SCOTT ALAN RIFKIN

Education

2004	Ph.D., Ecology and Evolutionary Biology, Yale University
1997	A.B. (magna cum laude), Biological Anthropology, Harvard University

Professional Positions

2017-	Associate Professor with tenure, Division of Biological Sciences, UC, San Diego
2009-2017	Assistant Professor, Division of Biological Sciences, UC, San Diego
2007-2009	NIH NRSA Postdoctoral Fellow, Physics Department, MIT
2006-2007	Postdoctoral Associate, Physics Department, MIT
2005-2006	Postdoctoral Associate, Department of Organismic and Evolutionary Biology, Harvard University
2004-2005	Genome Informatics Fellow, Molecular, Cellular, and Developmental Biology, Yale University
1997-1998	Research Assistant, Department of Developmental Biology, Stanford University
Member:	San Diego Center for Systems Biology (2010-2016), UCSD Bioinformatics and Systems Biology Graduate Training Program (2010-), UCSD Genetics Graduate Training Program (2010-), UCSD BioCircuits Institute (2009-2017)

Honors

2011-2012	UCSD Hellman Faculty Fellow
2007-2009	NIH NRSA Postdoctoral Fellow
2005	John Spangler Nicholas Prize for doctoral research in Experimental Zoology, Yale University
2002	DIMACS-Celera Genomics Graduate Student Award in Computational Biology
2000	NSF Antarctica Summer School
1998-2001	NSF Graduate Research Fellowship
1998-2001	Yale University Silliman Graduate Fellow in Biology
1997	A.B. Harvard University, *magna cum laude* with highest honors.

Grants and research Support (direct and indirect)

2021-2023	EAGER: A high-throughput *in vivo* method for measuring transcription factor-DNA interactions. NSF MCB-2102830. $300,000
2020-2024	The developmental biology of hybrid incompatibility. NSF IOS-1936674. $775,000
2020	Alignment. A tabletop game that teaches about homology, optimization, and hte mechanics of sequence alignment. European Society for Evolutionary Biology Outreach Fund. $1,643
2020	A quantitative analysis of dynamic, individual variation in insulin signaling during an early life-history decision in *C. elegans*. UCSD Academic Senate. $40,000
2015-2018	Dissecting the causes of natural variation in protein expression dynamics. co-PI with Daniel Pollard. NSF MCB-1517482. $218,907
2013-2018	Dynamics and regulatory logic of the endodermal cell-fate decision in *C. elegans.* NIH 1R01GM103782. $1,423,195
2012-2015	Design Principles and Evolvability of Stress Response Networks Group. NIH 1P50GM085764 San Diego Center for Systems Biology Core Funding. $80,000

2011-2012 "Variation and evolution of developmental genetic networks." Hellman Foundation. $45,000

2011-2012 "Does genetic variation in mRNA abundance translate into genetic variation in protein levels after an environmental perturbation?" NIH 1P50GM085764 San Diego Center for Systems Biology Seed Grant. $35,000

2010-2013 "Towards an integrated model of phenotypic evolution: the genetic architecture of network dynamics." co-PI with Christian Landry and M. Madan Babu. Human Frontiers Science Program Young Investigators Program. $415,000

2010-2011 "The effect of temperature on the dynamics of developmental genetic networks." NIH 1P50GM085764 San Diego Center for Systems Biology Seed Grant $35,000

2007-2009 "Effects of mutations on gene expression noise and cellular memory." NIH NRSA Postdoctoral Fellowship. F32GM080966

