesota.

"Envelope methodology applied to aster models," August, 2015. Talk given at the Joint Statistical Meetings in Seattle Washington.

"Central limit theory under additive deformations," November, 2015. Talk given at the Student Seminar, University of Minnesota.

"Enveloping the Aster Model," October, 2015. Poster given at the ASA Fall Research Conference at the Mayo clinic in Rochester, MN.

## Teaching and Appointments

### Classroom teaching

Instructor for STAT 3011 *Introduction to Statistics*, Summer 2014.

Instructor for STAT 3011 *Introduction to Statistics*, Fall 2013.

### Teaching assistant

TA for STAT 8054 *Advanced Statistical Computing*, Spring 2015.

TA for STAT 8112 *PhD Asymptotic Statistics*, Spring 2015.

TA for STAT 5303 *Masters level Design of Experiments*, Fall 2014.

TA for STAT 3011 *Introduction to Statistics*, Spring 2014.

TA for STAT 5102 *Masters level Statistical Theory*, Spring 2013.

TA for STAT 4101 *Statistical Theory*, Fall 2012.

### Research assistant

RA for the Ruth G. Shaw Lab, Summer 2016.

RA for Georgiana May, Summer 2015.

### Consulting

UMN Statistical Consulting Center, Spring 2016.

## Service

### Conferences

Session organizer for "Modern Methods for Semi-Parametric Regression", The 32nd New England Statistics Symposium (2018), University of Massachusetts, Amherst.

### Reviewer

*Biometrika*, *Statistics and Probability Letters*, *SIAM/ASA Journal on Uncertainty Quantification*, *The American Statistician*, *United States Geological Survey*

### Community

Volunteer mathematics tutoring through the Hennepin County Library system (2016-2017).

## Awards and Honors

Summer Research Fellowship, 2013. The summer work led to the paper "An Integrated Analysis of Phenotypic Selection on Insect Body Size and Development Time".

Southern Illinois University at Carbondale undergraduate student tuition waiver, Fall 2009. A scholarship awarded on the basis of academic achievement.

Southern Illinois University at Carbondale undergraduate student tuition waiver, Spring 2008. A scholarship awarded on the basis of academic achievement.

Southern Illinois University at Carbondale undergraduate student tuition waiver, Fall 2008. A scholarship

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