



**Erik C. Andersen**

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### **MAJOR PROFESSIONAL INTERESTS**

Evolutionary genetics; quantitative genetics; molecular genetics; developmental genetics

### **EDUCATION**

- 2008-2013 Post-doctoral fellowship  
Princeton University  
Advisor: Dr. Leonid Kruglyak
- 2000-2008 Ph.D. in Biology  
Massachusetts Institute of Technology (MIT), Cambridge, MA  
Advisor: Dr. H. Robert Horvitz  
Dissertation: The synthetic Multivulva genes and their suppressors regulate opposing cell fates through chromatin remodeling
- 1996-2000 B.S. in Biological Sciences with departmental honors  
Stanford University, Stanford, CA  
Advisor: Dr. Matthew P. Scott  
Dissertation: *in vivo* analysis of *Drosophila* heart-tube formation

### **AWARDS, HONORS, AND FELLOWSHIPS**

- 2022 - Editorial Board of *Journal of Nematology*
- 2021 Distinguished Teaching Award, Weinberg College of Arts and Sciences
- 2020 Editorial Board Member of *Gene*
- 2019 - 2022 Human Frontiers Science Program Award Recipient
- 2018 - 2023 National Science Foundation CAREER Award Recipient
- 2017 - 2020 Associate Editor for *BMC Genomics*
- 2015 - 2019 American Cancer Society Research Scholar
- 2015 - 2017 March of Dimes Basil O'Connor Research Scholar
- 2015 - Editorial Board Member of *Trends in Genetics*
- 2014 - 2018 Pew Scholar in the Biomedical Sciences
- 2012 - 2013 Howard Hughes Medical Institute Post-doctoral Fellow
- 2011 - 2012 National Cancer Institute Post-doctoral Fellow, training grant T32-CA009528
- 2009 - 2011 Ruth L. Kirschstein National Research Service Award Recipient
- 2005 - 2006 Anna Fuller Cancer Graduate Research Fellowship
- 2000 Firestone Medal for Excellence in Undergrad. Research (top Biological Sciences researcher)
- 1999, 1998 Howard Hughes Medical Institute Summer Research Fellowship
- 1998 Stanford University Undergraduate research small grant recipient
- 1996-1998 Robert C. Byrd Honors Scholarship recipient

**EMPLOYMENT**

2020 - Associate Professor of Cell and Developmental Biology, Feinberg School of Medicine, Northwestern University

2019 - Associate Professor of Molecular Biosciences, Northwestern University

2013 - Preceptor for the Interdisciplinary Biological Sciences Graduate Program (IBiS)  
Resident member of the Chemistry of Life Processes Institute (CLP)  
Full Member of the Robert H. Lurie Comprehensive Cancer Center  
Member of Northwestern Institute on Complex Systems (NICO)

2013 - 2019 Assistant Professor of Molecular Biosciences, Northwestern University

2008 - 2013 Post-doctoral fellow, Princeton University, Princeton, NJ, Advisor: Dr. Leonid Kruglyak

2000 - 2008 Graduate student, Biology Department at Massachusetts Institute of Technology (MIT), Cambridge, MA, Advisor: Dr. H. Robert Horvitz

**RESEARCH SUPPORT****PRESENT**

2020 - 2025 National Institutes of Health (R01 AI153088) - NIAID  
Total: \$1,799,626 (\$1,142,050 direct, \$657,576 indirect)  
*Discovery of novel benzimidazole resistance mechanisms*  
Lead PI: Erik Andersen, co-PIs: Fraser (UCSF), Gilleard (U Calgary), Kaplan (U Georgia)

2019 - 2022 National Science Foundation, Collections in Support of Bio. Res. - Living Collections (1930382)  
Total: \$708,075 (\$469,694 direct, \$238,381 indirect)  
*Enhancement of the Caenorhabditis Natural Diversity Resource*  
co-PI: Erik Andersen, co-PI: Robyn Tanny

2019 - 2022 Human Frontiers Science Program Research Grant (RGP0001/2019)  
Total: \$351,000 (\$319,091 direct, \$31,909 indirect)  
*The repeatability of the genetic mechanisms underlying behavioral evolution*  
Lead PI: Erik Andersen, co-PIs: Brown (Imperial, MRC), Hodgins (Monash)

2018 - 2023 National Institutes of Health (R01 ES029930) - NIEHS  
Total: \$1,906,121 (\$1,287,165 direct, \$618,956 indirect)  
*Discovery of conserved molecular mechanisms underlying population-wide variation in toxin responses*  
Lead PI: Erik Andersen, co-PIs: Baugh (Duke), Rockman (NYU)

2018 - 2023 National Science Foundation CAREER Award (1751035)  
Total: \$530,812 (\$365,678 direct, \$165,134 indirect)  
*Discovery of the molecular mechanisms underlying microevolution of phenotypic plasticity in a developmental trait*  
PI: Andersen

2018 - 2022 National Institutes of Health (U2C OD026506) - NIEHS  
Total: \$300,879 (\$190,431 direct, \$110,448 indirect)  
*Genetics and quantum chemistry as tools for unknown metabolite identification*  
Lead PI: Dr. Art Edison (UGA), co-PIs Andersen, Fernandez (Georgia Tech), McIntyre (U of Florida), Merz (Missouri State), Schroeder (Cornell)

- 2018 - 2023 National Science Foundation (1764421) and Simons Foundation (597491)  
 Research Center for Mathematics of Complex Biological Systems  
 Total: \$537,065 estimated (\$434,145 direct, \$102,920 indirect)  
*Understanding organismal growth and development through quantitative approaches*  
 Lead PIs Dr. Rich Carthew and Dr. Bill Kath, co-PIs Andersen, Mangan and Wang
- 2018 - 2022 National Institutes of Health (R01 GM127433) - NIGMS  
 Total: \$22,174 (\$14,034 direct, \$8,140 indirect)  
*100k spontaneous mutations: the foundation for an evolutionary systems biology of C. elegans*  
 PIs: Dr. Charlie Baer (Univ. of Florida) and Dr. Vaishali Katju (Texas A+M) with sub to Andersen
- PAST**
- 2017 - 2021 National Institutes of Health (R01 DK115690) - NIDDK  
*Large scale nutrigenetics and genomics in a tractable metazoan model*  
 Multi-investigator Grant with EC Andersen, AJ Marian Walhout (UMass Medical School), Frank Schroeder (Cornell)
- 2021 Weinberg College of Arts and Sciences Baker Faculty Research Program Award  
*Genome-wide association studies of drug and toxin responses*  
 PI: Erik Andersen
- 2020 NUSeq Pilot Project Program (sponsored by Illumina)  
*Genome sequencing of Heterakis gallinarum*  
 PI: Andersen
- 2015 - 2020 American Cancer Society Research Scholar Grant (127313-RSG-15-135-01-DDC)  
*Elucidating the genetic causes of variation in chemotherapy-based toxicity*  
 PI: Andersen
- 2017 - 2020 National Institutes of Health (R21 AG053638) - NIA  
*High-throughput multi-modal analysis of natural variation in C. elegans healthspan*  
 Multi-investigator Grant with Chris Fang-Yen (Univ. of Pennsylvania) and Andersen
- 2016 - 2019 National Institutes of Health (R21 AI121836) - NIAID  
*Discovery and validation of avermectin resistance loci in free-living and parasitic nematodes*  
 PI: Andersen with subcontract to Dr. Michael Kimber (Iowa State University)
- 2014 - 2019 Pew Charitable Trusts, Scholars Program in the Biomedical Sciences  
*Elucidating the genetics of anthelmintic resistance in nematode-borne neglected tropical diseases*  
 PI: Andersen
- 2014 - 2019 National Institutes of Health (R01 GM107227) - NIGMS  
*Direct determination of the distribution of fitness effects of spontaneous mutations*  
 PI: Dr. Charlie Baer (University of Florida) with subcontract to Andersen
- 2018 Google, Inc.  
 Google Cloud Platform Research credit award  
*Optimization of computational pipelines to support the C. elegans Natural Diversity Resource*  
 PI: Andersen
- 2016 - 2017 Amazon Web Services  
*Optimization of computational pipelines to support the C. elegans Natural Diversity Resource*  
 PI: Andersen

- 2016-2017 IDP/Sherman Fairchild Research Innovation Challenge Award, Robert H. Lurie Comprehensive Cancer Center  
*Validating individual differences in cytotoxicity to improve personalized chemotherapy treatment regimens*  
Multi-investigator Grant with Andersen and Dr. Paul Burrridge (Northwestern University)
- 2015 - 2017 March of Dimes Basil O'Connor Starter Research Grant  
*Identification of hookworm anthelmintic resistance genes to ameliorate maternal and infant anemia*  
PI: Andersen
- 2016 Weinberg College Research Innovation Grant, Northwestern University  
*The Caenorhabditis elegans Natural Diversity Resource - a powerful tool to facilitate biomedical discovery*  
PI: Andersen
- 2014 - 2016 Chicago Biomedical Consortium, Catalyst Grant  
*Uncovering "missing heritability" in an experimentally tractable model organism*  
Multi-investigator Grant with Andersen and Ilya Ruvinsky (University of Chicago)
- 2016 Data Scientist Initiative, Northwestern University  
*A novel statistical model to predict the removal of mobile genetic elements*  
Multi-investigator Grant with Andersen and Jiping Wang (Northwestern University)
- 2013 - 2014 American Cancer Society, Institutional Research Grant [93-037-18]  
*Elucidating the genetic causes of variation in chemotherapy-based toxicity*  
PI: Andersen
- 2013 - 2014 Chemistry of Life Processes, Chairman's Innovation Award  
*Using perturbations of heavy metal homeostasis to treat nematode-borne neglected tropical diseases*  
Multi-investigator Grant with Andersen and Thomas O'Halloran (Northwestern University)

