Curriculum Vitae

Stephanie M. Yan

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3400 N. Charles St.
Mudd Hall 144
Baltimore, MD 21218 USA

Email: syan@jhu.edu
Website: stephaniemyan.github.io

Education

2018–Present **Johns Hopkins University**, Baltimore, MD
PhD Program in Cell, Molecular, Developmental Biology, and Biophysics (CMDB)

2014–2018 **Cornell University**, Ithaca, NY
B.A. in Biological Sciences with Distinction in all Subjects; Linguistics Minor
Honors Thesis in Molecular & Cell Biology, *magna cum laude*
GPA: 3.84 / 4.00

Research experience

2019–Present **PhD Candidate**, Johns Hopkins University, Baltimore, MD
Advisor: Rajiv McCoy

- Investigating the role of genomic structural variants in the evolutionary history of human populations, the divergence between humans and archaic hominin species, and variation in gene expression.

2016–2018 **Undergraduate Researcher**, Cornell University, Ithaca, NY
Advisor: Scott Emr

- Studied the regulation of transmembrane nutrient transporters by arrestin-family proteins in *Saccharomyces cerevisiae*.
- Honors thesis: Mutations on the cytoplasmic face of the transmembrane protein Mup1 blockdownregulation by the Art1-Rsp5 ubiquitin ligase complex.

2015 **Research Trainee**, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL
Advisor: Shengyu Yang

- Characterized the impact of deoxyguanosine kinase (DGUOK), a mitochondrial protein, on the regulation of cancer metabolism and metastasis.

Publications

Research and review articles (peer reviewed)

2022 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., Rhie, A., 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. M., Miga, K. H., & McCoy, R. C.*, Dennis, M. Y.*, Zook, J. M.*, Schatz, M. C.* (2022). A complete reference genome improves analysis of human genetic variation. *Science 376*(6588): 54, DOI: 10.1126/science.abl3533.

2022 Nurk, S.*, Koren, S.*, Rhie, A.*, Rautiainen, M.*, ... , **Yan, S. M.**, ... , & Eichler, E. E.*, Miga, K. H.*, Phillippy, A. M.* (2022). The complete sequence of a human genome. *Science*, *376*(6588): 44–53, DOI: 10.1126/science.abj6987.

2021 Ariad, D., **Yan, S. M.**, Victor, A. R., Barnes, F. L., Zouves, C. G., Viotti, M., & McCoy, R. C. (2021). Haplotype-aware inference of human chromosome abnormalities. *Proceedings of the National Academy of Sciences*, *118*(46): e2109307118. DOI: 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.

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.

Editorials and commentaries

2022 Soto, D.C.*, Kirsche, M.K.*, **Yan, S. M.***, Zarate, S.*. (2022), The human reference genome is finally complete. *The Science Breaker*, 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.

**Equal contribution*

Presentations

Oral presentations

2022 **JHU CMDB Program Retreat**, Harpers Ferry, VA
Local adaptation and archaic introgression at human structural variant loci

2022 **T2T-F2F**, Santa Cruz, CA (flash talk)
Human genetic diversity within challenging regions of the genome

2022 **Advances in Genome Biology and Technology**, Orlando, FL (selected abstract)
A complete reference genome improves analysis of human genetic variation

2021 **eLife Symposium: Evolutionary Medicine** (virtual)
Local adaptation and archaic introgression at human structural variant loci

2021 **Cold Spring Harbor Laboratory: Biology of Genomes** (virtual)
Local adaptation and archaic introgression at human structural variant loci

2020 **JHU Joint Genomics Group** (virtual)
The role of structural variation in human local adaptation

2020 **American Society of Human Genetics** (virtual)
The role of structural variation in human local adaptation

*2020 **Society for Molecular Biology & Evolution**, Québec City, Canada
The role of structural variation in human local adaptation

**Cancelled due to COVID-19*

Poster presentations

2020 **The Allied Genetics Conference** (virtual)
The role of structural variation in human local adaptation

2019 **JHU CMDB Program Retreat**, Fairfield, PA
Structural genomic divergence and introgression in hominin evolution

2019 **13th Annual Genomics and Bioinformatics Symposium**, Baltimore, MD
Structural genomic divergence and introgression in hominin evolution

2019 **Society for Molecular Biology & Evolution**, Manchester, U.K.
Structural genomic divergence and introgression in hominin evolution

2018 **Biological Sciences Honors Symposium**, Ithaca, NY
Regulation of plasma membrane proteins by the Art1-Rsp5 ubiquitin ligase complex

Grants

Awarded

2022–2024 **NIH/NHGRI F31**: Ruth L. Kirschstein Predoctoral Individual National Research Service Award
PI: Stephanie Yan; Johns Hopkins University
Title: "Investigating the role of structural variation in hominin evolution."

2022–2024 **JHU Discovery Awards**: JHU grants for cross-divisional collaborations
PIs: Rajiv McCoy, Winston Timp, Alexis Battle; Johns Hopkins University
Title: "A high-resolution view of human gene expression and splicing diversity with single-molecule long- read sequencing."

