

## Curriculum Vitae

**Rajiv C. McCoy**

November 23, 2021

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## Professional experience

- 2018–Present Assistant Professor, Department of Biology  
Johns Hopkins University, Baltimore, MD
- 2017–2018 Postdoctoral Research Associate, Department of Ecology and Evolutionary Biology  
Princeton University, Princeton, NJ
- 2015–2017 Senior Fellow, Department of Genome Sciences  
University of Washington, Seattle, WA

## Education

- 2015 PhD in Biology  
Stanford University, Stanford, CA
- 2010 BS in Biology; Ecosystem Science & Policy, *summa cum laude*  
University of Miami, Coral Gables, FL

## External research support

### ACTIVE

- 2019–2024 NIH/NIGMS R35GM133747  
Maximizing Investigators' Research Award for Early Stage Investigators  
Role: PI  
Title: "Functional and fitness consequences of human genetic variation"

## Fellowships, honors, & awards

- 2021 Technology Fellowship, Center for Educational Resources, Johns Hopkins University
- 2020 Johns Hopkins University Institutional Nominee, Pew Scholars Program
- 2020 Johns Hopkins University Institutional Nominee, Searle Scholars Program
- 2017 Reviewers' Choice Abstract Award, American Society of Human Genetics

2015–2017 Genome Training Grant (NIH/NHGRI T32), U. of Washington, Dept. of Genome Sciences  
 2015 Epstein Trainee Award for Excellence in Human Genetics Research – Finalist, ASHG  
 2014 Office of Graduate Education Travel Award, Stanford University  
 2013 & 2012 Excellence in Teaching Award, Stanford University, Department of Biology  
 2012 Rosemary Grant Award, Society for the Study of Evolution  
 2012 Arthropod Genomics Consortium i5K Workshop Fellowship Award  
 2010–2013 Stanford University Graduate Fellowship in Science & Engineering  
 2010 Phi Beta Kappa Society  
 2010 Abess Center for Ecosystem Science and Policy Award, University of Miami

## Publications & presentations

### ARTICLES UNDER REVIEW

- Carioscia, S. A., Weaver, K. J., Bortvin, A. N., Ariad, D., Bell, A. D., **McCoy, R. C.** Strict adherence to Mendel’s First Law across a large sample of human sperm genomes. *bioRxiv*: 2021.07.12.452063. DOI: [10.1101/2021.11.19.469261](https://doi.org/10.1101/2021.11.19.469261)
- \*Aganezov, S., \*Yan, S. M., \*Soto, D. C., \*Kirsche, M., \*Zarate, S., Avdeyev, P., Taylor, D. J., Shafin, K., Shumate, A., Xiao, C., Wagner, J., McDaniel, J., Olson, N. D., Sauria, M. E. G., Vollger, M. R., Meredith, M., Martin, S., Koren, S., Rosenfeld, J. A., Paten, B., Layer, R., Chin, C., Sedlazeck, F. J., Hansen, N. F., Miller, D. E., Phillippy, A., Miga, K., †**McCoy, R. C.**, †Dennis, M. Y., †Zook, J. M., †Schatz, M. C. (2021). A complete reference genome improves analysis of human genetic variation. *bioRxiv*: 2021.07.12.452063. DOI: [10.1101/2021.07.12.452063v1](https://doi.org/10.1101/2021.07.12.452063v1) \*co-first author †co-corresponding author
- Nurk, S., Koren, S., Rhie, A., Rautiainen, M., Bzikadze, A. V., Mikheenko, A., Vollger, M. R., Altemose, N., Uralsky, L., Gershman, A., Aganezov, S., Hoyt, S. J., Diekhans, M., Logsdon, G. A., Alonge, M., Antonarakis, S. E., Borchers, M., Bouffard, G. G., Brooks, S. Y., ..., Yan, S. M., ..., **McCoy, R. C.**, ..., Eichler, E. E., Miga, K. H., Phillippy, A. M. (2021). The complete sequence of a human genome. *bioRxiv*: 10.1101/2021.05.26.445798. DOI: [10.1101/2021.05.26.445798](https://doi.org/10.1101/2021.05.26.445798)
- Hadyniak, S. E., Eldred, K. C., Brenerman, B., Hussey, K. A., **McCoy, R. C.**, Sauria, M. E. G., Kuchenbeker, J. A., Neitz, M., Neitz, J., Taylor, J., Johnston, R. J. Temporal regulation of green and red cone specification in human retinas and retinal organoids. *bioRxiv*: 2021.03.30.437763. DOI: [10.1101/2021.03.30.437763](https://doi.org/10.1101/2021.03.30.437763)
- Brosens, J. J., Bennett, P. R., Abrahams, V., Ramhorst, R., Coomarasamy, A., Quenby, S., Lucas, E. S., **McCoy, R. C.** Maternal selection of human embryos in early gestation: insights from recurrent miscarriage.
- Griffin, D. K., Brezina, P. R., Tobler, K., Silvestri, G., **McCoy, R. C.**, Anchan, R., Benner, A., Cutting, G. R., Kearns, W. G. The embryonic genome sequesters chromosomally abnormal cells from the developing fetus.

