

Chi-Jing Leow

PhD student | [Braasch lab](#)

Department of Integrative Biology | Michigan State University

leowchi@msu.edu | [LinkedIn](#) | [Twitter](#) | [BlueSky](#)

Personal Statement:

I aspire to become a principal investigator and establish my own research lab at a university. My research interests are ichthyology, comparative genomics and transcriptomics, genome evolution, and gene regulation, with potential applications in biomedical research. I leverage molecular biology and bioinformatics techniques to explore these research topics. My current doctoral research focuses on evolutionary developmental genomics using various fish models. I am eager to collaborate with researchers across disciplines.

Education:

2025- present **Doctor of Philosophy, Integrative Biology.**

Michigan State University, East Lansing, Michigan.

Advisor: Ingo Braasch

2023 **Master of Science, Biology.** GPA: 4.0

Southeastern Louisiana University, Hammond, Louisiana

Thesis: Examining the Gene Expression Profiles of Killifishes with Different Life-Histories using liver and brain tissues (Cyprinodontiformes: Nothobranchiidae)

Advisor: Kyle Piller

2020 **Bachelor of Arts, Biology.** GPA: 3.63

Asbury University, Wilmore, Kentucky

Highlighted Publications:

2025 **Chi-Jing Leow**, Kyle R. Piller. Life History-Dependent Brain Transcriptomic Signatures in Nothobranchids: Insights into Aging, Neurogenesis, and Life History Evolution. *Integrative Organismal Biology*, Volume 7, Issue 1, 2025, obaf016. [Link](#)

2024 **Chi-Jing Leow**, Kyle R. Piller. Life in the fastlane? A comparative analysis of gene expression profiles across annual, semi-annual, and non-annual killifishes (Cyprinodontiformes: Nothobranchiidae). *PLOS ONE* 19(9): e0308855. [Link](#)

Peer-Reviewed Publications:

2025 Jhonatan Henao Vasquez, Jin Yuan, **Chi-Jing Leow**, Erin Crossey, Fengzhi Shao, Senegal Carty, Viviana A. Dominguez, Ming Lo, Joseph P. Mizgerd, Jessica L. Fetterman, Nelson C. Lau, Alan Fine, Matthew R. Jones. Somatic *Miwi2* modulates mitochondrial function in airway multiciliated cells and exacerbates influenza pathogenesis. *iScience*. Volume 28, Issue 4, April 2025. [Link](#)

2025 Sara A Brewer, Rebecca R Piche, Florene G Bell, Angie F Flores, Kenton L Sena, Thomas A Maigret, **Chi-Jing Leow**, Ben F Brammell. The use of eDNA in the detection of the salamanders *Pseudotriton ruber* (Sonnini & Latreille, 1801) and *Gyrinophilus porphyriticus* (Green, 1827): development and validation of quantitative PCR assays and notes on phylogeographic effectiveness. *Herpetology Notes*. Volume 18, 2025. [Link](#)

2022	Samantha N Hart, Samir P Patel, Felicia M Michael, Peter Stoilov, Chi-Jing Leow , Alvaro G Hernandez, Ariane Jolly, Pierre de la Grange, Alexander G Rabchevsky, Stefan Stamm. Rat Spinal Cord Injury Associated with Spasticity Leads to Widespread Changes in the Regulation of Retained Introns. <i>Neurotrauma Reports</i> PDF
2022	Florene G Bell, Angie F Flores, Kenton L Sena, Thomas A Maigret, Chi-Jing Leow , Ronald B Sams, David K Peyton, Ben K Brammell. Development and Validation of qPCR Assays for Use in eDNA Detection of Southern Two-lined (<i>Eurycea cirrigera</i>) and Northern Dusky (<i>Desmognathus fuscus</i>) Salamanders. <i>Herpetological Conservation and Biology</i> . PDF
2021	Justin R Welden, Giorgi Margvelani, Chi-Jing Leow , Jessica Blackburn, Peter T Nelson, Stefan Stamm. Proteins Translated from Tau Circular RNAs as Drivers for Alzheimer's Disease and Frontotemporal Dementia. <i>Alzheimer's & Dementia</i> . PDF

Seminars and Presentations:

2023	Oral Presentation. Joint Meeting of Ichthyology and Herpetology.
2023	Poster Presentation. Louisiana Biomedical Research Network.
2022	Poster Presentation. Joint Meeting of Ichthyology and Herpetology.
2022	Oral Presentation. Department Seminar at Southeastern Louisiana University.
2020	Oral Presentation. Senior Research Presentation at Asbury University.
2019	Poster Presentation. Kentucky Academy of Science Meeting. (Awarded 2 nd place)

Awards/Honors:

Undergraduate:

- Achieved Dean's List for five semesters for academic excellence.
- 2nd place on poster presentation, agriculture section - Weeds Control on Horse Pastures with Herbicides. 105th annual meeting of the Kentucky Academy of Science Nov. 1-2, 2019, Berea College, Berea, KY. Poster Presentation.

Awarded Fellowships/Grants:

2025-2026	College of Natural Science Recruiting Fellowship Michigan State University
-----------	--

Professional Affiliations:

2025- present	Secretary, Graduate Student Organization Integrative Biology, Michigan State University
2025- present	Member, American Scientific Affiliation

Work Experience:

Sept 2023 – April 2025	Research Data Analyst Department of Biochemistry & Cell Biology Boston University School of Medicine – Boston MA.
Aug 2021 – July 2023	Graduate Research Assistant Department of Biological Sciences Southeastern Louisiana University – Hammond LA.

July 2020 – May 2021

Lab Technician

Department of Molecular and Cellular Biochemistry
University of Kentucky – Lexington KY.

May 2018 – May 2020

Undergraduate Research Assistant

Department of Science and Health
Asbury University – Wilmore KY.

Relevant skills:

Molecular biology techniques:

- DNA & RNA extraction and purification from tissues and cells
- Primer design, PCR, ddPCR, real-time qPCR, gel electrophoresis
- NGS library preparation (WGS, total RNA-Seq, small RNA-Seq) and bioanalyzer analysis
- Gibson cloning, western blot, in vitro transcription and translation
- Mammalian cell culture and nanopore sequencing

Bioinformatics and data analysis:

- Bash scripting in Linux, programming in R & RStudio
- QC and trimming NGS data
- Mapping NGS data to reference genomes
- Differential gene expression analysis
- Gene Ontology, GSEA, and KEGG pathway analyses
- Data visualization in RStudio, UCSC genome browser, and IGV

Animal and field work:

- Animal husbandry (raising and mating killifish and betta fish)
- Animal dissection (harvesting skin, gonads, liver, brain tissues from fish)
- Fish identification, electro fishing, eDNA water collection, trawling, and boating experience.

References:

Ingo Braasch, Ph.D. (PhD advisor)

Associate professor at Michigan State University
braasch@msu.edu

Kyle Piller, Ph.D. (master's advisor)

Professor at Southeastern Louisiana University
kyle.piller@selu.edu

Ben Brammell, Ph.D. (undergrad PI)

Professor at Asbury University
ben.brammell@asbury.edu