Jessica "Jaycee" Choi

Ph.D. candidate in Mammalian Genetics at The Jackson Laboratory and Tufts University
jaycee.choi@jax.org | ORCID: https://orcid.org/0000-0003-3401-0867

Education

Mammalian Genetics, Ph.D.
The Jackson Laboratory, ME | Tufts University, MA, 2021-2026 (expected)
Advisor: Vivek Kumar, Ph.D.

Biological Sciences, B.S.
La Sierra University, Riverside, CA 2017-2021
B.S., Department of Biology, GPA: 3.71
SINE Retrotransposons Import Polyadenylation Signals to 3'UTRs in Dogs (*Canis familiaris*)
Advisor: Nathan Sutter, Ph.D.

Publications

1. **Jessica D. Choi**, Lelani A. Del Pinto, Nathan B. Sutter, SINE Retrotransposons Import Polyadenylation Signals to 3'UTRs in Dog *(Canis familiaris). Mobile DNA* 2025. https://doi.org/10.1186/s13100-024-00338-5

2. **Jessica D. Choi** and Vivek Kumar. A new era in quantification of animal social behaviors. *Neuroscience and biobehavioral reviews* 2023. https://doi.org/10.1016/j.neubiorev.2023.105528

3. Heidi Lin, Michael Reeves, Melissa Acevedo, Kelsey Bass, Elizabeth Chau, Brandon Ching, Elisaelena Enriquez, Skylar Evans, Kaitlyn Mamora, Caitlyn Pang, Michelle Santos, Chelsea Tafoya, Madyllyne Vaca, William Van Iderstein, Luis Velasco, Viviana Williams, Grant Yonemoto, Tyler Yonemoto, **Jessica Choi**, Natasha Dean, Arturo Diaz, Genome Sequences of Bacteriophages ClearAsMud and Kauala. *Microbiology resource announcements, 9(46)* 2020. https://doi.org/10.1128/mra.01026-20

4. Gillian Miller, Steven Tran, Rhiannon Abrahams, Daniel Bazan, Ethan Blaylock, **Jessica Choi,** Shannon Grewal, Elmira Hernandez, Daniel Kim, Kay Kim, Yumin Lee, Meagan Lopez, Rachel Specht, Nancy Kalaj, Arun Muthiah, Natasha Dean, Arturo Diaz, (2019) Genome Sequences of Bacteriophages KaiHaiDragon and OneinaGillian, Isolated from Microbacterium foliorum in Riverside, California. *Microbiology resource announcements, 8(15)* 2019. https://doi.org/10.1128/mra.00002-19

Publications in Prep

1. **<u>Jessica D. Choi,</u>** Brian Geuther, Gautam Sabnis, Cayson Hamilton, Tom Sproule, Vivek Kumar. Homeostatic behavior quantification of mice in a social context using machine vision. (In prep).
2. **<u>Jessica D. Choi</u>**, Brian Geuther, Gautam Sabnis, Anshul Choudhary, Tom Sproule, Vivek Kumar. Age-related cognitive decline in mice using complex maze. (In prep).
3. Sara E. Kalla, Hooman K. Moghadam, Max Tomlinson, Allison C. Seebald, Jeremy J. Allen, Jordan Whitney, **<u>Jessica D. Choi</u>**, Nathan B. Sutter, Polymorphic SINEC_Cf Retrotransposons in the Genome of the Dog (*Canis familiaris*). *BioRXiv* 2020**.** (In review)**.** https://doi.org/10.1101/2020.11.30.405357

Conference

Talks

1. **Scientifically Speaking,** Host: The Jackson Laboratory Advancement, October 2024, *Innovating Minds: Machine Learning & Cognitive Research*
2. **La Sierra University Computer Science and Math Seminar**, Host: Jon Vanderwerff, Ph.D. May 2024, *Using Python for Data Visualization and Processing*
3. **The Jackson Laboratory Data Science Symposium,** April 2024, *Computer vision to quantify feeding and drinking in group-housed mice*
4. **La Sierra University Biology Department Colloquium**, Host: Nathan B. Sutter, Ph.D. April 2023, *Decoding Mouse Behavior with Machine Vision: A Window into Cognitive Decline and Homeostasis*
5. **Complex Trait Consortium,** October 2023, *Homeostatic behavior quantification of mice in a social context using machine vision*
6. **TAGC 2020 Online: The Allied Genetics Conference**, March 2020, *A Catalog of Polymorphic SINEC_Cf Insertions in the Dog Genome*
7. **La Sierra University Department of Biology Colloquium,** November 2019, *The SINE You've Crossed the LINE*. This talk was one of four student talks.

Posters

* = Presenting Author

1. **<u>Jessica Choi*</u>,** Cayson Hamilton, Brian Geuther, Gautam Sabnis, Tom Sproule, Vivek Kumar, *Homeostatic behavior quantification of mice in a social context using machine vision*, **TAGC 2024: The Allied Genetics Conference**, March 2024, National Harbor, MD

2. **Jessica D. Choi***, Sara E. Kalla, Allison Seebald, Max Tomlinson, Yun Seok Lee, Cassandra R. Ward, Nathan B. Sutter, *A Catalog of Polymorphic SINEC_Cf Insertions in the Dog Genome*, **International Plant and Animal Genome Meeting XXVIII**, January 2020, San Diego, CA.

3. Yun Seok Lee*, Sara E. Kalla, Allison Seebald, **Jessica D. Choi**, Jeremy J. Allen, Nathan B. Sutter, *Characterization of Polymorphic SINE Insertions and Genes in Dog Retrotransposon Free Regions*, **TAGC 2020 Online: The Allied Genetics Conference**, March 2020, Online, International.