### RESEARCH ARTICLES (PEER REVIEWED)

- 2021 Ariad, D., Yan, S. M., Victor, A. R., Barnes, F. L., Zouves, C. G., Viotti, M., **McCoy, R. C.** Haplotype-aware inference of human chromosome abnormalities. *Proceedings of the National Academy of Sciences USA*, 118(46): e2109307118. DOI: [10.1073/pnas.2109307118](https://doi.org/10.1073/pnas.2109307118)
- 2021 Yan, S. M., Sherman, R. M., Taylor, D. J., Nair, D. R., Bortvin, A. N., Schatz, M. C., **McCoy,**

- R. C. (2021), Local adaptation and archaic introgression shape global diversity at human structural variant loci. *eLife*, 10, e67615. DOI: [10.7554/eLife.67615](https://doi.org/10.7554/eLife.67615)
- 2021 Ranallo-Benavidez, T. R., Lemmon, Z. H., Soyk, S., Aganezov, S., Salerno, W. J., **McCoy, R. C.**, Lippman, Z. B., Schatz, M. C., Sedlazeck, F. J. (2021), SVCollector: Optimized sample selection for cost-efficient long-read population sequencing. *Genome Research*, 31: 910-918. DOI: [10.1101/gr.264879.120](https://doi.org/10.1101/gr.264879.120)
- 2020 Starostik, M. R., Sosina, O. A., **McCoy, R. C.** (2020), Single-cell analysis of human embryos reveals diverse patterns of aneuploidy and mosaicism. *Genome Research*, 30: 814–825. DOI: [10.1101/2020.01.06.894287](https://doi.org/10.1101/2020.01.06.894287)
- 2020 Tyc, K. M., **McCoy, R. C.**, Schindler, K., Xing, J. (2020), Mathematical modeling of human oocyte aneuploidy. *Proceedings of the National Academy of Sciences USA*, 117(19): 10455–10464. DOI: [10.1073/pnas.1912853117](https://doi.org/10.1073/pnas.1912853117)
- 2020 Sharma, R., Singh, P., **McCoy, R. C.**, Lenz, S. M., Donovan, K., Ochoa, M. T., Estrada-Garcia, I., Silva-Miranda, M., Jurado-Santa Cruz, F., Balagon, M. F., Stryjewska, B., Scollard, D. M., Pena, M. T., Lahiri, R., Williams, D. L., Truman, R. W., Adams, L. B. (2019), Isolation of *Mycobacterium lepromatosis* and development of molecular diagnostic assays to distinguish *M. leprae* and *M. lepromatosis*. *Clinical Infectious Diseases*, 71(8): e262-e269. DOI: [10.1093/cid/ciz1121](https://doi.org/10.1093/cid/ciz1121)
- 2019 Gruhn, J. R., Zielinska, A., Shukla, V., ..., **McCoy, R. C.** (23/28), ..., Hoffmann, E. R. (2019), Chromosome errors in human eggs shape natural fertility over reproductive lifespan. *Science*, 365(6460): 1466–1469. DOI: [10.1126/science.aav7321](https://doi.org/10.1126/science.aav7321)
