



Erik C. Andersen

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Department of Molecular Biosciences

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Major Professional Interests:

Understanding the genetic basis of complex traits and genome evolution using high-throughput phenotyping, molecular genetics, and computational tools

Education:

- 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

Pre-doctoral Awards, Honors, and Fellowships:

- 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
1996 Berea High School valedictorian (highest GPA to date, 4.77)

Post-doctoral Recognitions:

- 2015 - 2019 American Cancer Society Research Scholar
2015 - 2017 March of Dimes Basil O'Connor Research Scholar
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
2009 - 2011 Ruth L. Kirschstein National Research Service Award Recipient

Employment:

2014 - Member of Northwestern Institute on Complex Systems (NICO)
 2013 - Assistant Professor of Molecular Biosciences, Northwestern University
 Full Member of the Robert H. Lurie Comprehensive Cancer Center
 Member of the Chemistry of Life Processes Institute (CLP)
 Preceptor for the Interdisciplinary Biological Sciences Graduate Program (IBiS)
 Preceptor for the Northwestern Univ. Interdepartmental Neuroscience Grad. Program (NUIN)
 2008 - 2013 Post-doctoral fellow, Princeton University, Princeton, NJ, Advisor: Dr. Leonid Kruglyak
 2000 - 2008 Graduate student in Biology Department at Massachusetts Institute of Technology (MIT),
 Cambridge, MA, Advisor: Dr. H. Robert Horvitz

Research Support:**Past:**

2013 - 2014 American Cancer Society, Institutional Research Grant [93-037-18]
Elucidating the genetic causes of variation in chemotherapy-based toxicity
 PI (\$30,000)
 2013 - 2014 Chemistry of Life Processes, Chairman's Innovation Award
Using perturbations of heavy metal homeostasis to treat nematode-borne neglected tropical diseases
 Co-PI (\$28,000) with Dr. Thomas O'Halloran (Northwestern)

Present:

2015 - 2019 American Cancer Society Research Scholar Grant
Elucidating the genetic causes of variation in chemotherapy-based toxicity
 PI (\$787,658)
 2015 - 2017 March of Dimes Basil O'Connor Starter Research Grant
Identification of hookworm anthelmintic resistance genes to ameliorate maternal and infant anemia
 PI (\$150,000)
 2014 - 2018 National Institutes of Health [1 R01 GM107227]
Direct determination of the distribution of fitness effects of spontaneous mutations
 consortium PI (\$360,000) with PI Dr. Charlie Baer (University of Florida)
 2014 - 2018 Pew Charitable Trust, Scholars Program in the Biomedical Sciences
Elucidating the genetics of anthelmintic resistance in nematode-borne neglected tropical diseases
 PI (\$240,000)
 2014 - 2016 Chicago Biomedical Consortium, Catalyst Grant
Uncovering "missing heritability" in an experimentally tractable model organism
 Co-PI (\$120,000) with Dr. Ilya Ruvinsky (University of Chicago)

Pending:

2016 - 2018 National Institutes of Health - National Institute of Aging R21
High-throughput multi-modal analysis of natural variation in C. elegans lifespan
 Co-PI (\$275,000) with Dr. Christopher Fang-Yen (University of Pennsylvania)

- 2016 - 2018 National Institutes of Health - National Institute of Allergy and Infectious Disease R21
Discovery and validation of avermectin resistance loci in free-living and parasitic nematodes
Co-PI (\$275,000) with Dr. Michael Kimber (Iowa State University)
- 2016 - 2021 National Institutes of Health - National Institute of General Medical Sciences R35
Maximizing Investigator Research Award (MIRA)
Defining the molecular mechanisms of complex traits
PI (\$1,500,000)
- 2016 - 2019 W. M. Keck Foundation
Developing and validating a quantitative "ruler" for an individual's healthspan
Co-PI (\$1,000,000) with Dr. Luis Amaral (Northwestern), Dr. Malcolm McIver (Northwestern),
and Dr. Richard Morimoto (Northwestern)

Publications undergraduate co-authors in italics, corresponding authors underlined:
h-index=12 (all and since 2010), i10-index=12 (all and since 2010)

1. Sterken MG, Snoek LB, Kammenga JE, **Andersen EC**. (2015)
The laboratory domestication of *C. elegans*.
Trends in Genetics Mar; 31(5) 224-231
2. 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
3. **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
4. 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
5. 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
6. 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
7. 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):e1111090