4. Yun Seok Lee*, Sara E. Kalla, Allison Seebald, **Jessica D. Choi**, Jeremy J. Allen, Nathan B. Sutter, *Characterization of Polymorphic SINE Insertions and Genes in Dog Retrotransposon Free Regions,* **International Plant and Animal Genome Meeting XXVIII**, January 2020, San Diego, CA.

5. Uylae Kim*, Bryn Batin, Emily Choi, Jasleen Dharni, Sydney Figueroa, Sunil Kim, Loren Klim, Yun Seok Lee, Diana Lim, Axel Nathaniel, Chung Chun Shih, Kristen Simental, Elizabeth Suh, Roshni Trivedi, Isabela Valladolid, Corrine Wang, Cassandra Ward, Keina Yoo, **Jessica Choi**, Natasha Dean, Arun Muthiah, and Arturo Diaz, *Isolation and Analysis of two Gordonia phages, CherryonLim and OhMyWard,* **SEA-PHAGES 11th Annual Symposium**, June 2019, Ashburn, Virginia. I was chosen out of my cohort to be the TA for the 2019 and 2020 SEA-PHAGES cohorts that followed mine.

6. Rhiannon Abrahams*, Daniel Bazan, Bryceson Beglau, Ethan Blaylock, **Jessica Choi**, Shannon Grewal, Elmira Hernandez, Daniel Kim, Kay Kim, Yumin Lee, Michael Linde, Meagan Lopez, Gillian Miller, Emily Pangalila, Markell Parker, Rachel Specht, Ming Chung Teng, Benjamin Toledo, Steven Tran*, and Houting Yu, *Orphams Find a Home in OneinaGillian While KaiHaiDragon Continues Moving Forward*, **SEA-PHAGES 10th Annual Symposium**, June 2018, Ashburn, Virginia. La Sierra University is part of the <150 schools that are part of this accelerated SEA-PHAGES program.

Fellowships, Awards, and Honors

1. **The Whole Scientist, at The Jackson Laboratory in Farmington, CT.** $750. 2024
2. **The Jackson Laboratory Predoc Travel Award,** $600. 2024
3. **IMGS Travel Scholarship,** The Allied Genetics Conference travel award. $1200. 2024
4. **T32 Training Program in Precision Genetics of Aging, Alzheimer's Disease and Related Dementias**, PIs: Gareth Howell, Ph.D and Ron Korstanje, Ph.D. $42,991. 2023-2024
5. **Tufts Genetics, Molecular, Cell, Biology department poster award,** $200. 2023
6. **Student Researcher of the Year**, La Sierra University Department of Biology. 2020
7. **Lynn N. Sarkisian Biology Endowed Scholarship** award amount: $4165. 2020
8. **Lynn N. Sarkisian Biology Endowed Scholarship** award amount: $4000. 2019

Leadership and Service

1. **Tufts Graduate Student Council member**. 2024-Present
2. **JAX Graduate Student Organization Co-chair**. 2024-Present
3. **Co-lead of student-run JAX-Tufts Journal Club course for Genetics graduate students.** 2024-Present
4. **Co-founder and President of Tufts Computational Biology Club**, 2022-Present
5. **Organized and set up a graduate student lounge at The Jackson Laboratory**. 2024
6. **Jackson Lab Faculty Retreat & Scientific Symposium Planning Committee**, 2023-2024
7. **La Sierra University Provost Search Committee Representative,** 2019-2020
8. **Student Association La Sierra University Senator,** 2017-2018

Mentorship

1. **Lucia Zhang,** B.S. student. University of Southern California. Supervised in the Jackson Laboratory Summer Student Program working on fecal boli kinetics of mice related to anxiety. Summer 2024.
2. **Sophia Szady**, B.S. student. Colby College Lunder Research Fellow. Supervised as a Jackson Laboratory Academic Intern throughout the school year on a project where she classifies huddling behavior in mice to apply to disease models and homeostasis. 2023-2024.
3. **Cayson Hamilton,** B.S. student. Brigham Young University. Supervised in the Jackson Laboratory Summer Student Program studying supervised learning classification to train a mouse feeding classifier and applied to disease mouse models. Summer 2023.

Teaching Experience

1. **Short course of the advanced methods of machine learning**, The Jackson Laboratory, 2023. Teaching Assistant.
2. **Python Workshop**, La Sierra University 2021. Teaching Assistant. This workshop was held for underrepresented students in junior high and high school.
3. **General Biology Lecture,** La Sierra University 2018-2021. Teaching Assistant.
4. **General Biology Laboratory**, La Sierra University 2018-2021. Head Lab Teaching Assistant. I mentored students on developing their own quarter-long projects with nematode worms.
5. **Collaborative Learning Center**, La Sierra University Tutoring Center 2018-2021. Learning Assistant in Math, Science, and Writing.
6. **Biostatistics**, La Sierra University 2020. Teaching Assistant.

7. **SEA-PHAGES**, La Sierra University 2019-2020. Teaching Assistant. I mentored students with coming up with research projects for their end-of-year research emphasis week poster session.
8. **General Physics Laboratory**, La Sierra University 2019-2020. Teaching Assistant.

Professional Development

1. **The Whole Scientist: The Jackson Laboratory,** September 2024, Farmington, CT
2. **The Allied Genetics Conference**, March 2024, National Harbor, MD
3. **Complex Trait Consortium**, October 2023, Online, International
4. **The Carpentries Instructor Training**, May 2022, Online
5. **Human and Mammalian Genetics and Genomics: The McKusick Short Course**, The Jackson Laboratory, 2022
6. **Impacts of Sleep and Circadian Biology on Alzheimer's Disease and Aging**, The Jackson Laboratory, Online, 2021
7. **The Allied Genetics Conference**, March 2020, Online, International
8. **International Plant and Animal Genome Meeting**, January 2020, San Diego, CA