- 2019 Victor, A. R., Tyndall, J. C., Brake, A. J., Lepkowski, L. T., Murphy, A., Griffin, D. K., **McCoy, R. C.**, Barnes, F. L., Zouves, C. G., Viotti, M. (2019), One hundred mosaic embryos transferred prospectively in a single clinic: exploring when and why they result in normal pregnancies. *Fertility & Sterility*, 111(2): 280–293. DOI: [10.1016/j.fertnstert.2018.10.019](https://doi.org/10.1016/j.fertnstert.2018.10.019)
- 2019 Victor, A. R., Griffin, D. K., Brake, A. J., Tyndall, J. C., Murphy, A., Lepkowsky, L. T., Lal, A., Zouves, C. G., Barnes, F. L., **McCoy, R. C.**, Viotti, M. (2019), Assessment of aneuploidy concordance between clinical trophoctoderm biopsy and blastocyst. *Human Reproduction*, 34(1): 181–192. DOI: [10.1093/humrep/dey327](https://doi.org/10.1093/humrep/dey327)
- 2018 Tucci, S., Vohr, S. H., **McCoy, R. C.**, Vernot, B., Robinson, M., Barbieri, C., Fu, W., Purnomo, G. A., Sudoyo, H., Barbujani, G., Visscher, P. M., Akey, J. M., Green, R. E. (2018), Evolutionary history and adaptation of a human pygmy population of Flores Island, Indonesia. *Science*, 361(6401): 511–516. DOI: [10.1126/science.aar8486](https://doi.org/10.1126/science.aar8486)
- 2018 Press, M. O., **McCoy, R. C.**, Hall, A. N., Akey, J. M., Queitsch, C. (2018), Short tandem repeats with massive variation and functional consequences across strains of *Arabidopsis thaliana*. *Genome Research*, 28: 1169–1178. DOI: [10.1101/gr.231753.117](https://doi.org/10.1101/gr.231753.117)
- 2018 \***McCoy, R. C.**, \*Newnham, L. J., Ottolini, C. S., Hoffmann, E. R., Chatzimeletiou, K., Cornejo, O. E., Zhan, Q., Zaninovic, N., Rosenwaks, Z., Petrov, D. A., Demko, Z. P., Sigurjonsson, S., Handyside, A. H. (2018), Tripolar chromosome segregation drives the association between maternal genotype at variants spanning *PLK4* and aneuploidy in human preimplantation embryos. *Human Molecular Genetics*, 27(14): 2573–2585. DOI: [10.1093/hmg/ddy147](https://doi.org/10.1093/hmg/ddy147) \*co-first author
- 2018 Kort, J. D., **McCoy, R. C.**, Demko, Z. P., Lathi, R. B. (2018), Are blastocyst aneuploidy rates different between fertile and infertile populations? *Journal of Assisted Reproduction and Genetics*, 35(3): 403–408. DOI: [10.1007/s10815-017-1060-x](https://doi.org/10.1007/s10815-017-1060-x)
- 2017 **McCoy, R. C.**, Wakefield, J., Akey, J. M. (2017), Impacts of Neanderthal-Introgressed Sequences on the Landscape of Human Gene Expression. *Cell*, 168(5): 916–927.e12. DOI: [10.1016/j.cell.2017.01.038](https://doi.org/10.1016/j.cell.2017.01.038)