Fellowships, honors, & awards

2022 Ruth L. Kirschstein National Research Service Award (NRSA) Fellowship; NHGRI

2020 Technology Fellowship Grant; JHU Center for Educational Resources

2020 Travel Grant; JHU Graduate Representative Organization

2020 Honorable Mention; NSF Graduate Research Fellowships Program

2019 Adam T. Bruce Fellowship; Johns Hopkins University

2019 Registration Award; Society for Molecular Biology & Evolution

2015–2018 Dean's List: Spring 2015, Fall 2015, Fall 2017, Spring 2018; Cornell University

2014–2018 Tanner Dean's Scholar; Cornell University

2017 Book Prize for Neuropathology; St Catherine's College, University of Oxford (study abroad)

Teaching

2021–Present Technology Fellow, Human Genome Variation Lab, Johns Hopkins University

2020–Present Teaching Assistant, Quantitative Biology Bootcamp, Johns Hopkins University
2021–Present Tutor, Quantitative Biology Lab, Johns Hopkins University
2022 Guest Lecturer, Human Genome Variation, Johns Hopkins University
2020 Teaching Assistant, Quantitative Biology Lab, Johns Hopkins University
2020 Guest Speaker, Human Genome Variation Lab, Johns Hopkins University
2020 Guest Lecturer, Human Genome Variation Lab, Johns Hopkins University
2019–2020 Teaching Assistant, Developmental Genetics Lab, Johns Hopkins University

Research mentoring

Undergraduate

2020–Present Divya Nair, Johns Hopkins University

High school

2020–2021 Miles Fancher, Ingenuity Project, Baltimore Polytechnic Institute
2020–2021 Aram Zaprosyan, Ingenuity Project, Baltimore Polytechnic Institute

Academic service & mentorship

Academic service

2021 **Moderator**, American Society of Human Genetics (virtual)
Session: Introgression and population structure in the age of genomic biobanks

2020–Present **Organizing Committee**, CMDB symBIOsis, Johns Hopkins University
- Founding member of symBIOsis, an organization dedicated to supporting current CMDB graduate students.
- As a member of the symBIOsis Organizing Committee, responsible for organizing the BioBuddies peer mentorship program, advising meetings on CMDB requirements, qualifying exam practices, workshops, and social events for CMDB graduate students.
- As Accountability Leader, responsible for ensuring that committee members fulfill their responsibilities and contribute equally to planning symBIOsis programming.

2018–Present **BioRep**, CMDB Program, Johns Hopkins University
- Advocate for the graduate student body to the CMDB administration. Serve as channel of communication between the students and program directors.
- Organize recruitment for prospective biology graduate students, as well as orientation for new first-year students.
- Led initiatives to address department climate issues, improvements to the graduate TAing system, and concerns about returning to research during the COVID-19 pandemic.

2019 **Session Chair**, Johns Hopkins CMDB Program Retreat, Fairfield, PA

Peer mentorship

2019–Present **BioBuddies Mentor**, CMDB symBIOsis, Johns Hopkins University
- Mentoring first-year CMDB students via BioBuddies, a peer mentorship program that pairs first-year PhD students with upper-year mentors to help them adjust to graduate school.

2019–2020 **BioBuddies Program Co-Chair**, CMDB MInDS, Johns Hopkins University
- Organized mentor-mentee pairings and events for BioBuddies.

2019 **Biology REU Mentor**, CMDB MInDS, Johns Hopkins University
- Mentored a summer REU student via the biology REU program.

2016–2017 **College of Arts & Sciences Peer Advisor**, Cornell University
- Mentored eleven freshmen in the 2016–2017 academic year.

Volunteer work & outreach

2018–Present **2018 Class Correspondent**, Cornell Association of Class Officers
- Develop communications and events, including a quarterly newsletter, class Instagram account, and quarterly updates in the Cornell Alumni Magazine, to maintain engagement with alumni from the Class of 2018.

2019–2020 **Webmaster & Social Media Chair**, CMDB MInDS, Johns Hopkins University
- Maintained website and social media accounts for Mentoring to Inspire Diversity in Science (MInDS), a group that organizes community outreach and student support activities for members of the biology department.
- Helped lead the 2020 restructuring of MInDS into two groups, one (MInDS) focusing on outreach and diversity and the other (symBIOsis) focusing on student support.

Technical writing & editing

2015–2018 **Assistant News Editor, Print Designer, & Staff Writer**, *The Cornell Daily Sun*, Ithaca, NY
- Wrote for, edited, and designed The Sun, an independent, student-run paper and the primary source of news on the Cornell campus.
- Collaborated in a six-person news editor team to publish the paper's daily news section, cover breaking news, assign long-term investigative pieces, train writers, and hold semiweekly workshops.

2015–2018 **Managing Editor, Copy Editor, & Staff Writer**, *The Research Paper*, Ithaca, NY
- Wrote for and edited a student-run magazine on undergraduate research at Cornell.
- Recruited researchers to be featured; trained new writers; and corrected articles for grammar, clarity, and technical accuracy.

2017 **Staff Writer**, *Bang! Science Magazine*, Oxford, U.K.
- Wrote feature pieces explaining newly published research to a non-scientist readership.

2015 **Editorial Intern**, *Familius*, Sanger, CA
- Worked with authors to edit nonfiction manuscripts at the substantive editing, copy editing, and proofreading stages.
- Credited as the primary editor on three Familius titles.