## PUBLICATIONS

h-index=31, i10-index=50, link to Google Scholar page ([here](#))

## PREPRINTS:

- Zhang G, Roberto NM, Lee D, Hahnel SR, and Andersen EC (2022)  
An atlas of gene expression variation across the *Caenorhabditis elegans* species  
*bioRxiv*, Posted Feb. 6, 2022, DOI: <https://doi.org/10.1101/2022.02.06.479320>
- Stevens L, Moya ND, Tanny RE, Gibson SB, Tracey A, Na H, Han Y, Chitrakar R, Dekker J, Walhout AJM, Baugh LR, and Andersen EC (2021)  
Chromosome-level reference genomes for two strains of *Caenorhabditis briggsae*: an improved platform for comparative genomics  
*bioRxiv*, Posted Dec. 1, 2021, DOI: <https://doi.org/10.1101/2021.12.01.470807>

Fouad AD, Churgin MA, Hayden J, Xu J, Park JI, Liu A, Teng C, Sun H, Parrado M, Bowlin P, La Torre MD, Crombie TA, Sedore CA, Coleman-Hulbert AL, Johnson E, Phillips P, Andersen EC, and Fang-Yen C (2021)

High-throughput imaging of *Caenorhabditis elegans* aging using collective activity monitoring  
*bioRxiv*, Posted Oct. 19, 2021, DOI: <https://doi.org/10.1101/2021.10.18.464905>

Widmayer SJ, Evans KS, Zdravljivic S, and Andersen EC (2021)

Evaluating the power and limitations of genome-wide association mapping in *C. elegans*  
*bioRxiv*, Posted September 11, 2021, DOI: <https://doi.org/10.1101/2021.09.09.459688>

Barlow I, Feriani L, Minga E, McDermott-Rouse A, O'Brien T, Liu Z, Hofbauer M, Stowers JR, Andersen EC, Ding SS, Brown AEX (2021)

Megapixel camera arrays for high-resolution animal tracking in multiwell plates  
*bioRxiv*, Posted April 16, 2021, DOI: <https://doi.org/10.1101/2021.04.16.440222>

Nyaanga J, Goss C, Zhang G, Ahmed HN, Andersen EJ, Miller IR, Rozenich JK, Swarthout IL, Vaughn JA, Andersen EC, Mangan NM, and Shirman S (2021)

Physical constraints on growth dynamics guide *C. elegans* developmental trajectories and animal shape  
*bioRxiv*, Posted Apr. 3, 2021, DOI: <https://doi.org/10.1101/2021.04.01.438121>

## PEER-REVIEWED:

Crombie TA, Battlay P, Tanny RE, Evans KS, Buchanan CM, Cook DE, Dilks CM, Stinson LA, Zdravljivic S, Zhang G, Roberto NM, Lee D, Ailion M, Hodgins KA, and Andersen EC (2022)

Local adaptation and spatiotemporal patterns of genetic diversity revealed by repeated sampling of *Caenorhabditis elegans* across the Hawaiian Islands  
*Molecular Ecology*, 2022 Feb 15; DOI: 10.1111/mec.16400.

Andersen EC and Rockman MV (2022)

Natural genetic variation as a tool for discovery in *Caenorhabditis* nematodes  
*Genetics*, 2022 Jan 4; 220(1):iyab156. DOI: 10.1093/genetics/iyab156.

Gilbert KJ, Zdravljivic S, Cook DE, Cutter AD, Andersen EC, and Baer CF (2021)

The distribution of mutational effects on fitness in *Caenorhabditis elegans* inferred from standing genetic variation  
*Genetics*, 2022 Jan 4; 220(1):iyab166. DOI: 10.1093/genetics/iyab166.

Dilks CM, Koury EJ, Buchanan CM, and Andersen EC (2021)

Newly identified parasitic nematode beta-tubulin alleles confer resistance to benzimidazoles  
*International Journal for Parasitology: Drugs and Drug Resistance*, 2021 Dec; 17:168-175. DOI: 10.1016/j.ijpddr.2021.09.006.

Di Bernardo M, Crombie TA, Cook DE, and Andersen EC (2021)

easyFulcrum: An R package to process and analyze ecological sampling data generated using the Fulcrum mobile application  
*PLoS ONE*, 2021 Oct 6; 16(10):e0254293. DOI: 10.1371/journal.pone.0254293.

Nyaanga J, Crombie TA, Widmayer SJ, and Andersen EC (2021)

easyXpress: An R package to analyze and visualize high-throughput *C. elegans* microscopy data generated using CellProfiler  
*PLoS ONE*, 2021 Aug 12; 16(8):e0252000. DOI: 10.1371/journal.pone.0252000.

- Rajaei M, Saxena AS, Johnson LM, Snyder MC, Crombie TA, Tanny RE, Andersen EC, Joyner-Matos J, and Baer CF (2021)  
Mutability of mononucleotide repeats, not oxidative stress, explains the discrepancy between laboratory-accumulated mutations and the natural allele-frequency spectrum in *C. elegans*  
*Genome Research*, 2021 Aug 17. DOI: 10.1101/gr.275372.121.
- Evans KS, van Wijk MH, Andersen EC, and Sterken MG (2021)  
From QTL to gene: *C. elegans* facilitates discoveries of the genetic mechanisms underlying natural variation  
*Trends in Genetics*, 2021 Jul 3; S0168-9525(21)00164-3.
- Gibson SB, Harper CS, Lackner LL, and Andersen EC (2021)  
The *Caenorhabditis elegans* and *Haemonchus contortus* beta-tubulin genes cannot substitute for loss of the *Saccharomyces cerevisiae* beta-tubulin gene  
*microPublication*, 2021 Jun 20; 2021. DOI:10.17912/micropub.biology.000411.
- Gouveia GJ, Shaver AO, Garcia BM, Morse AM, Rodriguez B, Park G, Andersen EC, Edison AS, McIntyre LM (2021)  
Long-term metabolomics reference material  
*ACS Analytical Chemistry*, 2021 Jul 6; 93(26):9193-9199.
- Zhang G, Mostad JD, and Andersen EC (2021)  
Natural variation in fertility is correlated with species-wide levels of divergence in *Caenorhabditis elegans*  
G3, May 13, 2021; jkab168. DOI: [10.1093/g3journal/jkab168](https://doi.org/10.1093/g3journal/jkab168)
- Wit J, Hahnel SR, Rodriguez BC, and Andersen EC (2021)  
Natural variation in *Caenorhabditis elegans* responses to the anthelmintic emodepside  
*International Journal for Parasitology: Drugs and Drug Resistance*, 2021 Apr 17; 16:1-8.
- Lee D, Zdraljevic S, Stevens L, Wang Y, Tanny RE, Crombie TA, Cook DE, Webster AK, Chirakar R, Baugh LR, Sterken M, Braendle C, Felix M-A, Rockman MV, and Andersen EC (2020)  
Balancing selection maintains ancient genetic diversity in *C. elegans*  
*Nature Ecology and Evolution*, 2021 Apr 5; DOI: 10.1038/s41559-021-01435-x.
- Hartman JH, Widmayer S, Bergemann C, King DE, Morton KS, Romersi RF, Jameson LE, Leung MCK, Andersen EC, Taubert S, and Meyer JN (2021)  
Xenobiotic metabolism and transport in *Caenorhabditis elegans*  
*Journal of Toxicology and Environmental Health, Part B: Critical Reviews*, 2021 Feb 17; 24(2):51-94.
- Evans KS, Wit J, Stevens L, Hahnel SR, Rodriguez B, Park G, Zamanian M, Brady SC, Chao E, Introcaso K, Tanny RE, and Andersen EC (2021)  
Two novel loci underlie natural differences in *Caenorhabditis elegans* macrocyclic lactone responses  
*PLoS Pathogens*, 2021 Mar 15; 17(3):e1009297.
- Noble LM, Yuen J, Stevens L, Moya N, Persaud R, Moscatelli M, Jackson J, Braendle C, Andersen EC, Seidel HS, and Rockman MV (2021)  
Selfing is the safest sex for *Caenorhabditis tropicalis*  
*eLife*, 2021; 10:e62587.



