

Giovanni Alberto Crestani

crestang@oregonstate.edu · gacrestani.com · [ORCID](#) · [GitHub](#) · [Google Scholar](#)

Integrative Biology PhD candidate focused on the genomics of experimentally evolved *Drosophila melanogaster* populations. Experienced in genomic data analysis, bioinformatics pipeline development, and teaching. Passionate about reproducible research and open-source tools.

Education

- 2022 – Present **Oregon State University** – Corvallis, OR, USA
PhD in Integrative Biology
Advisor: Prof. Dr. Molly K. Burke
- 2016 – 2022 **Universidade Federal de Santa Catarina** – Florianópolis, SC, Brazil
Licentiate in Biological Sciences
Thesis: *A quantitative analysis pipeline for single-cell transcriptomic data in the context of induced pluripotent stem cells*
Advisor: Prof. Dr. Edroaldo Lummertz da Rocha

Professional Appointments

- 2022 – Present **Oregon State University (GTA/GRA)** – Corvallis, OR, USA
Conducts research in evolutionary genomics using *Drosophila melanogaster*; develops reproducible workflows using Nextflow and HPC systems; teaches undergraduates in biology lab and discussion sections.
- 2015 – 2022 **Universidade Federal de Santa Catarina (Undergraduate Researcher)** – Florianópolis, SC, Brazil
Worked in six distinct research projects across multiple laboratories under the mentorship of various principal investigators.

- 2019 **Núcleo Ressacada de Pesquisas em Meio Ambiente (Intern)** – Florianópolis, SC, Brazil
Worked on sample collection of hydrocarbon-contaminated groundwater; performed metagenomic analysis on soil bacteria, fungi & archaea data; and developed automation tools with Python, and implemented git workflows.

Publications

- 2026 **Parallel adaptive responses to postponed reproduction increase lifespan and immune defense**
Gamboa-Santarosa AK[†], **Crestani GA[†]**, Moran A, Modha D, Dugo HS, Mansour A, Burke MK, and Shahrestani P.
bioRxiv (2026). DOI: [10.64898/2026.02.25.708047](https://doi.org/10.64898/2026.02.25.708047).
Manuscript in review, invited for resubmission. [†]Equal contribution.

Peer Review

- 2025 – Present *BMC Ecology and Evolution* (1 review)
2024 – Present *Genetics* (2 reviews)

Open Source Computational Tools

- 2024 **Burke Lab Variant Calling Nextflow Pipeline**
Modular workflow for variant calling and filtering of genomic data using GATK4, designed for use on SLURM-managed HPC clusters via HPCMAN (OSU). Developed for evolutionary genomics research in the Burke Lab.
GitHub: github.com/gacrestani/burke_lab_pipeline
- 2022 **iPSC Pipeline**
Reproducible workflow for analyzing single-cell transcriptomic data of induced pluripotent stem cells (iPSCs) using Snakemake and Singularity containers. Developed as the final undergraduate thesis project at UFSC.
GitHub: github.com/gacrestani/iPSC-Pipeline

- 2021 **Chave Dicotômica (*Dichotomous Key App*)**
Browser-based application for running dichotomous keys, written in JavaScript/HTML. Created for undergraduate coursework in plant systematics (in Portuguese).
GitHub: github.com/gacrestani/chave_dicotomica

Conference Presentations

- 2025 **Crestani GA**, Walsh K, Moran A, Dugo HS, Shahrestani P and Burke MK. Experimental evolution for postponed reproduction extends lifespan in *Drosophila melanogaster*. OSU Graduate Science Research Showcase; Corvallis, OR, USA. (Talk)
- Crestani GA**, Walsh K, Moran A, Dugo HS, Shahrestani P and Burke MK. Genomics of experimentally-evolved postponed reproduction in *Drosophila melanogaster*. BGSS25; Corvallis, OR, USA. (Talk)
- Crestani GA**, Walsh K, Moran A, Dugo HS, Shahrestani P and Burke MK. Genomics of experimentally-evolved postponed reproduction in *Drosophila melanogaster*. EVO-WIBO; Blaine, WA, USA. (Poster)
- Crestani GA**, Walsh K, Moran A, Dugo HS, Shahrestani P and Burke MK. Genomics of experimentally-evolved postponed reproduction in *Drosophila melanogaster*. DROS25; San Diego, CA, USA. (Poster)
- 2024 **Crestani GA**, Walsh K, Moran A, Dugo HS, Shahrestani P and Burke MK. Genomics of experimentally-evolved postponed reproduction in *Drosophila melanogaster*. TAGC24; Washington, D.C., USA. (Poster)
- 2023 **Crestani GA**, Walsh K, Moran A, Dugo HS, Shahrestani P and Burke MK. Experimental evolution for postponed reproduction improves longevity and immune defense in *Drosophila melanogaster*. Evolution 2023; Albuquerque, NM, USA. (Poster)