8. **Andersen EC**, Bloom JS, Gerke JP, Kruglyak L. (2014)
The neuropeptide receptor *npr-1* is a major determinant of *Caenorhabditis elegans* growth and physiology. *PLoS Genetics* Feb; 10(2):e1004156
9. Felix MA, Jovelin 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* 13(1), 10
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.
11. **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
12. **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
13. Raj A, Rifkin SA, **Andersen EC**, van Oudenaarden A. (2010)
Variability in gene expression underlies incomplete penetrance. *Nature* 463(7283): 913-918.
14. 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.
15. 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
16. **Andersen EC**, Saffer AM, and Horvitz HR. (2008)
Multiple levels of redundant processes inhibit *Caenorhabditis elegans* vulval cell fates. *Genetics* 179(4): 2001-2012.
17. **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.
18. 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.
19. **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.
20. 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.

Work in progress:

1. Larrichia KM*, Cook DE*, Zdraljevic S, Tanny RE, Riccardi D, Noble L, Alkema MJ, Braendle C, Felix MA, Wang J, Rockman MV, Kruglyak L, and **Andersen EC**.

(submitted to Genome Research, 2016) * equal contribution

Species-wide discovery of *Caenorhabditis elegans* transposons

Transposable elements (TEs) or mobile genetic elements play key roles in the evolution of genomes and functional changes across species. To date, no comprehensive survey of the positions and movements of TEs has been undertaken in *Caenorhabditis elegans*. This manuscript describes the isolation, collection, and whole-genome sequencing of a large set of wild *Caenorhabditis elegans* natural strains. This species-wide and genome-wide data set was computationally mined for TE insertions and excisions. Using these data, we determined the effects of TEs on genes, the evolution of TEs across the species, and mapped the genetic determinants of high TE loads. Additionally, this study identified small RNA inhibitors of TE movements across the species. These findings offer a powerful resource for future studies genome evolution, how TEs affect gene functions in diverse strains, and identification of small RNA mediators of endogenous TE activities.

2. Cook DE, Zdraljevic S, Seo B, Lee J, and **Andersen EC**.

(submitted to PLoS Genetics, 2016)

Species-wide telomere length differences correlate with *pot-2* variation but not with organismal fitness

It has long been known that different individuals in a species vary in telomere lengths but the genetic causes and fitness consequences are unknown. We used our species-wide and genome-wide data set of variation was computationally mined for differences in telomere lengths among strains. We identified natural variation in the telomere gene *pot-2* (for protection of telomeres gene 2) as the gene regulating telomere length differences across the *C. elegans* species. We then sought to determine if fitness was affected by variation in telomere length. By measuring lifespan, offspring production, growth rate, and germline viability, we determined that telomere length is uncorrelated with organismal fitness. Furthermore, in *C. elegans*, variation in *pot-2* is rare and likely not selected across the population. These results offer powerful genetic evidence that telomere length differences in populations might not strongly impact the survival and evolution of organisms.

3. Zamanian M and **Andersen EC**.

(requested for special review issue of FEBS, 2016)

Prospects and Challenges of CRISPR/Cas Genome Editing in Neglected Disease Research

This review will discuss the current state of genome engineering using the CRISPR/Cas system in the model nematode *C. elegans* and then transition to a discussion of genome editing in parasitic roundworms and flatworms. We will describe the steps in which optimization is required to efficiently and practically edit parasite genomes. In the conclusion, we will discuss the best genes to edit to promote parasite removal using gene drive mechanisms.

4. Zdraljevic S and **Andersen EC**.

(to be submitted to PLoS Genetics, 2016)

Natural variation in the binding site for topoisomerase II poisons predicts chemotherapeutic drug responses

Patients who receive the same chemotherapeutic treatment regimen often have different treatment outcomes and side effects. Using the powerful model *C. elegans*, we sought to determine how individuals in populations respond differently these drugs, specifically the topoisomerase II poisons. We identified natural variation in the nematode homolog of the gene that encodes topoisomerase II as causal in etoposide sensitivity. Using a variety of computational and molecular tools, we show that variation in a specific amino acid predicted to be a

drug binding residue alters drug sensitivity. Furthermore, we go on to look in the human population to identify if natural variation in drug binding residues could be predictive of altered drug efficacy and more severe side effects. This work shows the utility and promise for using a *C. elegans* to inform patient drug responses.