- Wit J, Dilks CM, and Andersen EC (2020)  
Complementary Approaches to Understand Anthelmintic Resistance Using Free-Living and Parasitic Nematodes  
*Trends in Parasitology*, Dec 12: S1471-4922(20) 30323-30328.
- Evans KS and Andersen EC (2020)  
The cadmium-responsive gene, *cdr-6*, does not influence *Caenorhabditis elegans* responses to exogenous zinc  
*MicroPublication Biology* Sep. 14; 2020:10.17912/micropub.biology.000305.
- Hahnel SR, Dilks CM, Heising I, Andersen EC, and Kulke D (2020)  
*Caenorhabditis elegans* in anthelmintic research - Old model, new perspectives  
*International Journal for Parasitology: Drugs and Drug Resistance*, 2020 Dec 05; 14: 237-248.
- Evans KS, Zdraljjevic S, Stevens L, Collins K, Tanny RE, and Andersen EC (2020)  
Natural variation in the sequestosome-related gene, *sqst-5*, underlies zinc homeostasis in *Caenorhabditis elegans*  
*PLoS Genetics*, Nov 11; 16(11):e1008986.
- Dilks CM, Hahnel SR, Sheng Q, Long L, McGrath PT, and Andersen EC (2020)  
Quantitative benzimidazole resistance and fitness effects of parasitic nematode beta-tubulin alleles  
*International Journal for Parasitology: Drugs and Drug Resistance*, 2020 Aug 20; 14:28-36.
- Shaver AO, Gouveia GJ, Kirby PS, Andersen EC, and Edison AS (2020)  
Culture and assay of large-scale mixed-stage *Caenorhabditis elegans* populations  
*Journal of Visualized Experiments*, 2020 Aug 26; e61453.
- Na H, Zdraljjevic S, Tanny RE, Walhout AJM, and Andersen EC (2020)  
Natural variation in a glucuronosyltransferase modulates propionate sensitivity in a *C. elegans* propionic acidemia model  
*PLoS Genetics*, Aug 28; 16(8):e1008984.
- Archer H, Deiparine S, and Andersen EC (2020)  
The nematode *Caenorhabditis elegans* nematodes and the terrestrial isopod *Porcellio scaber* likely interact opportunistically  
*PLoS ONE*, 2020 Jun 26; 15(6):e0235000.
- Evans KS and Andersen EC (2020)  
The gene *scb-1* underlies variation in *Caenorhabditis elegans* chemotherapeutic responses  
*G3*, 2020 May 8; g3.401310.2020.
- Zhao Y, Long L, Wan J, Biliya S, Brady SC, Lee D, Ojemakinde A, Andersen EC, Vannberg FO, Lu H, and McGrath PT (2020)  
A spontaneous complex structural variant in *rcan-1* increases exploratory behavior and laboratory fitness of *Caenorhabditis elegans*  
*PLoS Genetics*, 2020 Feb 24; 16(2):e1008606.
- Bayat M, Tanny RE, Wang Y, Herden C, Daniel J, Andersen EC, Liebau E, Waschke DEJ (2020)  
Effects of telomerase overexpression in the model organism *Caenorhabditis elegans*  
*Gene*, 2020 Mar 30; 732:144367.

- Crombie T, Zdraljevic S, Cook DE, Tanny RE, Brady SC, Wang Y, Evans KS, Hahnel S, Lee D, Rodriguez BC, Zhang G, van der Zwaag J, Kiontke KC, and Andersen EC (2019)  
Deep sampling of Hawaiian *Caenorhabditis elegans* reveals high genetic diversity and admixture with global populations  
*eLife*, 2019 Dec 3; 8. pii: e50465.
- Brady SC and Andersen EC (2019)  
An escape-room inspired game for genetics review  
*Journal of Biological Education*, Published online 14 Dec 2019 DOI: 10.1080/00219266.2019.1703784
- Daul AL, Andersen EC, and Rougvie AE (2019)  
The *Caenorhabditis* Genetics Center (CGC) and the *Caenorhabditis elegans* Natural Diversity Resource  
The Biological Resources of Model Organisms, CRC Press, Taylor and Francis Group
- Webster A, Hung A, Moore B, Guzman R, Jordan J, Kaplan R, Hibshman J, Tanny RE, Cook DE, Andersen EC, and Baugh LR (2019)  
Population selection and sequencing of *C. elegans* wild isolates identifies a region on chromosome III affecting starvation resistance  
*G3*, Oct. 7; 9(10):3477-3488.
- Lee D, Zdraljevic S, Cook DE, Frezal L, Hsu JC, Sterken MG, Riksen JAG, Wang J, Kammenga JE, Braendle C, Felix MA, Schroeder FC, and Andersen EC (2019)  
Selection and gene flow shape niche-associated copy-number variation of pheromone receptor genes  
*Nature Ecology and Evolution*, Oct; 3(10):1455-1463.
- Bernstein MR, Zdraljevic S, Andersen EC, and Rockman MV (2019)  
Tightly linked antagonistic-effect loci underlie polygenic demographic variation in *C. elegans*  
*Evolution Letters*, Sep 11; 3(5):462-473.
- Gimond C, Vielle A, Silva Soares N, Zdraljevic S, McGrath PT, Andersen EC, and Braendle C (2019)  
Natural variation and genetic determinants of *Caenorhabditis elegans* sperm size  
*Genetics*, Oct; 213(2):615-632.
- Brady SC, Zdraljevic S, Bisaga KW, Tanny RE, Cook DE, Lee D, Wang Y, Andersen EC (2019)  
A novel gene underlies bleomycin-response variation in *Caenorhabditis elegans*  
*Genetics*, Aug; 212(4):1453-1468.
- Kim C, Kim J, Kim S, Cook DE, Evans KS, Andersen EC, and Lee J (2019)  
Long-read sequencing reveals intra-species tolerance of substantial structural variations and new subtelomere formation in *C. elegans*  
*Genome Research*, June; 29(6): 1023-1035.
- Zdraljevic S, Fox BW, Strand C, Panda O, Tenjo-Castano FJ, Brady SC, Crombie TA, Doench JG, Schroeder FC, and Andersen EC (2019)  
Natural variation in arsenic toxicity is explained by differences in branched chain amino acid catabolism  
*eLife*, Apr 8;8: e40260.
- Hahnel SR, Zdraljevic S, Rodriguez BC, Zhao Y, McGrath PT, and Andersen EC (2018)  
Extreme allelic heterogeneity at a *Caenorhabditis elegans* beta-tubulin locus explains natural resistance to benzimidazoles  
*PLoS Pathogens*, Oct 29; 14(10):e1007226.



- Evans KS, Brady SC, Bloom JS, Tanny RE, Cook DE, Giuliani SE, *Hippleheuser SW*, Zamanian M, and Andersen EC. (2018)  
Shared genomic intervals underlie natural variation in diverse toxin responses  
*Genetics*, Dec; 210(4): 1509-1525.
- Zamanian M, Cook DE, Zdraljevic S, Brady SC, Lee D, Lee J, and Andersen EC (2018)  
Discovery of genomic intervals that underlie nematode responses to benzimidazoles  
*PLoS Neglected Tropical Diseases*, Mar 5; 12(3):e0006368.
- Zdraljevic S and Andersen EC (2017)  
Natural diversity facilitates the discovery of conserved chemotherapeutic response mechanisms  
*Current Opinions in Genetics and Development*, Dec;47:41-47.
- Zdraljevic S, Strand C, Seidel HS, Cook DE, Doench JG, and Andersen EC (2017)  
Natural variation in a single amino acid substitution underlies physiological responses to topoisomerase II poisons  
*PLoS Genetics*, Jul 12; 13(7):e1006891.
- Lee D, Yang H, Kim J, Brady SC, Zdraljevic S, Zamanian M, Kim H, Paik Y, Kruglyak L, Andersen EC, and Lee J (2017)  
The genetic basis of natural variation in a phoretic behavior  
*Nature Communications*, Aug 17; 8(1):273.
- Laricchia KM, Zdraljevic S, Cook DE, and Andersen EC (2017)  
The causes and consequences of natural variation in the distribution and abundance of transposable elements across the *Caenorhabditis elegans* species.  
*Molecular Biology and Evolution*, Sept 1; 34(9):2187-2202.
- Garcia-Gonzalez AP, Ritter AD, Shrestha S, Andersen EC, Yilmaz LS, Walhout AJM (2017)  
Bacterial metabolism affects the *C. elegans* response to cancer chemotherapeutics.  
*Cell*, Apr 20; 169(3):431-441.
- Cook DE and Andersen EC (2017)  
VCF-kit: Assorted utilities for the variant call format  
*Bioinformatics*, May 15; 33(10):1581-1582.
- Mashock MJ, Zanon T, Kappell AD, Petrella LN, Andersen EC, Hristova KR (2016)  
Copper oxide nanoparticles impact several toxicological endpoints and cause neurodegeneration in *Caenorhabditis elegans*  
*PLoS ONE*, Dec 2; 11(12):e0167613.
- Evans KS, Zhao Y, Brady SC, Long L, McGrath PT, Andersen EC (2016)  
Correlations of genotype with climate parameters suggest *Caenorhabditis elegans* niche adaptations  
*G3*, Jan 5;7(1):289-298.
- Cook DE, Zdraljevic S, Roberts JP, Andersen EC (2016)  
CeNDR, the *Caenorhabditis elegans* Natural Diversity Resource.  
*Nucleic Acids Research*, Jan 4; 45(D1):D650-D657.