Invited Talks

2022 Vanderbilt University. Quantitative Systems Biology Center.

2018 UC, Irvine. Department of Developmental and Cell Biology.

2016 Workshop: From individual variation to the genetic basis of environmental sensitivity. Les Treilles, France.

2016 Sci Foo, Mountain View, CA.

2015 Sci Foo (declined)

2015 Lyon Systems Biology Conference (declined).

2015 University of Bristol (declined).

2015 Bite of Science, Teacher Enrichment Program. Center for Excellence in Education, San Diego, CA.

2014 Workshop: The role of phenotypic plasticity in evolution. Les Treilles, France.

2013 Int. Conf. on Mathematical Tools for Evolutionary Systems Biology, Banff Int. Res. Station

2013 University of Southern California, Molecular & Computational Biology

2012 Norwegian University of Life Sciences, Oslo, Norway

2012 Int. Conf. on Stochastic Processes in Systems Biology, Genetics, & Evolution, Rice Univ.

2012 UC, San Diego, Division of Biological Sciences In the Lab Seminar Series

2012 UC San Diego, Genetics Training Program

2012 NordForsk Nordic *C. elegans* Researcher Network Meeting, Sigtuna, Sweden

2011 Young Researchers Conference in Evolutionary Genomics, Tokyo, Japan

2011 Society for Molecular Biology and Evolution Annual Meeting, Kyoto, Japan

2010 UC, San Diego, Bioinformatics and Systems Biology Colloquium

2010 Ohio State Univ., Mathematical Biosciences Institute, Workshop on Synthetic Biology

2010 UC, San Diego, Center for Theoretical and Biological Physics Seminar Series

2008 University of Chicago, Department of Ecology and Evolution

2008 University of Pennsylvania, Department of Biology

2008 University of Rochester, Department of Biology

2008 UC, San Diego, Section of Ecology, Behavior, and Evolution

2008 Kavli Inst. for Theoretical Physics, Population Genetics and Genomics Program

2007 Stanford University, Department of Biological Sciences.
2006 U. of Mich. Young Scientist Symposium: Microevolutionary Processes Underlying Biodiversity
2005 Research Science Institute at MIT
2004 *Drosophila* Comparative Genomics: progress and prospects. Univ. of Arizona.
2003 Max Planck Inst. for Evolutionary Anthropology, Evolutionary Genetics Seminar
2002 Rutgers DIMACS Workshop on Complexity in Biosystems
2002 Graduate Student Research Symposium, Yale University
2000 USC Institute for Genetic Medicine 4th Annual Genomic Developmental Biology Symposium

Contributed Talks

2024 European Society for Evolutionary Developmental Biology, Helsinki, Finland
2008 Society for Molecular Biology and Evolution Annual Meeting, Barcelona, Spain
2005 University of Chicago, Developmental Basis for Evolutionary Change Conference
2004 Society for Molecular Biology and Evolution Annual Meeting, Penn State Univ.
2003 Society for the Study of Evolution Annual Meeting, Chico, CA
2002 Annual *Drosophila* Research Conference, San Diego, CA
2001 Rutgers University, DIMACS Symposium on the Analysis of Gene Expression Data
2000 Society for Molecular Biology and Evolution Annual Meeting, New Haven, CT

Posters

2019 Pan-American Society for Evolutionary Developmental Biology.
2017 Pan-American Society for Evolutionary Developmental Biology.
1999 International Conference on Intelligent Systems in Molecular Biology, Heidelberg, Germany

Lab Talks

2024 Bloom, JR, R Green, A Desai, K Oegema, and SA Rifkin. *Where do hybrids go wrong?* CellBio, 2024.
2021 Bundus, JD, M Craduer, and SA Rifkin. *Revisiting an exception to the temperature size rule: disentangling temperature, body size, and fecundity in the nematode* Caenorhabditis elegans. Virtual Evolution, 2021.
2021 Darragh, AC and SA Rifkin. *The likely subfunctionalization and expansion of a GATA factor paralog in the ancestral Elegans supergroup endoderm developmental gene regulatory network.* Virtual Evolution, 2021.
2014 Wu, AC-Y and SA Rifkin. *Quantitative Measurements and Mathematical Modeling Reveal the Source of Network Stochasticity Underlying Variation in* C. elegans *Intestinal Specification.* Winter QBio conference, 2014.

