

Daniel E. Cook

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Education

Northwestern University

Ph.D. Graduate Student – Interdisciplinary Program in Biological Sciences (IBiS)

Evanston, IL

2013-present

University of Iowa

B.S. Biology with Honors

Iowa City, IA

May 2010

Experience

Andersen Lab, Northwestern University

Graduate Student

Evanston, IL

2014–Present

- Created a genome-wide association portal using cloud-based services for the *C. elegans* community (elegansvariation.org).
- Assembled and processed the largest collection of *C. elegans* wild isolate sequence data in existence.
- Developed R and python packages for processing genetic data.
- Developed bioinformatic pipelines for processing whole-genome sequence data including calling SNVs, indels, and other variant classes.
- Creation and maintainance of laboratory website (andersenlab.org).

Ober Lab, University of Chicago

Research Assistant

Chicago, IL

2012-2013

- Assisted with development of databases for phenotypic and genotypic data.
- Helped disclose carrier status to individuals.

Murray Lab, University of Iowa

Research Assistant

Iowa City, IL

2009-2012

- Conducted geographic analysis of Iowa newborn screen data.
- Collected Human Placental tissue for genetic, epigenetic, and expression studies.

Skills

Projects: [GitHub.com/danielecook](https://github.com/danielecook)

Package Development: R, Python

Programming: Python, R, Bash, Stata, git

Database: SQL, BigQuery, Google Datastore

Web: HTML, Javascript, CSS, Django, Flask, Jekyll, Mediawiki, Wordpress

Genetic Analysis: bwa, Samtools, Bcftools, Plink, Galaxy

Cloud/Cluster: AWS, Google Cloud, Slurm

General: L^AT_EX, sketch, travis-ci

Professional Activities

- **2016** - NSF Data Science Workshop 2016 @ University of Washington
- **2015** - NSF Data Science workshop 2015 @ University of Washington
- **2015** - Teaching Assistant, Genetic Analysis
- **2014** - Contributed to development of computational bootcamp for incoming graduate students.
- **2011** - Americorps; Tutored and mentored underprivileged students in Boston.

Honors and Awards

- **2015** - IBiS Travel Award (\$975)
- **2015** - Northwestern TGS Conference Travel Grant (\$600)
- **2014** - National Science Foundation Graduate Research Fellowship (full support for three years)
- **2006** - University of Iowa National Scholars Award

Publications

2016 The Genetic Basis of Natural Variation in *Caenorhabditis elegans* Telomere Length

Cook, Daniel E, Stefan Zdraljevic, Robyn E Tanny, Beomseok Seo, David D Riccardi, Luke M Noble, Matthew V Rockman, Mark J Alkema, Christian Braendle, Jan E Kammenga, John Wang, Leonid Kruglyak, Marie-Anne Félix, Junho Lee, and Erik C Andersen
Genetics. PMID: 27449056 DOI: 10.1534/genetics.116.191148.

2015 DYRK1A controls the transition from proliferation to quiescence during lymphoid development by destabilizing Cyclin D3

Thompson, Benjamin J, Rahul Bhansali, Lauren Diebold, Cook, Daniel E, Lindsay Stolzenburg, Anne-Sophie Casagrande, Thierry Besson, Bertrand Leblond, Laurent Désiré, and Sébastien Malinge
The Journal of experimental medicine. PMID: 26008897 DOI: 10.1084/jem.20150002.

2013 The heritability of metabolic profiles in newborn twins.

Alul, Farah Y, Cook, Daniel E, Oleg a Shchelochkov, Lauren G Fleener, Stanton L Berberich, Jeffrey C Murray, and Kelli K Ryckman
Heredity 110.3. PMID: 23149456 DOI: 10.1038/hdy.2012.75.

Generating Manhattan plots in Stata

Cook, Daniel E, Kelli R Ryckman, and Jeffrey C Murray
Stata Journal 13.2.

Clinical and environmental influences on metabolic biomarkers collected for newborn screening

Ryckman, Kelli K., Stanton L. Berberich, Oleg a. Shchelochkov, Cook, Daniel E., and Jeffrey C. Murray
Clinical Biochemistry 46.1-2. PMID: 23010448 DOI: 10.1016/j.clinbiochem.2012.09.013.

The influence of maternal disease on metabolites measured as part of newborn screening

Ryckman, Kelli K, Oleg A Shchelochkov, Daniel E Cook, Stanton L Berberich, Sara Copeland, John M Dagle, and Jeffrey C Murray
The Journal of Maternal-Fetal & Neonatal Medicine 26.14. PMID: 23550828 DOI: 10.3109/14767058.2013.791267.

2012 Replication of clinical associations with 17-hydroxyprogesterone in preterm newborns

Ryckman, Kelli K., Cook, Daniel E., Stanton L. Berberich, Oleg a. Shchelochkov, Susan K. Berends, Tamara Busch, John M. Dagle, and Jeffrey C. Murray
Journal of Pediatric Endocrinology and Metabolism 25.3-4. PMID: 22768660 DOI: 10.1515/jpem-2011-0456.

Presentations

2016 The *C. elegans* natural diversity resource

Talk – Midwest *C. elegans* meeting

Van Andel Research Institute, Grand Rapids, MI.

The genetic basis of natural variation in *C. elegans* telomere length

Talk – International Conference on Quantitative Genetics, Madison WI.

2015 Genome-Wide and Species-Wide Variation in *C. elegans* Reveals

Association of Telomere Length With Population Differences in *pot-2*

Talk – International Worm Meeting 2015, UCLA.

2012 Mapping Newborn Screen Data: A Geographic Exploration

Poster – Pediatric Academic Societies Meeting, Boston, MA.