- 2016 Vernot, B., Tucci, S., Kelso, J., Schraiber, J. G., Wolf, A. B., Gittelman, R. M., Dannemann, M., Grote, S., **McCoy, R. C.**, Norton, H., Scheinfeldt, L. B., Merriwether, D. A., Koki, G., Friedlaender, J. S., Wakefield, J., Pääbo, S., Akey, J. M. (2016), Excavating Neandertal and Denisovan DNA from the genomes of Melanesian individuals. *Science*, 352(6282): 235–239. DOI: [10.1126/science.aad9416](https://doi.org/10.1126/science.aad9416)
- 2016 Demko, Z. P., Simon, A. L., **McCoy, R. C.**, Petrov, D. A., Rabinowitz, M. (2016), Effects of maternal age on euploidy in a large cohort of embryos analyzed with 24 chromosome single nucleotide polymorphism-based preimplantation genetic screening. *Fertility & Sterility*, 105(5): 1307-1313. DOI: [10.1016/j.fertnstert.2016.01.025](https://doi.org/10.1016/j.fertnstert.2016.01.025)
- 2015 **McCoy, R. C.**, Demko, Z., Ryan, A., Banjevic, M., Hill, M., Sigurjonsson, S., Rabinowitz, M., Petrov, D. A. (2015), Evidence of selection against complex mitotic-origin aneuploidy during preimplantation development. *PLoS Genetics*, 11(10): e1005601. DOI: [10.1371/journal.pgen.1005601](https://doi.org/10.1371/journal.pgen.1005601)
- 2015 **McCoy, R. C.**, Demko, Z., Ryan, A., Banjevic, M., Hill, M., Sigurjonsson, S., Rabinowitz, M., Fraser, H. B., Petrov, D. A. (2015), Common variants spanning *PLK4* are associated with mitotic-origin aneuploidy in human embryos. *Science*, 348(6231): 235–238. DOI: [10.1126/science.aaa3337](https://doi.org/10.1126/science.aaa3337)
- 2014 Ahola, V., Lehtonen, R., Somervou, P., ..., **McCoy, R. C.** (18/45) , ..., Hanski, I. (2014), The Glanville fritillary genome retains an ancient karyotype and reveals selective chromosomal fusions in Lepidoptera. *Nature Communications*, 5. DOI: [10.1038/ncomms5737](https://doi.org/10.1038/ncomms5737)
- 2014 **McCoy, R. C.**, Taylor, R., Blauwkamp, T. A., Kelley, J. L., Kertesz, M., Pushkarev, D., Petrov, D. A., Fiston-Lavier, A. S. (2014), Illumina TruSeq synthetic long reads empower *de novo* assembly and resolve complex, highly repetitive transposable elements. *PLoS ONE*, 9(9): e106689. DOI: [10.1371/journal.pone.0106689](https://doi.org/10.1371/journal.pone.0106689)
- 2014 **McCoy, R. C.**, Garud, N. R., Kelley, J. L., Boggs, C. L., Petrov, D. A. (2014), Genomic inference accurately predicts the timing and severity of a recent bottleneck in a non-model insect population. *Molecular Ecology*, 23(1): 136–150. DOI: [10.1111/mec.12591](https://doi.org/10.1111/mec.12591)

#### REVIEW ARTICLES (PEER REVIEWED)

- 2021 Quenby, S., Gallos, I. D., Dhillon-Smith, R. K., Podesek, M., Stephenson, M. D., Fisher, J., Brosens, J., Brewin, J., Ramhorst, R., Lucas, E. S., **McCoy, R. C.**, Anderson, R., Daher, S., Regan, L., Al-Memar, M., Bourne, T., MacIntyre, D. A., Rai, R., Christiansen, O. B., Sugiura-Ogasawara, M., Odendaal, J., Devall, A. J., Bennett, P. R., Petrou, S., Coomarasamy, A. (2021), Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss. *The Lancet*, 397: 1658-1667. DOI: [10.1016/S0140-6736\(21\)00682-6](https://doi.org/10.1016/S0140-6736(21)00682-6)
- 2021 Levy, B., Hoffmann, E. R., **McCoy, R. C.**, Grati, F. R. (2021), Chromosomal mosaicism: origins and clinical implications in preimplantation and prenatal diagnosis. *Prenatal Diagnosis*, 41: 631-641. DOI: [10.1002/pd.5931](https://doi.org/10.1002/pd.5931)
- 2021 Wartosch, L., Schindler, K., Schuh, M., Gruhn, J. R., Hoffmann, E. R., **McCoy, R. C.**, Xing, J. (2021), Origins and mechanisms leading to aneuploidy in human eggs. *Prenatal Diagnosis*, 41, 620-630. DOI: [10.1002/pd.5927](https://doi.org/10.1002/pd.5927)
- 2020 Yan, S. M., **McCoy, R. C.** (2020), Archaic hominin genomics provides a window into gene expression evolution. *Current Opinion in Genetics & Development*, 62: 44–49. DOI: [10.1016/j.gde.2020.05.014](https://doi.org/10.1016/j.gde.2020.05.014)
- 2017 **McCoy, R. C.** (2017), Mosaicism in preimplantation human embryos: when chro-

mosomal abnormalities are the norm. *Trends in Genetics*, 33(7): 448–463. DOI: [10.1016/j.tig.2017.04.001](https://doi.org/10.1016/j.tig.2017.04.001)