- Cook DE, Zdraljevic S, Tanny RE, Seo B, Riccardi DD, Noble LM, Rockman MV, Alkema MJ, Braendle C, Kammenga JE, Wang J, Kruglyak L, Felix MA, Lee J, Andersen EC (2016)  
The genetic basis of natural variation in *C. elegans* telomere length  
*Genetics*, Sept; 204(1):371-83.
- Large EE, Xu W, Zhao Y, Brady SC, Long L, Butcher RA, Andersen EC, McGrath PT (2016)  
Selection on a Subunit of the NURF Chromatin Remodeler Modifies Life History Traits in a Domesticated Strain of *Caenorhabditis elegans*  
*PLoS Genetics*, July 28; 12(7):e1006219.
- Zamanian M and Andersen EC. (2016)  
Prospects and challenges of CRISPR/Cas genome editing for the study and control of neglected vector-borne nematode diseases  
*FEBS*, Sep; 283(17):3204-21.
- Farhadifar R, Ponciano JM, Andersen EC, Needleman DJ, Baer CF. (2016)  
Mutation Is a Sufficient and Robust Predictor of Genetic Variation for Mitotic Spindle Traits in *Caenorhabditis elegans*  
*Genetics*, Aug; 203(4):1859-1870.
- Sterken MG, Snoek LB, Kammenga JE, Andersen EC. (2015)  
The laboratory domestication of *C. elegans*  
*Trends in Genetics*, Mar; 31(5) 224-231.
- Thompson OA, Snoek LB, Nijveen H, Sterken MG, Volkers RJM, Brenchley R, van't Hof A, Bevers RPJ, Cossins AR, Yanai I, Hajnal A, Schmid T, Perkins JD, Spencer D, Kruglyak L, Andersen EC, Moerman DG, Hillier LW, Kammenga JE, Waterston RH. (2015)  
Remarkably divergent regions punctuate the genome assembly of the *Caenorhabditis elegans* Hawaiian strain CB4856  
*Genetics*, May 19; 200(3) 975-989.
- Andersen EC, Shimko TC, Crissman JR, Ghosh R, Gerke JP, Seidel HS, Kruglyak L. (2015)  
A powerful new quantitative genetics platform combining *Caenorhabditis elegans* high-throughput fitness assays with a large collection of recombinant strains  
*G3*, Mar 13; 5(5) 911-920.
- Farhadifar R, Baer CF, Valfort AC, Andersen EC, Muller-Reichert T, Delattre M, Needleman DJ. (2015)  
Scaling, Selection, and Evolutionary Dynamics of the Mitotic Spindle  
*Current Biology*, Mar 16; 25(6) 732-740.
- Balla K, Andersen EC, Kruglyak L, Troemel E. (2015)  
A wild *C. elegans* strain has enhanced epithelial immunity to a natural microsporidian parasite  
*PLoS Pathogens*, Feb 13; 11(2)e1004583.
- Etienne V\*, Andersen EC\*, Ponciano JM, Blanton D, Cadavid A, Joyner-Matos J, Matsuba C, Tabman B, Baer CF. (2015)  
The Red Death Meets the Abdominal Bristle: Polygenic Mutation for Susceptibility to a Bacterial Pathogen in *Caenorhabditis elegans*  
*Evolution*, Feb; 69(2) 508-519. \*equal contribution

Shimko TC, Andersen EC. (2014)

*COPASutils*: an R package for reading, processing, and visualizing data from COPAS large-particle flow cytometers

*PLoS ONE*, Oct 20; 9(10):e111090.

Andersen EC, Bloom JS, Gerke JP, Kruglyak L. (2014)

A variant in the neuropeptide receptor *npr-1* is a major determinant of *Caenorhabditis elegans* growth and physiology

*PLoS Genetics*, Feb; 10(2):e1004156.

### **Publications from research prior to Northwestern University:**

Felix MA, Jovelín R, Ferrari C, Han S, Cho YR, Andersen EC, Cutter AD, Braendle C. (2013)

Species richness, distribution and genetic diversity of *Caenorhabditis* nematodes in a remote tropical rainforest

*BMC Evolutionary Biology*, Jan 12;13:10.

Ghosh R, Andersen EC, Shapiro JA, Gerke JP, Kruglyak L. (2012)

Natural variation in a chloride channel subunit confers avermectin resistance in *C. elegans*

*Science*, 335(6068): 574-578.

Andersen EC\*, Gerke JP\*, Shapiro JA\*, Crissman JR, Ghosh R, Bloom JS, Felix MA, Kruglyak L. (2012)

Chromosome-scale selective sweeps shape *Caenorhabditis elegans* genomic diversity

*Nature Genetics*, 44(3): 285-290. \*equal contribution

Andersen EC. (2011)

PCR-directed *in vivo* plasmid construction using homologous recombination in baker's yeast

*Molecular Methods for Evolutionary Genetics*, 772; 409-421. \*Invited book chapter

Raj A, Rifkin SA, Andersen EC, van Oudenaarden A. (2010)

Variability in gene expression underlies incomplete penetrance

*Nature*, 463(7283): 913-918.

Bessler JB, Andersen EC, Villeneuve AB. (2010)

Differential localization and independent acquisition of the H3K9me2 and H3K9me3 chromatin modifications in the *Caenorhabditis elegans* adult germ line

*PLoS Genetics*, 6(1): e1000830.

Reddy KC\*, Andersen EC\*, Kruglyak L, and Kim DH. (2009)

A polymorphism in *npr-1* is a behavioral determinant of pathogen susceptibility in *C. elegans*

*Science*, 323(5912): 382-384. \*equal contribution

Andersen EC, Saffer AM, and Horvitz HR. (2008)

Multiple levels of redundant processes inhibit *Caenorhabditis elegans* vulval cell fates

*Genetics*, 179(4): 2001-2012.

Andersen EC and Horvitz HR. (2007)

Two *C. elegans* histone methyltransferases repress *lin-3* EGF transcription to inhibit vulval development

*Development*, 134(16): 2991-2999.

- Reddien PW, Andersen EC, Huang M, and Horvitz HR. (2007)  
DPL-1 DP, LIN-35 Rb, and EFL-1 E2F act with the MCD-1 Zinc-finger protein to promote programmed cell death in *C. elegans*  
*Genetics*, 175(4): 1719-1733.
- Andersen EC, Lu X, and Horvitz HR. (2006)  
*C. elegans* ISWI and NURF301 antagonize an Rb-like pathway in the determination of multiple cell fates  
*Development*, 133(14): 2695-2704.
- Furlong EE, Andersen EC, Null B, White KP, and Scott MP. (2001)  
Patterns of gene expression during *Drosophila* mesoderm development  
*Science*, 293(5535): 1629-1633.

## PROFESSIONAL SEMINARS

### Departmental seminars and invited conference presentations (not including trainees):

- 2022 The *C. elegans* Metabolism, Aging, Pathogenesis, Stress and Small RNAs (Keynote, scheduled)  
Genetics and Molecular Biology seminar series, University of North Carolina - Chapel Hill (scheduled)  
Dept. of Biology, Oklahoma University (scheduled)  
Wellcome Evolutionary Systems Biology (virtual)
- 2021 The Ascarid Research and Training Initiative, Lyon, France (Keynote, virtual)  
Bridging the Divide: International Worm Meeting (Keynote, virtual)  
66th Annual Meeting of the American Association of Veterinary Parasitologists (Keynote, virtual)  
Max Planck Institute for Evolutionary Biology, Plön, Germany (virtual)  
Institut de Biologie Valrose, Nice, France (virtual)
- 2020 American Society of Tropical Medicine and Hygiene, symposium on genetic crosses (virtual)  
Dept. of Molecular Medicine, Univ. of Massachusetts Medical School, Worcester, MA (virtual)  
Oakton Community College, Des Plaines, IL (virtual)  
Chengdu Research Base of Giant Panda Breeding, Chengdu, People's Republic of China
- 2019 Netherlands Institute for Ecology (NIOO-KNAW), Wageningen, Netherlands  
Dept. of Genetics, Wageningen Univ. and Research, Wageningen, Netherlands  
Dept. of Nematology, Wageningen Univ. and Research, Wageningen, Netherlands  
Dept. of Genome Sciences, Univ. of Washington, Seattle, WA  
Institute of Molecular Biology, Academia Sinica, Taiwan  
Dept. of Genetics, Univ. of Georgia, Athens, GA  
Dept. of Infectious Diseases, Univ. of Georgia, Athens, GA  
Dept. of Biology, Georgia Institute of Technology, Atlanta, GA  
Ingram Cancer Center, Vanderbilt University, Nashville, TN
- 2018 Max Planck Institute for Developmental Biology, Tübingen, Germany  
Dept. of Evolutionary Ecology and Genetics, Christian-Albrechts-Universität, Kiel, Germany  
Berlin Seminar for Resistance Research, Freie Universität Berlin, Berlin, Germany  
Robert H Lurie Comprehensive Cancer Center, Northwestern University, Chicago, IL  
Dept. of Genetics, Washington University School of Medicine, St. Louis, MO  
Dept. of Genetics, University of Pennsylvania, Philadelphia, PA  
Dept. of Pathobiology, University of Pennsylvania, Philadelphia, PA  
Dept. of Microbiology, Seoul National University, Seoul, Korea  
Dept. of Biology, University of Oregon, Eugene, OR  
Dept. of Biological Sciences, University of Southern California, Los Angeles, CA  
Dept. of Cell Biology and Anatomy, Rosalind Franklin University, Chicago, IL  
New York Univ. Center for Genomics and Sys. Bio. Parasite Workshop, Abu Dhabi, UAE