Lab Posters

2022 Bloom, JR and SA Rifkin. *Developmental Systems Drift in* Caenorhabditis *Nematodes*. *C. elegans* Development, Cell Biology, and Gene Expression, 2022.
2019 Cradeur, M, JD Bundus and SA Rifkin. *Ectotherms and the Temperature Size Rule*. UCSD Biology Research Showcase, 2019.

2019 Bundus, JD, NT Jones, JB Shurin and SA Rifkin. *Testing the Role of Dormancy for Coexistence in Fluctuating Environments*. Ecological Society of America, 2019.

2019 Darragh, A, and SA Rifkin. *Divergence in DNA binding of* C. elegans *endoderm-specific GATA-type transcription factors.* International Worm Meeting, 2019.

2019 Bundus, JD, M Cradeur, A Petrescu, J Hardin, and SA Rifkin. *Evidence for a selective sweep associated with a variant of a gene involved in* Bt *toxicity in natural* C. elegans *isolates*. International Worm Meeting, 2019.

2019 Bloom, J, and SA Rifkin. *Identifying Molecular Mechanisms Underlying Hybrid Incompatibility in the* Caenorhabditis *genus*. International Worm Meeting, 2019. Conference on Intelligent Systems in Molecular Biology (ISMB99)

2017 Darragh, A and SA Rifkin. *Evolutionary Patterns and Developmental Consequences of a GATA-type Transcription Factor Radiation within the* Caenorhabditis *Genus*. International Worm Meeting, 2017.

2016 Du, L, S Tracy, and SA Rifkin. *Transcriptional Control of the Endoderm Regulator* elt-2. The Allied Genetics Conference, 2016.

2015 Du, L, S Tracy, and SA Rifkin. *Transcriptional Control of the Endoderm Regulator* elt-2. International Worm Meeting, 2015.

2014 Kuo, S, R Schwartz, and SA Rifkin. *Variability of Hyperosmotic Stress Response via the HOG Pathway in Wild Yeast Strains.* QBio conference, 2014.

2014 Du, L, S Tracy, AC-Y Wu, and SA Rifkin. *Transcriptional Control of a Conserved* C. elegans cis-*Regulatory Module*. QBio conference, 2014.

2013 Wu, AC-Y and SA Rifkin. *A Quantitative Approach Reveals the Conditional Role of* elt-7 *in the* C. elegans *Intestinal Specification Network* International Worm Meeting, 2013.

2013 Wu, AC-Y, L Du, and SA Rifkin. *Comparing Gene Expression Patterns in the Intestinal Specification Network in* C. briggsae, C. remanei*, and* C. elegans *Reveals Evolution of the Functional and Dynamical Roles of Orthologous Genes.* Society for Molecular Biology and Evolution Annual Meeting, 2013.

2012 Stockwell, SR and SA Rifkin. *Natural Variation in the Galactose Network of* S. cerevisiae*.* IRACDA conference, 2012

2012 Wu, AC-Y and SA Rifkin. *Temperature Sensitivity and Gene Expression Noise in* C. elegans. International Conference on Stochastic Processes in Systems Biology.

2011 Wu, AC-Y, L Du, and SA Rifkin. *Comparing Gene Expression Patterns in the* skn-1 *Intestinal Developmental Network in* C. briggsae, C. remanei*, and* C. elegans *to Gain Insights into the Dynamical Functional roles of Orthologous Genes* International Worm Meeting, 2011.

Publications and preprints

36. J Bloom, R Green, A Desai, K Oegema, SA Rifkin. Hybrid incompatibility emerges at the one-cell stage in interspecies *Caenorhabditis* embryos. *bioRxiv preprint.* 10.1101/2024.10.19.

35. NT Jones, JD Bundus, JB Shurin, SA Rifkin. Dormancy promotes coexistence in fluctuating environments. *Oikos.* **2024**(12):e10503.