#### EDITORIALS AND COMMENTARIES

- 2021 Viotti, M., **McCoy, R. C.**, Griffin, D. K., Spinella, F., Greco, E., Madjunkov, M., Madjunkova, S., Librach, C. L., Victor, A. R., Barnes, F. L., Zouves, C. G. Let the data do the talking: The Need To Consider Mosaicism During Embryo Selection. *Fertility & Sterility*: in press.
- 2019 Yan, S. M., **McCoy, R. C.** (2019), Functional divergence among hominins. *Nature Ecology & Evolution*, 3: 1507–1508. DOI: [10.1038/s41559-019-0995-y](https://doi.org/10.1038/s41559-019-0995-y)
- 2019 **McCoy, R. C.**, Kort, J. D. (2019), Quantifying the transcriptional impacts of aneuploidy in human blastocysts. *Fertility & Sterility*, 111(5): 888–889. DOI: [10.1016/j.fertnstert.2019.02.126](https://doi.org/10.1016/j.fertnstert.2019.02.126)
- 2017 **McCoy, R. C.**, Akey, J. M. (2017), Selection plays the hand it was dealt: evidence that human adaptation commonly targets standing genetic variation. *Genome Biology*, 18: 139. DOI: [10.1186/s13059-017-1280-5](https://doi.org/10.1186/s13059-017-1280-5)
- 2017 Adashi, E. Y., **McCoy, R. C.** (2017), Technology versus biology: the limits of pre-implantation genetic screening. *EMBO Reports*: e201743941. DOI: [10.15252/embr.201743941](https://doi.org/10.15252/embr.201743941)
- 2016 **McCoy, R. C.**, Akey, J. M. (2016), Patterns of deleterious variation between human populations reveal an unbalanced load. *Proceedings of the National Academy of Sciences USA*, 113(4): 809–811. DOI: [10.1073/pnas.1524016113](https://doi.org/10.1073/pnas.1524016113)

#### NON-ACADEMIC ARTICLES

- 2015 **McCoy, R. C.**, Petrov, D. A. (April 15, 2015), Chromosome errors cause many pregnancies to end before they are even detected., *The Conversation*, URL: <http://goo.gl/RBCdYv>
- 2013 **McCoy, R. C.** (November 26, 2013), Genomic analyses of ancestry of Caribbean populations., *CEHG Blog*, URL: <http://goo.gl/8ALT8P>

#### ORAL PRESENTATIONS

- Jan. 2022 Maimon M. Cohen Genetics Colloquium, Greater Baltimore Medical Center, Towson, MD
- 2021 Cell Bio Virtual, American Society of Cell Biology / European Molecular Biology Organization, Online
- 2021 Howard and Georgeanna Jones Endowed Symposium on Assisted Reproductive Technology, Annual Meeting of the American Society for Reproductive Medicine, Baltimore, MD
- 2021 Origins of Human Aneuploidy Meeting, Online
- 2021 Division of Biomedical Sciences, Warwick Medical School (Online), Coventry, United Kingdom
- 2021 Center for Reproductive Medicine, Weill Medical College of Cornell University (Online), New York, NY
- 2020 Zouves Foundation for Reproductive Medicine (Online), Foster City, CA
- 2020 World Congress on Controversies in Obstetrics, Gynecology and Infertility, Online
- \*2020 Department of Molecular and Cellular Biology, Harvard University, Cambridge, MA

2020 Origins of Human Aneuploidy Meeting, Online

2020 Department of Embryology, Carnegie Institution, Baltimore, MD

2020 Computational Biology Department, Carnegie Mellon University, Pittsburgh, PA

2020 CReATe Fertility Centre, Toronto, Canada

2019 Annual Conference of the Foundation for Reproductive Medicine, New York, NY

2019 Origins of Human Aneuploidy Meeting, Paris, France

2019 Annual Meeting of the American Society of Human Genetics, Houston, TX

2019 Department of Genetics, Rutgers University, Piscataway, NJ

2019 Department of Biology, Catholic University, Washington, DC

2018 Annual Conference of the Foundation for Reproductive Medicine, New York, NY

2018 Genomics & Bioinformatics Symposium, Johns Hopkins University, Baltimore, MD

2018 Johns Hopkins University Graduate Program in Cell, Molecular, Developmental Biology, and Biophysics Retreat, Rocky Gap State Park, MD