- 2018 Department of Biology, Univ. of California - San Diego, San Diego, CA  
 Department of Biology, Duke University, Durham, NC  
 Donnelly Centre for Cellular And Biomolecular Research, University of Toronto, Toronto, ON  
 Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY  
 Medical Research Council, London Institute of Medical Sciences, London, UK  
 Department of Biology, Carnegie Mellon University, Pittsburgh, PA  
 Host-Parasite Interactions, University of Calgary, Banff, Canada  
 Florida Area Worm Meeting (Keynote), Florida Institute of Technology, Melbourne, FL  
 Department of Biology, Skirball Institute, New York University Medical School, New York, NY  
 Department of Biology, University of Minnesota, Minneapolis, MN
- 2017 Department of Biology, Indiana University, Bloomington, IN  
 New York University Center for Genomics and Systems Biology Symposium in Abu Dhabi, UAE
- 2016 Midwest Quantitative Biology at Purdue University, West Lafayette, IN  
 Molecular and Cellular Biology of Helminth Parasites X, Hydra, Greece  
 Computational Research Day, Northwestern University, Evanston, IL  
 Evolutionary Biology of *Caenorhabditis* and other nematodes (Keynote), CSHL, Cold Spring Harbor, NY  
 Department of Genetics, University of Utah, Salt Lake City, UT  
 Department of Biology, University of Iowa, Iowa City, IA  
 Department of Biomedical Sciences, Iowa State University, Ames, IA  
 Anthelmintics: Discovery to Resistance II, San Diego, CA  
 Program in Systems Biology, University of Massachusetts Medical School, Worcester, MA
- 2015 Evolution seminar series, University of Wisconsin, Madison, WI  
 Biotechnology Training Program, Northwestern University, Evanston, IL  
 Department of Biology, Johns Hopkins University, Baltimore, MD  
 Department of Biology, University of Maryland, College Park, MD  
 Department of Pharmacology, Feinberg School of Medicine, Northwestern University, Chicago, IL  
 Midwest Neglected Infectious Disease Meeting, Notre Dame University, South Bend, IN  
 Quantitative genetics workshop, 20th International *C. elegans* meeting, UCLA, Los Angeles, CA  
 Michigan Area Worm Meeting, van Andel Institute, Grand Rapids, MI
- 2014 Northwestern Institute on Complex systems, Northwestern University, Evanston, IL  
 Fondation de Treilles: Revisiting the roles of phenotypic plasticity in evolution, Provence, France  
 Biology Department, Marquette University, Milwaukee, WI  
 Pharmacogenomics group, University of Chicago, Chicago, IL

*Seminars before starting at Northwestern:*

- 2013 Quantitative genetics workshop, 19th International *C. elegans* meeting, UCLA, Los Angeles, CA  
 Molecular Bioscience Department, Northwestern University, Evanston, IL  
 Program in Systems Biology, University of Massachusetts Medical School, Worcester, MA
- 2012 Biology Department, Dartmouth University, Hanover, NH  
 Human Genetics Department and Life Sciences Institute, University of Michigan, Ann Arbor, MI  
 Genetics Department, University of Georgia, Athens, GA  
 Biology Department, Case Western Reserve University, Cleveland, OH  
 Biology Department and BioDesign Institute, Arizona State University, Phoenix, AZ  
 Center for Computational and Integrated Biology, Rutgers University, Camden, NJ  
 Biology Department, University of Florida, Gainesville, FL
- 2011 Evolution workshop, 18th International *C. elegans* meeting, UCLA, Los Angeles, CA  
 Laboratory of Toxicology, NIEHS, Research Triangle Park, NC
- 2010 Institute for Evolutionary Biology Department, University of Edinburgh, Edinburgh, UK
- 2008 Featured talk at *C. elegans* Aging, Stress, and Pathogenesis meeting, Madison, WI
- 2000 Undergraduate research symposium, Stanford University, Stanford, CA

## PEER REVIEW AND RELATED ACTIVITIES

### Editorial Board:

2022 - *Journal of Nematology*  
2020 - *Genes*  
2015 - *Trends in Genetics*

### Associate Editor:

2017 - 2019 *BMC Genomics (Multicellular invertebrate genomics)*

### Guest Associate Editor:

*PLoS Genetics, eLife, PLoS Pathogens*

### Reviewing activity: Grants and fellowships

2022 Katholieke Universiteit Leuven grant reviewer  
*Ad hoc* reviewer National Science Foundation (IOS)  
*Ad hoc* reviewer NIH NIDA Avenir Award  
Scientific Advisory Board for P01AI127338 (PI Michael Ferdig, Notre Dame Univ.)

2021 ERC Consolidator Grant reviewer (COI, declined)  
NIH F30/F31/F32 fellowship review panel ZRG F05-Q (20)  
Canada Foundation for Innovation reviewer  
NSF reviewer  
Scientific Advisory Board for P01AI127338 (PI Michael Ferdig, Notre Dame Univ.)

2020 NIH Special Emphasis panel ZRG IFCN-C (02)  
NIH Special Emphasis panel ZRG ETTN-N (02)  
Scientific Advisory Board for P01AI127338 (PI Michael Ferdig, Notre Dame Univ.)

2019 *Ad hoc* reviewer for Wellcome Trust Early Career Grant  
Panel reviewer on NASA, Flight and Ground Space Biology  
*Ad hoc* reviewer for Agence Nationale de la Recherche  
*Ad hoc* reviewer for Univ. of Wisconsin - Milwaukee Catalyst grant  
Panel reviewer on NIH NIAID R13  
*Ad hoc* reviewer National Science Foundation (CAREER)  
*Ad hoc* reviewer for Swiss 3R Competence Centre  
*Ad hoc* reviewer for Austrian Science Foundation  
Scientific Advisory Board for P01AI127338 (PI Michael Ferdig, Notre Dame Univ.)

2018 *Ad hoc* reviewer for Alzheimer's Society  
*Ad hoc* reviewer National Science Foundation (IOS)  
*Ad hoc* reviewer National Science Foundation (CAREER)  
Scientific Advisory Board for P01AI127338 (PI Michael Ferdig, Notre Dame Univ.)  
*Ad hoc* reviewer for Bill and Melinda Gates Foundation

2016 ERC COST grant reviewer

2015 *Ad hoc* reviewer for National Toxicity Program, project assessment

2014 *Ad hoc* reviewer for Human Frontiers Science Program  
*Ad hoc* reviewer for National Science Foundation (IOS)



## PROFESSIONAL AFFILIATIONS AND SERVICE

### Membership in Professional Societies:

Genetics Society of America  
Society of Molecular Biology and Evolution  
Society for Evolution

### Mentorship and Diversity training:

2022 Univ. of Wisconsin - Madison, Center for the Improvement of Mentored Experiences in Research (CIMER), in-person  
2022 Arizona State Univ., Culturally Aware Mentoring, virtual  
2021 Univ. of Southern California, Strategies for Equity-based Holistic Review in Graduate Admissions  
2021 Northwestern Univ., Diversity, equity, and inclusion in hiring decisions

### Professional service:

2022 External thesis committee member for Leonor Gianechini (Moorhead lab, Univ. of Georgia)  
External thesis committee member for Marta Muniz (Samson-Himmelstjerna lab, Freie Univ. Berlin)  
External thesis committee member for Youn Jae Kang (Ding lab, Max Planck Institute of Animal Behavior)  
External thesis committee member for Amanda Shaver (Edison lab, Univ. of Georgia)  
Worm Board *ex officio* member Nematode Genomes  
Organizing committee Anthelmintics V: Resistance and vaccines  
Scientific Advisory Board Member for P01AI127338 (PI Dr. Michael Ferdig, Notre Dame Univ.)  
2021 Worm Board *ex officio* member Nematode Genomes  
Co-organizer of the Chicago Area Worm Meeting (ChAWM, [www.chawm.org](http://www.chawm.org))  
Scientific Advisory Board Member for P01AI127338 (PI Dr. Michael Ferdig, Notre Dame Univ.)  
2020 Worm Board *ex officio* member Nematode Genomes  
Co-organizer of the Chicago Area Worm Meeting (ChAWM, [www.chawm.org](http://www.chawm.org))  
Scientific Advisory Board Member for P01AI127338 (PI Dr. Michael Ferdig, Notre Dame Univ.)  
2019 External thesis committee examiner for Yiru Wang (Kammenga lab, Wageningen Univ. and Research)  
External thesis committee member for Amanda Shaver (Edison lab, Univ. of Georgia)  
External thesis committee examiner for Aurian Garcia-Gonzalez (Walhout lab, UMMS)  
Co-organizer of the Chicago Area Worm Meeting (ChAWM, [www.chawm.org](http://www.chawm.org))  
Scientific Advisory Board Member for P01AI127338 (PI Dr. Michael Ferdig, Notre Dame Univ.)  
2018 Organizing committee for *C. elegans* dev., cell bio., and gene exp. meeting (Barcelona, Spain)  
Chair of the Natural Variation session, *C. elegans* dev., cell bio., and gene exp. meeting  
Co-organizer of the Chicago Area Worm Meeting (ChAWM, [www.chawm.org](http://www.chawm.org))  
Scientific Advisory Board Member for P01AI127338 (PI Dr. Michael Ferdig, Notre Dame Univ.)  
Organizing committee for Parasitic Nematodes meeting, NYU Abu Dhabi  
External thesis committee member for Victoria Vu (Fraser lab, University of Toronto)  
Poster judge, Northwestern Undergraduate Research Symposium  
2017 Organizing committee for the 21st International *C. elegans* meeting  
Chair of the Evolution and Ecology parallel session, 21st International *C. elegans* meeting  
2015 Organizing committee for the 20th International *C. elegans* meeting  
Poster judge, 20th International *C. elegans* meeting - Evolution and Genomics section  
Genetics Soc. of America Mentor Lunch, *Postdoc search*, 20th International *C. elegans* meeting  
2014 Panelist, NUIN Post-doc Association, *Interviews and Start-up packages*  
Poster judge, Northwestern Undergraduate Research Symposium  
Panelist, Pathways to the Professoriate, *How to prepare for a job interview?*

- 2013 Poster judge, Northwestern Undergraduate Research Symposium  
 Panelist, Bioscientist Freshman seminar; *How to find a research lab?*  
 Poster judge, 19th International *C. elegans* meeting - Evolution and Genomics section

### ***C. elegans* community service and open-science software:**

- 2016 - Creator and advisor board member of the *C. elegans* Natural Diversity Resource (CeNDR, [link](#))  
 This resource organizes and disseminates wild *C. elegans* strains, whole-genome sequence data, and enables genome-wide association mappings through a cloud-based service. Since 2016, over 3300 strains have been distributed to the community and over 5000 mappings have been performed.