34. AC Darragh, SA Rifkin. A GATA factor radition in *Caenorhabditis* rewired the endoderm specification network. *bioRxiv preprint.* 10.1101/0222.05.20.492851
33. AC Darragh, SA Rifkin. Radiation and diversification of GATA-domain-containing proteins in the genus *Caenorhabditis*. *bioRxiv preprint*. 10.1101/2022.05.20.492891
32. E Sbaerski, AK Bock, R Goodridge, V agarwal, T Lorimer, SA Rifkin, G Sugihara. Networks of causal linkage between eigenmodes characterisze behavioral dynamics of *Caenorhabditis elegans*. *PLoS Computational Biology*. **17**(9):e1009329
31. T Lorimer, R Goodridge, AK Bock, V Agarwal, E Saberski, G Sugihara, SA Rifkin. Tracking changes in behavioural dynamics using prediction error. *PLoS One*. **16**(5):e025102330. Yang, B, SA Rifkin. 2020. Mutations: a larger target leads to faster evolution. *eLife*. **9:**e62689
29. Taton, A, C Erikson, Y Yang, BE Rubin, SA Rifkin, JW Golden, SS Golden. 2020. The circadian clock and darkness control natural competence in cyanobacteria. *Nature Communications*. **11**:1668.
28. Kuo, S JD Egertson, GE Merrihew, MJ MacCoss, DA Pollard, SA Rifkin. 2019. A simple mass-action model predicts genome-wide protein timecourses from mRNA trajectories during a dynamic response in two strains of *Saccharomyces cerevisiae. bioRxiv preprint*. doi:10.1101/805846
27. Welkie, DG, BE Rubin, YG Chang S Diamond, SA Rifkin, A LiWang, SS Golden. 2018. Genome-wide fitness assessment during diurnal growth reveals an expanded role of the cyanobacterial circadian clock protein KaiA. *PNAS*. 201802940
26. Rubin, BE, TN Huynh, DG Welkie, S Diamond, R Simkovsky, EC Pierce, A Taton, LC Lowe, JJ Lee, SA Rifkin, JJ Woodward, SS Golden. 2018. High-throughput interaction screens illuminate the role of c-di-AMP in cyanobacterial nighttime survival. *PLoS Genetics* **14**:e1007301
25. Pollard, DA, CK Asamoto, H Rahnamoun, AS Abendroth, SR Lee, SA Rifkin. 2017. Natural genetic variation modifies gene expression dynamics at the protein level during pheromone response in *Saccharomyces cerevisiae*. *bioRxiv preprint*. doi:10.1101/090480
24. Stockwell, SR, SA Rifkin. 2017. A living vector field reveals constraints on galactose induction in yeast. *Molecular Systems Biology.* **13**:908.
23. Du, L, S Tracy, SA Rifkin. 2016. Mutagenesis of GATA motifs controlling the endoderm regulator *elt-2* reveals distinct dominant and secondary *cis*-regulatory elements. *Developmental Biology.* **412**: 160-170.
22. Maduro, M, G Broitman-Maduro, H Choi, F Carranza, AC-Y Wu, SARifkin. 2015. MED GATA factors promote robust development of the *C. elegans* endoderm. *Developmental Biology*. **404**:66-79.
21. Stockwell, SR, CR Landry, SA Rifkin. 2015. The yeast galactose network as a quantitative model for cellular memory. *Molecular Biosystems***. 11**: 28-37.
20. Wu, A C-Y, SA Rifkin. 2015. Aro: a machine learning approach to identifying single molecules and estimating classification error in fluorescence microscopy images. *BMC Bioinformatics*. **16**: 102.
19. Bakowski, MA CA Desjardins, MG Smelkinson, T A Dunbar, IF Lopez-Moyado, SARifkin, CA Cuomo, ER Troemel. 2014. Ubiquitin-mediated response to microsporidia and virus infection in *C. elegans*. *PLoS Pathogens*. **10**: e1004200.
18. Landry, CR*, SA Rifkin.* 2012. The genotype-phenotype maps of systems biology and quantitative genetics: distinct and complementary. in Evolutionary Systems Biology.