2018 Origins of Human Aneuploidy Meeting, Toronto, Canada

2017 Marabou Symposium on Nutrition and Human Development, Stockholm, Sweden

2017 1st Origins of Human Aneuploidy Meeting, Barcelona, Spain

2017 Department of Genomes Sciences / Computational Molecular Biology Program Combi Seminar, University of Washington, Seattle, WA

2017 Annual International Conference on Preimplantation Genetics, Valencia, Spain

2016 Genotype-Tissue Expression (GTEx) Project Community Meeting, Stanford, CA

2015 Annual Meeting of the American Society of Human Genetics, Baltimore, MD

2014 Bay Area Population Genomics Meeting, University of California, Davis, CA

2014 Illumina Long-Reads Applications Symposium, University of California, Davis, CA

2014 Presentation to Management Team at Natera, Inc., San Carlos, CA

#### POSTER PRESENTATIONS

\*2020 Society for Molecular Biology & Evolution, Québec City, Canada

\*2020 The Allied Genetics Conference, Genetics Society of America

2019 Society for Molecular Biology & Evolution, Manchester, England

2017 67th Annual Meeting of the American Society of Human Genetics, Orlando, FL

2017 NHGRI Annual Training and Career Development Meeting, St. Louis, MO

2016 66th Annual Meeting of the American Society of Human Genetics, Vancouver, Canada

2016 NHGRI Annual Training and Career Development Meeting, Bethesda, MD

2014 Bay Area Population Genomics Meeting, University of California, Davis, CA

2014 Stanford Biosciences Student Association Poster Session, Stanford, CA

2014 Society for Molecular Biology & Evolution, San Juan, Puerto Rico [1/2]

2014 Society for Molecular Biology & Evolution, San Juan, Puerto Rico [2/2]

2014 Ctr. for Computational, Evolutionary, and Human Genomics Symposium, Palo Alto, CA

2013 Bay Area Population Genomics Meeting, Stanford, CA

2013 Annual Meeting of the Society for Integrative & Comparative Biology, San Francisco, CA

2012 Arthropod Genomics Symposium, Kansas City, MO

2012 1st Joint Congress on Evolutionary Biology, Ottawa, Canada

\*Postponed or cancelled due to COVID-19

## Teaching

- 2021 Guest Lecturer, Biology of Disease (020.314, Fall; 2.5 hours), Johns Hopkins University
- 2021 Co-Instructor, Quantitative Biology Lab (020.617, Fall; 14 hours), Johns Hopkins University
- 2021 Co-Instructor, Quantitative Biology Bootcamp (020.607, Fall; 13 hours), Johns Hopkins University
- 2021 Guest Lecturer, Genetics (020.303, Spring; 1 hour), Johns Hopkins University
- 2021 Instructor, Computation Lab: Human Genome Variation (020.321 / 020.323, Spring; 13 hours), Johns Hopkins University
- 2021 Co-Instructor, Human Genome Variation (020.319 / 020.321, Spring; 4 hours), Johns Hopkins University
- 2020 Co-Instructor, Human Genome Variation (020.319, Fall; 4 hours), Johns Hopkins University
- 2020 Co-Instructor, Quantitative Biology Lab (020.617, Fall; 14 hours), Johns Hopkins University
- 2020 Co-Instructor, Quantitative Biology Bootcamp (020.607, Fall; 13 hours), Johns Hopkins University
- 2020 Instructor, Human Genome Variation Module: Analysis of Genomic Data (020.321, Spring; 13 hours), Johns Hopkins University
- 2020 Guest Lecturer, Human Genome Variation (020.319, Spring; 3 hours), Johns Hopkins University
- 2019 Guest Instructor, Quantitative Biology Bootcamp (020.607, Fall; 3 hours), Johns Hopkins University
- 2019 Guest Lecturer, Human Genome Variation (020.319, Spring; 3 hours), Johns Hopkins University
- 2019 Participant, Best Practices in University Teaching Workshop, Johns Hopkins University
- 2018 Guest Lecturer, Quantitative Biology Bootcamp (020.607, Fall; 1 hour), Johns Hopkins University
- 2017–2018 Science Teaching Experience for Postdocs (STEP) Program, University of Washington
- 2017 Participant, Undergraduate Faculty Genetics Education Workshop, American Society of Human Genetics
- 2014 Teaching Assistant Mentor, Department of Biology, Stanford University
- 2013 & 2011 Teaching Assistant: Ecology, Evolution, and Plant Biology, Stanford University
- 2013 & 2012 Biocore Explorations Course Instructor, Department of Biology, Stanford University
- 2012 Teaching Assistant: Conservation Biology, Stanford University
- 2010 Undergraduate Workshop Leader: Evolution and Biodiversity, University of Miami
- 2009–2010 Peer Tutor, Camner Academic Resource Center, University of Miami