## **TEACHING AND ADVISING**

### **Undergraduate teaching:**

- 2022 **New course: Biological Sciences 203: *Genetics and Evolution* (winter, 379 students)**  
 Biological Sciences 399: *Independent Research* (Andrea Phung)
- 2021 **Biological Sciences 393: *Genetic Analysis* (spring, 31 students)**  
 Biological Sciences 399: *Independent Research* (Karan Gowda, Kailyn Parham, Katie Introcaso)
- 2020 **Biological Sciences 215: *Genetics and Molecular Biology* (spring, 492 students)**  
 Biological Sciences 399: *Independent Research* (Anna Derrick, Emily Jahn, Jake Mostad, Kailyn Parham)
- 2019 **Biological Sciences 393: *Biomedical Genetics* (spring, 19 students)**  
 Biological Sciences 398: *Tutorial in Biology* (Anna Derrick, Emily Jahn, Kailyn Parham)  
 Biological Sciences 399: *Independent Research* (Karol Bisaga, Grace Park, Jake Mostad)
- 2018 **Biological Sciences 393: *Genetic Analysis* (winter, 28 students)**
- 2018 Biological Sciences 398: *Tutorial in Biology* (Karol Bisaga)  
 Biological Sciences 399: *Independent Research* (Karol Bisaga, Kimberly Collins, Selina Deiparine, Grace Park)
- 2017 **Biological Sciences 393: *Genetic Analysis* (spring, 22 students)**  
 Biological Sciences 398: *Tutorial in Biology* (Kimberly Collins)  
 Biological Sciences 399: *Independent Research* (Selina Deiparine, Samuel Hamilton, Grace Park)
- 2016 **Biological Sciences 393: *Genetic Analysis* (spring, 17 students)**  
 Biological Sciences 398: *Tutorial in Biology*  
 (Sarah Bier, Mattlyn Cordova, Selina Deiparine, Samuel Hamilton, Grace Park)
- 2015 **Guest Lecture: University of Wisconsin-Madison Biology 675 - *Evolution seminar***  
 (fall, 8 students)  
**New course: Biological Sciences 393: *Genetic Analysis* (spring, 10 students)**  
 Biological Sciences 398: *Tutorial in Biology* (Lautaro Cilenti)  
 Biological Sciences 399: *Independent Research* (Kreena Patel, Hillary Tsang)
- 2014 Biological Sciences 398: *Tutorial in Biology* (Mazeed Aro-Lambo, Kreena Patel, Hillary Tsang)

### **Graduate teaching:**

- 2022 Driskill Graduate Program 430: Genetic Analysis - Leveraging Big Data and Model Organisms  
 (spring, one guest lecture, estimated 15 students)
- 2021 **New course: Interdisciplinary Biological Sciences: *Introduction to R for biologists***  
 (fall, Five students)  
 Driskill Graduate Program 430: Genetic Analysis - Leveraging Big Data and Model Organisms  
 (spring, one guest lecture, 16 students)

2020	Interdisciplinary Biological Sciences 423: <i>Ethics of collaboration</i> (fall, one guest lecture, 45 students)
2019	Interdisciplinary Biological Sciences 421: <i>Rigor and Reproducibility</i> (summer, one guest lecture, 17 students)
2018	Interdisciplinary Biological Sciences 421: <i>Rigor and Reproducibility</i> (summer, one guest lecture, 25 students) Interdisciplinary Biological Sciences/Chemistry 416: <i>Practical Training in Chemical Biology Methods and Experimental Design</i> (spring, five lectures, 10 students)
2017	Interdisciplinary Biological Sciences 421: <i>Rigor and Reproducibility</i> (summer, one guest lecture, 15 students) Interdisciplinary Biological Sciences/Chemistry 416: <i>Practical Training in Chemical Biology Methods and Experimental Design</i> (spring, five lectures, 8 students) Interdisciplinary Biological Sciences 421: <i>Rigor and Reproducibility</i> (spring, one guest lecture, 5 students)
2016	Interdisciplinary Biological Sciences: <i>Graduate Computational Biology Bootcamp</i> (fall, 3 days, eight hours per day, 19 students) - <a href="http://www.GitHub.com/AndersenLab/IBiS-Bootcamp">www.GitHub.com/AndersenLab/IBiS-Bootcamp</a>
2015	Interdisciplinary Biological Sciences 402: <i>Eukaryotic Molecular Biology</i> (fall, one guest lecture, 22 students) Interdisciplinary Biological Sciences: <i>Graduate Computational Biology Bootcamp</i> (fall, 3 days, eight hours per day, 22 students) - <a href="http://www.GitHub.com/AndersenLab/IBiS-Bootcamp">www.GitHub.com/AndersenLab/IBiS-Bootcamp</a> Interdisciplinary Biological Sciences 423: <i>Ethics of peer review</i> (spring, one guest lecture, 41 students)
2014	Interdisciplinary Biological Sciences 402: <i>Eukaryotic Molecular Biology</i> (fall, one guest lecture, 16 students) <b>New course:</b> Interdisciplinary Biological Sciences: <i>Graduate Computational Biology Bootcamp</i> (fall, 3 days, eight hours per day, 16 students) - <a href="http://www.GitHub.com/AndersenLab/IBiS-Bootcamp">www.GitHub.com/AndersenLab/IBiS-Bootcamp</a> Interdisciplinary Biological Sciences 423: <i>Ethics of peer review</i> (spring, one guest lecture, 42 students)
2013	Interdisciplinary Biological Sciences 402: <i>Eukaryotic Molecular Biology</i> (fall, one guest lecture, 24 students)

**K-12 advising:**

Preeti Rao, Adlai E. Stevensen High School (2022)  
 Ned Koh, Lake Forest Academy (2021-2022)  
 Yahya Junejo, Hinsdale Central High School (2020)  
 Shanthi Hegde, Lambert High School (2020 - 2021)  
 Aarnav Patel, Barrington High School (2020)  
 Justine Rozenich, Saint Ignatius College Preparatory (2020-2022)  
 Hannah Ahmed, Normal Community High School (2019-2020)  
 Ally Bardas, New Trier High School (2019-2021)  
*Regeneron Science Talent Search Finalist 2021*  
 Sarosh Nagar, Glenbrook North High School (2018-2019 academic year)  
 Britney Sun, Glenbrook North High School (summer 2018)  
 Ethan Schonfeld, Glenbrook North High School (summer 2018)  
 Lillian Tushman, Oak Park and River Forest High School (2016-2017 academic year)  
 Caitlin Westerfield, Evanston Township High School (2015-2016 academic year)  
 Matteo di Bernardo, Evanston Township High School (2015-2016 academic year)  
 Ainsley Tran, Oak Park and River Forest High School (2015-2016 academic year)  
 Lauren Mann, Oak Park and River Forest High School (2014-2015 academic year)  
 Jacob Cruger, Latin School of Chicago (summers 2013, 2014)

Gina Liu, Illinois Math and Science Academy (2013-2014 academic year)

**Undergraduate advising:**

Nicole Banks (2021 - 2022, Class of 2022), Biological Sciences Major

Andrea Phung (2021 - , Class of 2025), Biological Sciences Major

*2022 AYURG recipient*

Cassia Yeo (2021 - , Class of 2025), Biological Sciences Major

Joey Gallindo (2021, Class of 2024), Engineering Major

*2021 Summer URG recipient*

Jordan Vaughn (2020 - 2021, Class of 2023), Biological Sciences Major

*2021 WCAS Baker Family Summer Grant recipient*

Karan Gowda (2020 - 2021, Class of 2022), Biological Sciences Major

*2020 Center for Quantitative Biology Summer Grant recipient, 2021 Academic Year URG recipient*

Iris Swarthout (2020 - 2021, Class of 2023), Biological Sciences Major

*2020 Summer Internship Grant Program recipient, 2021 Summer URG recipient*

Raghav Gupta (2020, Class of 2022), Biological Sciences Major

Emily Jahn (2019 - 2020, Class of 2020), Biological Sciences Major

*2019 Weinberg College Summer Grant recipient*

Kailyn Parham (2019 - 2021, Class of 2021), Biological Sciences Major

*2019 Summer URG recipient, 2020 Academic Year URG Recipient, 2021 Acad. Year URG Recipient*

Anna Derrick (2019 - 2020, Class of 2021), Biological Sciences Major

*2019 Weinberg College Summer Grant recipient*

Jake Mosted (2018 - 2020, Class of 2020), Biological Sciences Major

*2019 Summer URG recipient*

Katie Introcaso (2018 - 2022, Class of 2022), Biological Sciences Major

*2020 Summer URG recipient, 2021 WCAS Baker Family Summer Grant recipient*

Ellen Chao (2018 - 2021, Class of 2021), Biological Sciences Major

*2018 Summer URG recipient, 2019 Chemistry of Life Processes Lambert Fellow*

Karol Bisaga (2017 - 2019, Class of 2020), Biological Sciences Major

*2017 NU Bioscientist Summer Grant recipient*

Tim Sheng (2018 - 2019, Class of 2019), Biological Sciences Major

*2018 Summer URG recipient*

Grace Park (2016 - 2019, Class of 2019), Biological Sciences Major

*2016 Posner Fellowship recipient, 2017 Program in Biological Sciences Summer Grant recipient,*

*Natural Sciences and Engineering 2nd place poster prize recipient*

Zyneb Adewusi (2018, Class of 2018), Biological Sciences Major, Moraine Valley Community College

*2018 Summer Research Opportunities Program (SROP) recipient 2019 Northwestern Undergraduate*

Yihong Hu (2018 - 2019, Class of 2021), Biological Sciences Major

*2018 Program in Biological Sciences Summer Grant recipient*

Chido Chikaturudzi (2017-2018, Class of 2018), Biological Sciences Major, Northeastern Illinois Univ.