(Soyer, ed.). *Advances in Experimental Medicine and Biology Series*. **751:** 371-398**.** *equal contribution

17. Rifkin, SA. (ed.) 2012. Quantitative Trait Loci: methods and protocols. *Methods in Molecular Biology*, **871.** Springer, New York.
16. Rifkin, SA. 2011. Identifying fluorescently labeled single molecules in image stacks using machine learning. in Molecular Methods for Evolutionary Genetics (Orgogozo & Rockman eds.) *Methods in Molecular Biology*. **772**: 329-348.
15. Landry, CR*, SA Rifkin.* 2010 Chromatin regulators shape the genotype-phenotype map. *Molecular Systems Biology.* **6**:434. *equal contribution PMCID: PMC3010109
14. Raj, A*, SA Rifkin*, E Andersen, A van Oudenaarden. 2010 Variability in gene expression underlies incomplete penetrance. *Nature*. **463**:913-918. *equal contribution PMCID: PMC2836165
13. Raj A, P van den Bogaard, SA Rifkin, A van Oudenaarden, S Tyagi. 2008. Imaging individual mRNA molecules using multiple singly labeled probes. *Nature Methods* **5**: 877-879.
12. Gilad, Y*, SA Rifkin*, JK Pritchard*. 2008. Revealing the architecture of gene regulation: the promise of eQTL studies. *Trends in Genetics*. **24**:408-413. *equal contribution PMCID: PMC2583071
11. Landry, CR, B Lemos, SA Rifkin, WJ Dickinson, and D L Hartl. 2007. Genetic properties influencing the evolvability of gene expression. *Science*, **317**, 118-121.
10. Gilad, Y *, A Oschlack*, and SARifkin*. 2006. Natural selection on gene expression. *Trends in Genetics*, **22:** 456-461. *equal contribution
9. Rifkin, SA, D Houle, J Kim, and KP White. 2005. A mutation accumulation assay reveals a broad capacity for rapid evolution of gene expression. *Nature*, **438**, 220-223.
8. Gilad, Y, SA Rifkin, P Bertone, M Gerstein, and KP White. 2005. Multi-species microarrays reveal the effect of sequence divergence on gene expression profiles. *Genome Research,* **15,** 674-680. PMCID: PMC1088295
7. Carriero, N, MV Osier, K-H Cheung, PL Miller, M Gerstein, H Zhao, B Wu, S Rifkin, J Chang, H Zhang, K White, K Williams, and M Schultz. 2005. A "high productivity/low maintenance" approach to high performance computation for biomedicine: five case studies. *Journal of the American Medical Informatics Association.* **12,** 90-98. PMCID: PMC543832
6. Stolc, V, Z Gauhar, C Mason, G Halasz, MF van Batenburn, SA Rifkin, S Hua, T Herreman, W Tongprasit, P Barbano, HJ Bussemaker, and KP White. 2004. A gene expression map for the euchromatic genome of *Drosophila melanogaster*. *Science,* **306,** 655-660
5. Gu, Z, SA Rifkin, KP White, and W-H Li. 2004.Duplicate genes increase gene expression diversity within and between species. *Nature Genetics,* **36,** 577-579
4. Rifkin, SA, J Kim, and KP White. 2003. Evolution of gene expression during metamorphosis in the *Drosophila melanogaster* subgroup. *Nature Genetics* **33,** 138-144
3. Rifkin, SA and J Kim. 2002. Geometry of gene expression dynamics. *Bioinformatics* **18,** 1176-1183
2. Rifkin, SA, K Atteson, and J Kim. 2000. Constraint structure analysis of gene expression. *Functional and Integrative Genomics* **1,** 174-185
1. White, KP, SA Rifkin, P Hurban, and DS Hogness. 1999. Microarray analysis of *Drosophila* development during metamorphosis. *Science* **286,** 2179-2184