## Research mentoring

### POSTDOCTORATE

2020–Present Daniel Ariad, Postdoctoral Fellow, Johns Hopkins University

### GRADUATE

2021–Present Joshua Schultz, PhD Rotation Student in CMDB, Johns Hopkins University  
2021–Present Bradley Olinger, PhD Rotation Student in CMDB, NIH-JHU Graduate Partnership Program  
2021–Present Andrew Bortvin, PhD Candidate in CMDB, Johns Hopkins University  
2020–Present Kathryn Weaver, PhD Candidate in CMDB, Johns Hopkins University  
2020–Present Dylan Taylor, PhD Candidate in CMDB, Johns Hopkins University  
2019–Present Sara Carioscia, PhD Candidate in CMDB, NSF Graduate Research Fellow, Johns Hopkins University  
2019–Present Stephanie Yan, PhD Candidate in CMDB, Johns Hopkins University  
2021 Rylee Genner, PhD Rotation Student in CMDB, NIH-JHU Graduate Partnership Program  
2021 Sadhana Chidambaran, PhD Rotation Student in CMDB, Johns Hopkins University  
2021 Catherine Henderson, PhD Rotation Student in CMDB, Johns Hopkins University  
2021 Robyn Stix, PhD Rotation Student in CMDB, NIH-JHU Graduate Partnership Program  
2021 Radhika Jangi, PhD Rotation Student in CMDB, Johns Hopkins University  
2018–2020 Arta Seyedian, Masters of Science Student in Bioinformatics, Johns Hopkins University  
2020 Simon Zhang, PhD Rotation Student in CMDB, Johns Hopkins University  
2019–2020 Sara Debic, PhD Rotation Student in CMDB, Johns Hopkins University  
2019 Natalie Murphy, PhD Rotation Student in CMDB, Johns Hopkins University  
2018–2019 Margaret Starostik, PhD Rotation Student in CMDB, Johns Hopkins University  
2018 Katie Farney, PhD Rotation Student in CMDB, NIH-JHU Graduate Partnership Program

### UNDERGRADUATE

2020–Present Divya Nair, Bachelor of Science Student in Biology, Johns Hopkins University  
2018–2020 Joel Espinoza, Bachelor of Science Student in Biology, Johns Hopkins University  
2019–2020 Peter Huang, Bachelor of Science Student in Biology, Johns Hopkins University  
2019–2020 Nicholas Parente, Bachelor of Science Student in Applied Mathematics & Statistics and Computer Science, Johns Hopkins University  
2018 Vincent Huang, Bachelor of Science Student in Biology, Johns Hopkins University  
2014–2015 Jack McGregor, Senior Honors Thesis (Co-Advised), Stanford University

### HIGH SCHOOL

2020–Present Miles Fancher, Ingenuity Project, Baltimore Polytechnic Institute, Baltimore, MD  
2020–Present Aram Zaprosyan, Ingenuity Project, Baltimore Polytechnic Institute, Baltimore, MD



## Academic, community, & university service

### DOCTORAL THESIS COMMITTEES

- 2021–Present Danielle Nicklas, Pathobiology, Johns Hopkins University
- 2021–Present Dylan Sucich, CMDB, NIH-JHU Graduate Partnership Program, Johns Hopkins University
- 2020–Present Margaret Starostik, CMDB, Johns Hopkins University
- 2020–Present Jeremiah Miller, CMDB, Johns Hopkins University
- 2020–2021 T. Rhyker Ranallo-Benavidez, Biomedical Engineering, Johns Hopkins University