Peter Finnegan (2017 - 2018, Class of 2020), Biological Sciences Major

*2017 Program in Biological Sciences Summer Grant recipient*

Kimberly Collins (2016 - 2018, Class of 2020), Biological Sciences Major

*2017 NU Bioscientist Summer Grant recipient*

Selina Deiparine (2016 - 2018, Class of 2018), Biological Sciences Major

*2016 Summer URG recipient, 2016 Academic URG recipient*

Rohit Rastogi (2016 - 2017, Class of 2019), Computer Science and Statistics Majors

Sarah Bier (2016 - 2017, Class of 2019), Biological Sciences Major

*2016 Summer URG recipient*

Mattlyn Cordova (2016 - 2017, Class of 2019), Gender Studies Major

*2016 Program in Biological Sciences Summer Grant recipient*

Joshua Roberts (2015-2016, Class of 2016), Computer Science Major



Nicholas Irons (2015, Class of 2018), Physics Major  
*2015 Summer URG recipient*

Annika Zhang (2014-2015, Class of 2018), Biological Sciences Major  
*2015 Weinberg College Summer Grant recipient*

Tyler Shimko (summers 2012, 2013, 2014, 2015, University of Utah Class of 2015), Biology Major  
*Barry Goldwater Scholarship recipient*  
*Myriad Academic Scholarship recipient*  
*Thomas Verender Hanks Scholarship recipient*  
*National Science Foundation Graduate Research Fellowship recipient*  
*Department of Energy Computational Science Graduate Fellowship Honorable Mention*

Mazeed Aro-Lambo (2014, Class of 2017), Biological Sciences Major  
*2014 NU Bioscientist Summer Grant recipient*

Stevie Hippleheuser (2014 - , Class of 2017), Biological Sciences Major  
*2016 Program in Biological Sciences Summer Grant recipient*  
*2015 Summer URG recipient*  
*2014 Weinberg College Summer Grant recipient*

Camille Calvin (2014, Class of 2017), Mechanical Engineering Major  
*2014 Posner fellowship recipient*

Hillary Tsang (2013 - 2016, Class of 2016), Biological Sciences Major  
*2015 Weinberg Summer Grant recipient*  
*2014 Summer URG recipient*  
*2014 Academic URG recipient*

Lautaro Clienti (2013 - 2015, Class of 2017), Mechanical Engineering Major  
*2014 Academic URG recipient*

Kreena Patel (2013 - 2015, Class of 2015), Biological Sciences and Psychology Double Major  
*2015 Emmanuel Margoliash Prize for Basic Research recipient*  
*Winfred Hill Award recipient*  
*James Alton James Scholar*  
*Ellen Taus Scholarship recipient*  
*J.G. Nolan Scholarship recipient*  
*2014 Academic URG recipient*

Zifan Xiang (2014 - 2015, Class of 2015), Biomedical Engineering Major

Stephen Chan (2013 - 2014, Class of 2014), Computer Science Major  
*2013 Summer URG recipient*

#### **Masters student advising:**

Caroline Bond (Quantitative and Systems Biology Masters), 2021-2022

Anita Huang (Biotechnology Program), 2018 - 2020

Ryan (Heechul) Chung (Quantitative and Systems Biology Masters), 2018 - 2019

Suma Aldakeel (advisor, Cindy Voisine - Northeastern Illinois Univ.), 2016 - 2017

Kristen Larrichia (advisor, Nyree Zerega – Program in Plant Biology and Conservation), 2014 - 2015

Lucie Bastin-Heline (Master's exchange student, Ecole Normale Superior, Paris, France), 2014

#### **Graduate student and post-doctoral advising:**

##### **Graduate PhD candidates (*Current position*):**

Raveena Gupta (2021 - ), Joint Ph.D. student, Chemistry, jointly advised with Neil Kelleher  
*Funded by the Chemistry of Life Processes NIH Training grant (2021-2022)*

Nic Moya (2020 - ), Ph.D. student, Interdisciplinary Biological Sciences Program  
*Funded by the NIH Biotechnology Training grant full member (2021-2022)*

Joy Nyaanga (2019 - ), Ph.D. student jointly advised with Niall Mangan, Interdisciplinary Bio. Sci. Program  
*Funded by NSF-Simons Center for Quantitative Biology (2019)*

- Loraina Stinson (2019 - 2021), Ph.D. student - left with Masters, Interdisciplinary Biological Sciences Program  
*Funded by the Cell and Molecular Basis of Disease NIH Training grant (2019-2021)*
- Clayton Dilks (2018 - 2021), Ph.D. student, Interdisciplinary Biological Sciences Program  
*Funded by the NIH Biotechnology Training grant cluster (2019)*  
*Funded by the NIH Biotechnology Training grant full member (2020)*  
*Recipient of travel award from WAAVP (2019)*  
*Recipient of Burroughs-Wellcome Travel Award (2019)*  
**(Senior scientist at Evozyne)**
- Ye Wang (2017 - 2019), Visiting Ph.D. student, Sichuan Agricultural University, China  
*Funded by China Scholarship Council (2017-2019)*  
**(Program Director for Panda Genomes at the Chengdu Panda Base)**
- Kathryn Evans (2016 - 2020), Ph.D. student, Interdisciplinary Biological Sciences Program  
*Funded by the NSF-Simons Center for Quantitative Biology (2020)*  
*Funded by the Cell and Molecular Basis of Disease NIH Training grant (2017-2019)*  
*Recipient of travel awards from IBiS and the Northwestern Graduate School (2017)*  
*Recipient of Biotechnology NIH Training grant cluster member, declined (2017)*  
**(Staff bioinformaticist, Andersen lab)**
- Shannon Brady (2015 - 2019), Ph.D. student, Interdisciplinary Biological Sciences Program  
*Recipient of the Dr. John N. Nicholson Fellowship (2018-2019)*  
*Funded by the Biotechnology NIH Training grant (2015-2017)*  
*National Science Foundation Graduate Research Fellowship Program (Honorable Mention)*  
*Recipient of travel award from Union Biometrika (2016)*  
*Recipient of travel awards from IBiS and the Northwestern Graduate School (2017)*  
*Poster first prize winner Northwestern Computational Research Day (2017)*  
*Poster prize winner 21st International C. elegans meeting*  
*Best TA award IBiS Graduate Program (2017)*  
**(Consultant at Boston Consulting Group)**
- Daniel Cook (2014 - 2018), Ph.D. student, Driskill Graduate Program  
 Current position: Senior Programmer at Google, Mountain View, CA  
*Northwestern Graduate School Outstanding Thesis Award (2018)*  
*Funded by a National Science Foundation Pre-doctoral Fellowship (2015-2018)*  
*Northwestern Presidential Fellowship Finalist (2017)*  
*Recipient of travel awards from IBiS and the Northwestern Graduate School (2016)*  
**(Genomics programmer at Google)**
- Stefan Zdraljevic (2014 - 2019), Ph.D. student, Interdisciplinary Biological Sciences Program  
*Recipient of the Widom Award for Research Excellence (2019)*  
*Northwestern Graduate School Outstanding Thesis Award (2019)*  
*Recipient of the IBiS Rappaport Award for Research Excellence (2018)*  
*Funded by the Cell and Molecular Basis of Disease NIH Training grant (2015-2017)*  
*Recipient of travel awards from Northwestern Center for Genetic Medicine (2016, 2017)*  
*Recipient of travel awards from IBiS and the Northwestern Graduate School (2015, 2017)*  
*Chemistry of Life Processes Drug Discovery Scholar (2017)*  
**(Post-doctoral fellow at UCLA and HHMI, Kruglyak lab)**

#### **Additional rotation graduate students:**

Corinne Croslyn (Spring 2022), Ryan McKeown (Spring 2022), Brooke Angel (Winter 2021), Jack Sumner (Winter 2021), Nic Moya (Winter, 2020), Joy Nyaanga (Spring, 2019), Loraina Stinson (Winter, 2019), Emily Czajkowski (Fall, 2018), Julie Liang (Spring, 2018), Elan Ness-Cohn (DGP, Spring, 2018) Kyle Siegel (Spring, 2018), Clayton Dilks (Winter, 2018), Garth Fisher (Fall, 2017), Nicholas Sepulveda (Spring, 2017), Michael Schamber (Winter, 2017), Evan Buechel (Spring, 2016), Nic Daffern (Spring, 2016), Bryan Eder (Winter, 2016), Ryan Abdella (Winter, 2015), Erin Baker (Fall, 2014), Alex Karge (Spring, 2014), Saiorse McSharry (Winter, 2014), Amy Nilles (Fall, 2013), Ian Wolff (Summer, 2013)