5. Zamanian M, Rosenberg S, and **Andersen EC**.

(to be submitted to PLoS Neglected Tropical Diseases, 2016)

Intraspecies variation in avermectin resistance is controlled by many genetic factors beyond glutamate-gated chloride channels

For the past thirty years, parasitic roundworm infections are often treated by combination therapies including the avermectin class of anthelmintic compounds. From genetic and biochemical studies, the target of avermectins was found to be glutamate-gated chloride (GluCl) channels. In previous work of mine, we found that variation in these genes controls different susceptibilities to this drug class. In this manuscript, we describe a much more powerful attempt to identify all of the genetic determinants of resistance to avermectin compounds. We identified at least six distinct genetic loci, including the gene encoding a GluCl channel subunit. These results pinpoint what genetic intervals need to be narrowed and variation cloned molecularly to understand likely novel resistance mechanisms in *C. elegans*. We argue that resistance mechanisms in *C. elegans* will be conserved with parasitic roundworms.

Professional talks:

Departmental seminars and invited conference presentations:

- 2016 Evolutionary Biology of *Caenorhabditis* and other nematodes, CSHL, Cold Spring Harbor, NY
Department of Biology, University of Iowa, Iowa City, IA
Department of Biomedical Sciences, Iowa State University, Ames, IA
- 2015 Program in Systems Biology, University of Massachusetts Medical School, Worcester, MA
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
- 2013 Quantitative genetics workshop, 19th International *C. elegans* meeting, UCLA, Los Angeles, CA
- 2012 Molecular Bioscience Department, Northwestern University, Evanston, IL
Program in Systems Biology, University of Massachusetts Medical School, Worcester, MA
Biology Department, Dartmouth University, Hanover, NH
Human Genetics Department and Life Sciences Institute, University of Michigan, Ann Arbor, MI
- 2012 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

Contributed presentations: (*selected for oral presentation)

- 2015 *Midwest Neglected Infectious Disease meeting, U. of Notre Dame, Notre Dame, IN
 2015 *Bridging the divide, 20th International *C. elegans* meeting, UCLA, Los Angeles, CA
 2013 *19th International *C. elegans* meeting, UCLA, Los Angeles, CA
 Society for Molecular Biology of Evolution, Chicago, IL
 2012 *Evolutionary biology of *Caenorhabditis* and other nematodes meeting, CSHL, NY
 2011 *18th International *C. elegans* meeting, UCLA, Los Angeles, CA
 18th International *C. elegans* meeting (poster), UCLA, Los Angeles, CA
 2010 *Evolutionary biology of *Caenorhabditis* and other nematodes meeting, Hinxton, UK
 Evolutionary biology of *Caenorhabditis* and other nematodes meeting (poster), Hinxton, UK
 Cold Spring Harbor Labs Automated Imaging and High-throughput Phenotyping, CSHL, NY
 2009 *17th International *C. elegans* meeting, UCLA, Los Angeles, CA
 Gordon Research Conference on Quantitative Genetics and Genomics, Galveston, TX
 2007 Department of Biology Annual Retreat, MIT, ** poster prize winner
 2006 *C. elegans* Evolution and Development meeting, Univ. of Wisconsin, Madison, WI
 2005 *15th International *C. elegans* meeting, UCLA, Los Angeles, CA
 Chromatin Structure and Function meeting, Nassau, Bahamas
 2004 East Coast *C. elegans* meeting, Yale, New Haven, CT
 2003 *14th International *C. elegans* meeting, UCLA, Los Angeles, CA
 2002 East Coast *C. elegans* meeting, University of New Hampshire, Durham, NH

Leaves of absence:

None

Peer review and related activities:

Editorial board:

Trends in Genetics

Reviewing activity: Academic Journals

Biological Journal of the Linnean Society, BMC Evolutionary Biology, BMC Genetics, BMC Genomics, Cell, Development, EMBO, Genes and Development, G3, Genetics, Genome Research, Heredity, Nature, Nature Scientific Reports, Nature Genetics, PLoS Genetics, PLoS ONE, PNAS, Science, Trends in Genetics