External Professional Activities

Consultant and class tester: "Developing an innovative randomization-based introductory statistics curriculum" (Tintle PI, Rossman, Chance, Roy and Swanson: co-PIs) NSF grant #1140629; *Introduction to Statistical Investigations* published by John Wiley & Sons Press.
Legal consultation: Statistical consultant in Smith vs. Microsoft and Santos vs. Millward Brown
Reviews for: *Bioessays, BMC Bioinformatics, Evolution, Genetics, Genome Biology and Evolution, John Wiley & Sons, Journal of Biology, Journal of Experimental Zoology, Lab-on-a-chip, Molecular Biology and Evolution,* National Science Foundation, Natural Sciences and Engineering Research Council of Canada, *Nucleic Acids Research, PLoS Biology, PLoS Computational Biology, PLoS Genetics, PLoS One, Science, Trends in Genetics,* University of Leuven
Study Section: NIH GVE Panel, October 2017; NSF/MCB Panel 2023.
Committee: NSF Evolutionary Synthesis Center Workshop
Symposium organizer: "Systems Biology", Society for Molecular Biology and Evolution Meeting, 2010
Science exhibition: Rifkin lab research was featured in the San Diego History Center's *Bottled & Kegged* exhibit on the history of yeast and beer in San Diego
Outreach: Collaboration with the Human Evolution Research Institute at the University of Cape Town on a tabletop game to build intuition about evolutionary processes
Organizer: UCSD Scientific Tabletop Game Design Group.

University Service

2022-2024 School of Biological Sciences graduate admissions committee chair
2023-2024 Committe for Limited Submissions in the Sciences and Engineering
2021-2022 Hellman fellows selection committee
2021-2022 Division of Biological Sciences seminar series committee chair
2019-2022 Developmental evolutionary biology faculty search chair
2018-2023 qBio training grant executive committee
2018 Panelist for Getting Started in Research for Undergraduates discussion
2017-2021 Eureka scholarship selection committee
2017-2024 Division of Biological Sciences graduate admissions committee, EBE & qBio rep.
2017-2018 Division of Biological Sciences graduate admissions subcommittee on URM recruitment
2017-2022 Division of Biological Sciences seminar series committee
2016, 2017, 2021 Research ethics faculty panel
2014-2024 qBio PhD specialization lab advisory committee
2014-2019 CMG training grant advisory committee
2013,2016 Division of Biological Sciences math curriculum workgroup
2012-2013 Quantitative biology faculty search committee
2012-2016 Division of Biological Sciences retreat committee
2011-2012 Evolutionary systems biology faculty search committee
2010-2011 Molecular systems biology faculty search committee
2010-2012 Division of Biological Sciences seminar series committee
2010-2012 Bioinformatics & Systems Biology graduate admissions committee
2009-2010 Division of Biological Sciences computing committee

Teaching

2023-2024	*Genes as Followers*, UCSD (BISP194)
2023-	*Biology, Race, and Society*, UCSD (BILD61)
2019-2022	*Exploring Issues of Diversity, Equity, and Inclusion in Relation to Human Biology*, UCSD (BILD60)
2019-2022	*Reading in quantitative physiology*, UCSD (BGGN259).
2018-2019	Faculty director, USA Biology Olympiad Training Camp
2018-2019	Evolution and Statistics Faculty, USA Biology Olympiad Training Camp
2015-2020	*Quantitative methods in genetics*, Statistics Module, UCSD (BIOM262)
2014-2018	Instructor, San Diego Math Circle
2013	*Terrestrial carbon accounting*, Statistics module, UCSD/WWF/REDD certificate
2012-2022	*Computational modeling in ecology and evolution*, UCSD (BIEB143)
2012-2014	*Quantitative methods in genetics*, Evolutionary Genetics Module, UCSD (BIOM262)
2011-2017	*Biostatistics*, UCSD (BIEB100)
2006-2007	Instructor and Course Creator, Bio95hfn. *From Genotype to Phenotype: how development shapes evolution*. Harvard University.
2006	Ecology and Evolution Faculty, USA Biology Olympiad Training Camp
2002	Biology Faculty, Applied Research Science Institute – Africa. University of Botswana.
2000	Biology Lecturer, 16th annual Research Science Institute at MIT