**Post-doctoral researchers (Current position):**

Amanda Shaver (2022 - ), Ph.D. from Univ. of Georgia, advisor Dr. Art Edison

José Luis Tellez Arreola (2022 - ), Ph.D. from Universidad Autonoma de Mexico, advisor Ataulfo Torres

JB Collins (2021 - ), Ph.D. from Univ. of Georgia, advisor Dr. Ray Kaplan

Janneke Wit (2019 - 2021), Ph.D. from Aarhus Univ., advisor Dr. Volker Loeschcke

Sam Widmayer (2019 - ), Ph.D. from North Carolina State Univ., advisor Dr. David Aylor

Gaotian Zhang (2018 - ), Ph.D. from Ecole Normale Supérieure, Paris, advisor Dr. Marie-Anne Felix

Timothy Crombie (2017 - ), Ph.D. from University of Florida, advisor Dr. David Julian

Lewis Stevens (2019 - 2020), Ph.D. from Univ. of Edinburgh, advisor Dr. Mark Blaxter

***(Bioinformaticist at the Wellcome Trust Sanger Institute, Hinxton, England)***

Steffen Hahnel (2017 - 2018), Ph.D. from Justus-Liebig University, advisor Dr. Christoph Grevelding

*Recipient of DFG German Science Fellowship (2018-2020)*

*Recipient of Northwestern Post-doctoral Travel Award (2018)*

*Recipient of Burroughs-Wellcome Travel Award (2018)*

***(Scientist at Elanco Animal Health, Monheim, Germany)***

Daehan Lee (2017 - 2020), Ph.D. from Seoul National University, advisor Dr. Junho Lee

***(Assistant Professor of Developmental Biology, Kyung Hee University, South Korea)***

Mostafa Zamanian (2014 - 2016), Ph.D. from Iowa State University, advisor Dr. Timothy Day

*Recipient of NIH/NIAID K22 Career Transition Award (2016)*

*Recipient of Northwestern Post-doctoral Travel Award (2016)*

*Funded by the Bill and Melinda Gates Foundation (2014)*

***(Assistant Professor of Pathobiological Sciences, University of Wisconsin - Madison)***

Bryn Gaertner (2014), Ph.D. from University of Oregon, advisor Dr. Patrick Phillips

***(Associate Scientific Director at Ashfield, part of UDG Healthcare PLC)***

**Graduate thesis committee memberships:**

Feihong Xu (advisor, Luis Amaral) (chair) 2021 -

Elias Guan (advisor, Chris Petersen) (chair) 2021 -

Reese Richardson (advisor, Luis Amaral) (chair) 2021 -

Idalis Ramirez (advisor, Rick Morimoto) 2021 -

Taojunfeng Su (advisor, Neil Kelleher) (chair) 2021 -

Emily Czajkowski (advisor, Sadie Wignall) 2020 -

Elan Ness-Cohn (advisor, Rosemary Braun – DGP, Feinberg School of Medicine) (chair) 2019 - 2021

Gabriel Cavin (advisor, Sadie Wignall) 2019 -

Hannah Horton (advisor, Sadie Wignall) 2019 -

Alex McFarland (advisor, Erica Hartman) (chair) 2018 - 2021

Matt Robey (advisor, Neil Kelleher) 2016 - 2020

Rachel Bakker (advisor, Rich Carthew) 2015 - 2020

Joseph Muldoon (advisors, Neda Bagheri and Josh Leonard) (chair) 2015 - 2020

Aaron Sue (advisor, Thomas O'Halloran) 2014 -

Ritika Giri (advisor, Richard Carthew) 2013 - 2020

Sumach Aldakeel (advisor, Cindy Voisine - Northeastern Illinois Univ.) 2016 - 2017

Adam Hockenberry (advisors, Luis Amaral and Michael Jewett) 2015 - 2017

Sarah Stainbrook (advisor, Keith Tyo) 2015 - 2019

Timothy Toby (advisor, Neil Kelleher) 2015 - 2018

Rose Njoroge (advisor, Sarki Abdulkadir – DGP, Feinberg School of Medicine), 2014 - 2018

Keila Torre-Santiago (advisor, Sadie Wignall) 2014 - 2017

Arianne Rodriguez (advisor, Yun Wang) 2014 (Transferred to DGP)

Lilien Voong (advisor, Alec Wang) 2013 - 2017

**DEPARTMENT, COLLEGE, AND UNIVERSITY SERVICE****Departmental Service:**

2021 Faculty search committee  
 2019 Faculty search committee  
 2017 Departmental Strategic Planning committee  
 2016 Faculty search committee  
 Departmental Strategic Planning committee  
 2015 Faculty search committee  
 2014 Departmental Program Review committee

**Weinberg College of Arts and Sciences Service:**

2019 Program in Biological Sciences curriculum committee  
 2016 Faculty search committee for the Neurobiology Department  
 2014 NUIN Post-doc Association, *Interviews and Start-up packages*

**University-level Service:**

2022 Undergraduate Research Grant review committee  
 Steering committee for NUSeq Facility in Northwestern Medicine  
 2021 Undergraduate Research Grant review committee  
 NSF-Simons Center for Quantitative Biology Pilot grant review panel  
 Limited Submissions Grant review committee  
 IBiS Graduate Admissions committee, chair  
 Steering committee for NUSeq Facility in Northwestern Medicine  
 IBiS Graduate Student Advisor  
*Ad hoc* reviewer for Data Science Initiative grants and fellowships  
 2020 Limited submissions grant review panel  
 IBiS Graduate Admissions committee, chair  
 Steering committee for NUSeq Facility in Northwestern Medicine  
 IBiS Graduate Student Advisor  
 2019 Limited submissions grant review panel  
 NSF-Simons Center for Quantitative Biology Pilot grant review panel  
 IBiS Graduate Admissions committee, chair  
 Steering committee for NUSeq Facility in Northwestern Medicine  
 Masters Program in Quantitative and Systems Biology, Curriculum committee  
 IBiS curriculum committee  
 2018 IBiS Graduate Admissions committee  
 Steering committee for NUSeq Facility in Northwestern Medicine  
 Masters Program in Quantitative and Systems Biology, Curriculum committee  
 Poster judge, Northwestern Undergraduate Research Symposium  
*Ad hoc* reviewer for Chemistry of Life Processes undergraduate grants and fellowships  
*Ad hoc* reviewer for Data Science Initiative grants and fellowships  
 NSF-Simons Center for Quantitative Biology Pilot grant review panel  
 2017 Discussion organizer, Northwestern Computational Research Day  
 Steering committee for NUSeq Facility in Northwestern Medicine  
*Ad hoc* reviewer for Chemistry of Life Processes undergraduate grants and fellowships  
*Ad hoc* reviewer for Data Science Initiative grants and fellowships  
 2016 IBiS Computational Bootcamp for incoming graduate students  
 Lurie Cancer Center American Cancer Society IRG review panel  
 Steering committee for NUSeq Facility in Northwestern Medicine  
*Ad hoc* reviewer for Chemistry of Life Processes undergraduate grants and fellowships  
*Ad hoc* reviewer for Data Science Initiative grants and fellowships

2015	IBiS Graduate Admissions committee IBiS Retreat committee, Co-chair IBiS Computational Bootcamp for incoming graduate students
2014	Creation of IBiS Computational Bootcamp for incoming graduate students IBiS Retreat committee, Co-chair Poster judge, Northwestern Undergraduate Research Symposium IBiS Graduate Admissions committee
2013	Poster judge, Northwestern Undergraduate Research Symposium

## COMMUNITY WORK

2021	Mentored Ally Bardas from New Trier High School on anthelmintic sensitivity <i>Recipient of Regeneron Top 300 Science Talent Search</i>
2020	STEM presenter at ConnectCon presented by Wizards.exe
2020 -	Assistant Scoutmaster, Troop 2
2020 -	Scouting Merit Badge Counselor: Chemistry, Citizenship in Society, Digital Technology, Environmental Science, Insect Study, Mammal Study, Medicine, Programming, Reptile and Amphibian Study, Swimming
2015 - 2019	Hosted 80 5th grade students from Lincolnwood Elementary School for a day of science
2016 - 2017	Mentored Lillian Tushman from Oak Park and River Forest High School on glucose responses <i>Recipient of 3rd place All-Illinois Science Research Competition</i>
2016 - 2019	Assistant Den Leader, Cub Scout Pack 922
2016 - 2017	American Youth Soccer Organization (AYSO) U8 Head Coach, <i>The Storm</i>
2015 - 2016	American Youth Soccer Organization (AYSO) U8 Head Coach, <i>Golden Ninjas</i>
2015 - 2016	Mentored Matteo di Bernardo from Evanston Township High School on anthelmintic sensitivity, <i>Recipient Columbia University Scientific Scholars Fellowship, Recipient Fulbright Fellowship</i>
2014 - 2018	Lecturer on <i>C. elegans</i> genetics to the Latin School of Chicago advanced biology class
2014	Co-organized (with Jacob Cruger) nematode collections with the Punahou School, Hawaii
2009	Organized nematode collections with Vassalboro Community School, Maine