Reviewing activity: Grants and fellowships

- 2014 *Ad hoc* reviewer for Human Frontiers Science Program
 2014 *Ad hoc* reviewer for National Science Foundation CREST Awards

Major consultancies in the public or private sectors:

None

Professional affiliations and service:

Membership in Professional Societies:

Genetics Society of America, member
 Society of Molecular Biology and Evolution, member

Professional service:

- 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

Other matters related to research and publication:

None

Teaching and advising:**Undergraduate teaching:**

- 2015 *Guest Lecture*: University of Wisconsin-Madison Biology 675 - *Evolution seminar*
 (fall, 8 students)
 Biological Sciences 393: *Genetic Analysis*
 (spring, 12 students) - **new course**
 Biological Sciences 398: *Tutorial in Biology* (spring, Lautaro Cilenti)
 Biological Sciences 399: *Independent Research* (spring, Kreena Patel)
 Biological Sciences 399: *Independent Research* (spring, Hillary Tsang)
 Biological Sciences 399: *Independent Research* (winter, Kreena Patel)
 Biological Sciences 399: *Independent Research* (winter, Hillary Tsang)
- 2014 Biological Sciences 398: *Tutorial in Biology* (fall, Mazeed Aro-Lambo)
 Biological Sciences 398: *Tutorial in Biology* (fall, Kreena Patel)
 Biological Sciences 398: *Tutorial in Biology* (fall, Hillary Tsang)

Graduate teaching:

- 2015 Interdisciplinary Biological Sciences 402: *Eukaryotic Molecular Biology*
 (fall, guest lecture, 22 students)
 Interdisciplinary Biological Sciences: *Graduate Computational Biology Bootcamp*
 (fall, 22 students) - www.GitHub.com/AndersenLab/IBiS-Bootcamp
 Interdisciplinary Biological Sciences 423: *Ethics of peer review*
 (spring, guest lecture, 41 students)
- 2014 Interdisciplinary Biological Sciences 402: *Eukaryotic Molecular Biology*
 (fall, guest lecture, 16 students)
 Interdisciplinary Biological Sciences: *Graduate Computational Biology Bootcamp*
 (fall, 16 students) - www.GitHub.com/AndersenLab/IBiS-Bootcamp - **new course**
 Interdisciplinary Biological Sciences 423: *Ethics of peer review*
 (spring, guest lecture, 42 students)
- 2013 Interdisciplinary Biological Sciences 402: *Eukaryotic Molecular Biology*
 (fall, guest lecture, 24 students)

Curriculum development:

- 2015 **BIO393: Genetic Analysis:** Given the surprisingly small number of genetics courses offered at Northwestern, I created and taught a new course dealing with the logic of genetic analysis. Most genetics courses confound molecular biology with fundamental knowledge of inheritance and the rules of genetics. This new course divorces molecular biology and genetics to emphasize how genetics can solve problems and inform human health. Because most undergraduate biological sciences majors are on the pre-medical track, this course was designed to educate future medical professionals about how genetics can impact health decisions.
- 2014 **IBiS: Computational Biology Bootcamp:** Graduate students in the biological sciences must be able to perform reproducible research, run bioinformatics software, present quantitative results, and think analytically. I created and taught a new course going from software installation to reproducible research paradigms to writing code in R and the UNIX command line to plotting and data analytics. Over the course of three five-hour lectures and hands-on experience, students learn these skills. The course materials, lectures, and final projects can be found at www.github.com/AndersenLab/IBiS-Bootcamp

K-12 advising:

Caitlin Westerfield, Evanston Township High School (2015-2016 academic year)
 Matteo di Bernardo, Evanston Township 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:

Nicholas Irons (2015 - , Class of 2018), Biological Sciences Major
2015 Summer URG recipient

Annika Zhang (2014 - , 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, Myriad Academic Scholarship, Thomas Verender Hanks Scholarship
 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
*2015 Summer URG recipient
 2014 Weinberg College Summer Grant recipient*

Hillary Tsang (2013 - , Class of 2016), Biological Sciences Major
*2015 Weinberg College 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
*2014 Academic URG recipient, 2015 Emmanuel Margoliash Prize for Basic Research,
 Winfred Hill Award, James Alton James Scholar, Ellen Taus Scholarship, J.G. Nolan Scholarship*

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:

Lucie Bastin-Heline (2014), Master's exchange student, Ecole Normale Superior, Paris, France
 Kristen Larrichia (advisor, Nyree Zerega – Program in Plant Biology and Conservation), 2014 - 2015
 Nick Timkovich (advisor, Luis Amaral) 2015

Graduate student and post-doctoral advising:**Graduate PhD candidates:**

Shannon Brady (2015 -), Ph.D. student, Interdisciplinary Biological Sciences Program
Funded by the Biotechnology NIH Training grant
 Daniel Cook (2014 -), Ph.D. student, Driskill Graduate Program
Funded by a National Science Foundation Pre-doctoral Fellowship
 Stefan Zdravljic (2014 -), Ph.D. student, Interdisciplinary Biological Sciences Program
Funded by the Cell and Molecular Basis of Disease NIH Training grant

Additional graduate rotation students:

Ryan Abdella (Winter, 2015), IBiS
 Erin Baker (Fall, 2014), IBiS
 Alex Karge (Spring, 2014), IBiS
 Saiorse McSharry (Winter, 2014), IBiS
 Amy Nilles (Fall, 2013), IBiS
 Ian Wolff (Summer, 2013), IBiS

Ph.D. Thesis committee memberships:

Adam Hockenberry (advisors, Luis Amaral and Michael Jewitt) 2015 -
 Rachel Bakker (advisor, Rich Carthew) 2015 -
 Joseph Muldoon (advisors, Neda Bagheri and Josh Leonard) 2015 -
 Sarah Stainbrook (advisor, Keith Tyo) 2015 -
 Timothy Toby (advisor, Neil Kelleher) 2015 -
 Rose Njoroge (advisor, Sarki Abdulkadir – Driskill Graduate Prog., Feinberg School of Medicine), 2014 -
 Keila Torre-Santiago (advisor, Sadie Wignall) 2014 -
 Aaron Sue (advisor, Thomas O'Halloran), 2014 -
 Arianne Rodriguez (advisor, Yun Wang), 2014 (Transferred to DGP)
 Ritika Giri (advisor, Richard Carthew), 2013 -
 Lilien Voong (advisor, Alec Wang), 2013 -

Post-doctoral:

Mostafa Zamanian (2014 -), Ph.D. from Iowa State University, advisor Dr. Timothy Day
Funded by the Bill and Melinda Gates Foundation
 Bryn Gaertner (2014), Ph.D. from University of Oregon, advisor Dr. Patrick Phillips

Departmental, college, and university service:

2016	Departmental Strategic Planning committee
2015	Faculty search committee for genomics
	IBiS Retreat committee, Co-chair
	Qualifying examination committee (Rachel Bakker, Carthew lab)
	Qualifying examination committee, Chair (Joseph Muldoon, Bagheri and Leonard labs)
	Qualifying examination committee (Sarah Stainbrook, Tyo lab)
	Qualifying examination committee (Timothy Toby, Kelleher lab)

- 2014 Departmental Program Review committee
 IBiS Graduate Admissions committee
 IBiS Retreat committee, Co-chair
 Qualifying examination committee (Aaron Sue, Morimoto lab)
 Qualifying examination committee (Arianne Rodriguez, Wang lab)
 Qualifying examination committee (Rose Njoroge, Abdulkadir lab)
 Masters thesis examination committee (Kristen Larrichia, Zerega lab)
- 2013 IBiS Graduate Admissions committee
 Qualifying examination committee (Lilien Voong, Wang lab)
 Qualifying examination committee (Ritika Giri, Carthew lab)

Community work:

- 2015 - 2016 Mentored Caitlin Westerfield from Evanston Township High School on pathway evolution
 2015 - 2016 Mentored Ainsley Tran from Oak Park and River Forest High School on iron sensitivity
 2015 - 2016 American Youth Soccer Organization (AYSO) U8 Head Coach
 2015 Hosted 80 5th grade students from Lincolnwood Elementary School for a day of science
 2015 - 2016 Mentored Matteo di Bernardo from Evanston Township High School on anthelmintic sensitivity
 2014 Mentored Lauren Mann from Oak Park and River Forest High School on iodine sensitivity
 2014 Co-organized with Jacob Cruger nematode collections with the Punahou School, Hawaii
 2013, 2014 Mentored Jacob Cruger from Latin School of Chicago
 2009 Organized nematode collections with Vassalboro Community School, Maine