Ph.D. Thesis committees

Rachel Weinstein (Ph.D., UCSD Biology)
Alex Bevier (Ph.D., UCSD Physics)
Michael Overton (Ph.D., UCSD EBE)
Hannah Strobel (Ph.D., UCSD EBE)
Josh Borin (Ph.D., UCSD EBE, 2023)
Jessica Bloom (Ph.D., UCSD Biology)
Alena Martsul (Ph.D., UCSD EBE, 2021)
Chao Shi (Ph.D., UCSD EBE, 2022)
Marie Adomako (Ph.D., UCSD Biology, 2022)
Kanishk Asthana (Ph.D., UCSD Bioinformatics and Systems Biology, 2022)
Laura Gates (Ph.D., UCSD Biology, 2019)
Audrey Proenca (Ph.D., UCSD EBE, 2019)
Dylan Skola (Ph.D., UCSD Bioinformatics and Systems Biology, 2019)
Rob Foreman (Ph.D., UCSD Bioinformatics and Systems Biology, 2019)
Jason Yao (Ph.D., UCSD Bioinformatics and Systems Biology, 2017)
Gustavo Guajardo (Ph.D., UCSD Linguistics, 2017)
Zohreh Akhavanaghdam (Ph.D., UCSD Biology, 2017)
Lawrence Du (Ph.D., UCSD Biology 2017)
Sidney Kuo (Ph.D., UCSD Biology 2017)
Ryan Sartor (Ph.D., UCSD Biology, 2016)
Troy Sandberg (Ph.D. UCSD Bioengineering, 2016)
Gregory Goldgof (Ph.D., UCSD Biomedical Sciences, 2016)
Allison Chia-Yi Wu (Ph.D., UCSD Bioinformatics and Systems Biology, 2016)

Keir Balla (Ph.D., UCSD Biology, 2016)
Valentino Ganz (Ph.D., UCSD Biology, 2015)
Max Shokhirev (Ph.D., UCSD Bioinformatics and Systems Biology, 2014)
Phillip Samoyoa (Ph.D., UCSD Bioinformatics and Systems Biology, 2014)
Jangir Selimkhanov (Ph.D., UCSD Bioengineering, 2014)
Joelle Perusse (Ph.D., Yale, Ecology & Evolutionary Biology, 2009, external reader)

MS Thesis committees
Isabel Hui (MS, UCSD Biology)
Rachel Goodridge (MS, UCSD Biology, 2021)
Alexis Cugini (MS, UCSD Biology, 2020)
Jingxiao Zhang (MS, UCSD Biology, 2019)
Andrew Qui (MS, UCSD EBE, 2019)
Darcy Engelhart (MS, UCSD Biology, 2019)
Kevin Chau (MS, UCSD Biology, 2019)
Dvijen Purohit (MS, UCSD Biology, 2019)
Michael Cradeur (MS, UCSD Biology, 2019)
Shea Summers (MS, UCSD Biology, 2019)
Sean Guy (MS, UCSD EBE, 2019)
Sho Khodera (MS, UCSD Biology, 2018)
Colby Glazer (MS, UCSD Biology, 2018)
Xianyuan Zhang (MS, UCSD Biology, 2018)
Alberto Vasquez (MS, UCSD EBE, 2018)
Dionne Meija (MS, UCSD EBE, 2016)
Matt Sasaki (MS, UCSD, SIO, 2015)
Joshua Kenchel (MS, UCSD, EBE, 2015)
Christopher Zhu (MS, UCSD, Biology, 2015)
Shannon Jarrell (MS, UCSD, SIO, 2014)
Federico Unglaub (MS, UCSD Biology)
Shannon Jarrell (MS, UCSD Biology, 2014)
Kayla Uh (MS, UCSD Biology, 2012)
Ignacio Carvajal (MS, UCSD, EBE, 2012)
Ellsworth Campbell (MS, UCSD, EBE, 2011)
Kate Franz (MS, UCSD, Chemistry & Biochemistry, 2011)
Annie Peng (MS, UCSD, EBE, 2010)