### GRADUATE BOARD ORAL EXAMINATION COMMITTEES

- 2021 Radhika Jangi, CMDB, Johns Hopkins University
- 2021 Sadhana Chidambaran, CMDB, Johns Hopkins University
- 2021 Xiangning Chen, CMDB, Johns Hopkins University
- 2021 Katie Farney, CMDB, NIH-JHU Graduate Partnership Program, Johns Hopkins University
- 2021 Catherine Henderson, CMDB, Johns Hopkins University
- 2021 Nae-Chyun Chen, Computer Science, Johns Hopkins University

### DEPARTMENTAL COMMITTEES

- 2021–Present Diversity Advocate and Member, Search Committee for Computational Genomics, Department of Biology, Johns Hopkins University
- 2021–Present Biology Futures Committee, Department of Biology, Johns Hopkins University
- 2020–Present Undergraduate Curriculum Committee, Department of Biology, Johns Hopkins University
- 2019 CMDB Thesis Award Committee, Department of Biology, Johns Hopkins University
- 2012 PhD Interview Visit Committee, Department of Biology, Stanford University
- 2011 New PhD Student Orientation Committee, Department of Biology, Stanford University

### ACADEMIC AND PROFESSIONAL ORGANIZATIONS

- 2021–Present Co-Chair, Origins of Aneuploidy Research Consortium

### CONFERENCES

- 2021–Present Organizing Committee, Origins of Human Aneuploidy Meeting, Online
- 2019 Pre-Conference Workshop Chair, Annual Conference of the Foundation for Reproductive Medicine, New York, NY
- 2019 Session Moderator, Reproductive Fitness - The Genetics of Infertility, 69th Annual Meeting of the American Society of Human Genetics, Houston, TX
- 2017 Session Moderator, Detection and Interpretation of Structural Variation, 67th Annual Meeting of the American Society of Human Genetics, Orlando, FL

#### PEER REVIEW

- 2013–Present Ad Hoc Reviewer, *American Journal of Obstetrics & Gynecology*, *BioData Mining*, *Bioinformatics*, *Cell Proliferation*, *Current Urology*, *Development*, *eLife*, *G3*, *Genes*, *Genetics*, *Genome Biology and Evolution*, *Journal of Assisted Reproduction & Genetics*, *Journal of Biogeography*, *Journal of Heredity*, *Journal of Ovarian Research*, *Molecular Ecology*, *Nature*, *Nature Communications*, *Nature Ecology & Evolution*, *PLoS Biology*, *PLoS Genetics*, *PLoS One*, *Prenatal Diagnosis*, *Proceedings of the Royal Society B*, *Reproduction*, *Science*, *Science Advances*
- 2021 Outside Reviewer, Independent Research Fund Denmark, Danish Agency for Higher Education and Science
- 2021 Outside Reviewer, Biological Anthropology Program, National Science Foundation
- 2018–2019 Outside Reviewer, Biological Anthropology Program, National Science Foundation

#### EDUCATION, VOLUNTEERING, & OUTREACH

- 2021 Mock F31 Review Panelist, Communicating Science (020.619, Spring), Johns Hopkins University
- 2020 Representative of JHU CMDB, NIH Virtual Graduate & Professional School Fair
- 2020 Visiting Fellow in Biology Assessment, AP Higher Education, The College Board
- 2019 Undergraduate Mentor, Society for Molecular Biology & Evolution, Manchester, England
- 2018–2019 Senior Project Mentor, School Without Walls, Washington, DC
- 2018 Mock F31 Review Panelist, Communicating Science (020.619, Spring), Johns Hopkins University
- 2018 Bioethics Panelist, Biology Club, Univ. of Maryland, Baltimore County, Catonsville, MD
- 2018 & 2017 Education Outreach Volunteer, University Prep Middle School, Seattle, WA
- 2018 Judge, NWABR Middle School Essay Contest, Seattle, WA
- 2017 Invited Speaker, Emerald City Rotary, Seattle, WA
- 2016 Volunteer, University of Washington Paws-On Science, Pacific Science Center, Seattle, WA
- 2016 Invited Speaker, Open Mic Science, Treehouse Cafe, Bainbridge Island, WA
- 2014 AP Biology E-mentor, Arroyo High School, San Lorenzo, CA
- 2012–2013 Copy Editor, *Six Degrees: The Stanford Journal of Human Rights*
- 2012 Judge, Synopsys Silicon Valley Science and Technology Championship, San Jose, CA