Research students and postdocs
<u>Present</u>
Sara Keil (Undergraduate, 2023-)
Isabel Hui (BS/MS, 2023-)
Anne Sun (High school student, 2024-)
Jessica Bloom (Graduate student, 2018-)
Alex Bevier (Graduate student, 2021-)
Rachel Weinstein (Graduate student, 2022-)

Past
Anthony Ye (Undergraduate, 2021-2024)
Isabella Sanchez (ENLACE summer student, 2023)
Paola Astudillo Gonzalez (ENLACE summer student, 2023)
Aidan Linkins (Undergraduate, 2021-2023)
Sophia Xu (Undergraduate, 2021-2022)
Bing Yang (Postdoctoral fellow, 2017-2023, now at UCSD Center for Epigenomics)
Antonia Darragh (Graduate student, 2015-2022, now at Eurofins DiscoverX)
Alex Popescu (Research Science Institute (high school program) participant, 2021)
Jason Cui (Research Science Institute (high school program) participant, 2021)
Rachel Goodridge (BS/MS, 2018-2021)
Rohan Kanchana (Research Science Institute (high school program) participant, 2020)
Rohini Janivara (summer intern, 2019)
Alexis Cugini (BS/MS, 2018-2020)
Michael Cradeur (BS/MS, 2017-2019)
Shea Summers (BS/MS, 2017-2019)
Joanna Bundus (Postdoctoral fellow, 2017-9, now Director of Research at Xylome)
Tokio Shimamu (Undergraduate, 2018)
Colby Glazer (BS/MS, 2016-2018)
Randy Tsai (Undergraduate, 2017)
Franco Fernandez (STARS summer research student, 2017)
Peter Vo (Undergraduate, 2016-2018)
Sidney Kuo (Graduate student, 2011-2017, now at Illumina)
Larry Du (Graduate student, 2012-2017, now at Freenome)
Shweta Balur (Undergraduate, 2016)
Molly Burke (Postdoc, 2014-5, now Assistant Professor Oregon State Univ.)
Allison (Chia-Yi) Wu (Graduate student, 2010-5, now at Juno Diagnostics)
Sarah Stockwell (Postdoc, 2010-5, now Associate Teaching Professor UCSD)
Shirleen Cheng (Undergraduate, 2015)
Nandana Rao (Undergraduate, 2015)
Dan Pollard (Postdoc, 2010-4, now Associate Professor Western Washington Univ.)
Heather Zook (Undergraduate, 2014-5)
Yin Poe (Undergraduate, 2014)
Rami Alattar (Undergraduate, 2014)
Isaac Lopez-Moyado (Gradute student, 2013-4)
Homa Rahnamoun (Undergraduate, 2012-4, now Ph.D. program, UCSD)
Quynh Tram Nguyen (Undergraduate, 2013-2014)
Stephanie Fairbairn (Undergraduate, 2011-2012, now Ph.D. program, Northwestern)
Kate Corbin (Undergraduate, 2012-2013, now Ph.D. program, SUNY Stony Brook)
Alex Pardes (Undergraduate, summer 2011)

External reviews of research including in the popular press
NPR. All Things Considered. 18 February 2010 (http://www.npr.org/templates/story/story.php?storyId=123820029)
Streit, A, RJ Sommer. Random expression goes binary. Nature. 463: 891-892.

Johnston Jr, RJ, C Desplan. A penetrating look at stochasticity in development. Cell. 140: 610-612.
Casci, T. Mutations that rock the boat. Nature Reviews Genetics. 11: 238-239.
O'Connor, C. Life is random. *Slate.com.* 12 September 2014. (http://www.slate.com/articles/health_and_science/science/2014/09/random_noise_in_biology_why_genetically_identical_twins_aren_t_identical.html)