- 2019 **Crestani GA**, Matteoli FP, Liedke AMR, Schneider MR and Giachini AJ. High-throughput sequencing of groundwater bacterial communities from petroleum hydrocarbon. Applied Microbiology Symposium; Rio Claro, São Paulo, Brazil. (Poster)

Awards & Scholarships

- 2026 **Paul & Mary Roberts Graduate Fellowship**, \$4000 (Oregon State Univ.)
Prestigious award received to support outstanding graduate students whose work prominently features the study of evolutionary biology.
- 2026 **Oregon Lottery Graduate Scholarship**, \$4200 (Oregon State University)
Award given based on academic merit to graduate students in Oregon.
- 2026 **Integrative Biology Research Award**, \$750 (Oregon State University)
Award received to present research work at Dros25 conference.
- 2025 **Integrative Biology *Castor canadensis***, \$500 (Oregon State University)
Meritorious award received as recognition of service work for the Department of Integrative Biology and its members.
- 2024 **Integrative Biology Research Award**, \$750 (Oregon State University)
Award received to present research work at Dros25 conference.
- 2023 **Integrative Biology Research Award**, \$750 (Oregon State University)
Award received to present research work at TAGC24 conference.
- Scholarly Presentation Award**, \$555 (Oregon State University)
Award received to present research work at TAGC24 conference.
- 2022 **Provost's Distinguished Scholarship**, \$3,253 (Oregon State University)
Award granted to meritorious new students on a graduate program at Oregon State University.

Teaching Experience

- 2025 – 2026 **Teaching Assistant, BI 103 – Human Biology: Anatomy, Physiology, Disease (OSU)**
Introduction to biology to non-biology majors. Introduces human biology with emphasis on health, disease, and current scientific issues; includes hands-on labs using organisms and technologies to explore biology and build lifelong learning skills.
Enrollment: 80 students – Average Student Evaluation: 5.4 / 6.0.
- Fall 2025 **Teaching Assistant, BI 101 – Environmental Biology: Ecology, Conservation, Global Change (OSU)**
Introduction to biology to non-biology majors. Explores ecosystems, including biodiversity, species interactions, human impacts, and conservation biology. Examines biological themes and research in the context of current issues in science and society. Incorporates organisms and technologies to explore biology and develop skills for lifelong learning.
Enrollment: 80 students – Average Student Evaluation: 5.3 / 6.0.
- Spring 2025 **Teaching Assistant, BI 319 – Theory, Practice and Discourse in the Life Sciences (OSU)**
Explores the practice of science and critical evaluation of scientific claims through writing, discussion, and presentations, with emphasis on ethics, the role of science in society, and effective communication with diverse audiences.
Enrollment: 43 students – Average Student Evaluation: 5.7 / 6.0.
- 2023 – 2024 **Teaching Assistant, BI 223 – Principles of Biology: Populations (OSU)**
Taught across three academic terms. Introduction to biology to biology majors. Introduces fundamental concepts in diversity, evolution, and ecology, focusing on energy flow, information transfer, and systems at the population level and above.
Enrollment: 24–39 students – Average Student Evaluation: 5.7 / 6.0.
- 2023 **Teaching Assistant, BI 222 – Principles of Biology: Organisms (OSU)**
Introduction to biology to biology majors. Introduces key concepts in plant and animal physiology, evolution, energy transformation, and organismal structure and function.
Enrollment: 37 students – Average Student Evaluation: 5.4 / 6.0.

2022 – 2024 **Teaching Assistant, BI 221 – Principles of Biology: Cells (OSU)**
Taught across three academic terms. Introduction to biology to biology majors. Explores core concepts of cell and molecular biology, including genetics, metabolism, and the flow of information from DNA to proteins, with emphasis on the scientific process.
Enrollment: 40–45 students — Average Student Evaluation: 5.6 / 6.0.

Service & Outreach

2024 – 2026 **Integrative Biology Seminar Technician**
Responsible for the reliable, high-quality broadcast of departmental seminars, guest lectures, and thesis defenses. This role requires advanced technical setup and troubleshooting across multiple platforms (e.g., Zoom, hybrid rooms, recording systems), coordination with speakers and faculty, and real-time problem solving to ensure smooth delivery and accessibility for both in-person and remote audiences.

2023 – Present **Integrative Biology Seminar Committee (Member)**
Collaborated closely with faculty in the Department of Integrative Biology to plan and execute the departmental Seminar Series for Fall 2024 and Fall 2025. Responsibilities included identifying and inviting speakers, coordinating schedules, managing communications, and supporting both logistical and promotional efforts.

2023 – 2024 **IBGSA Invited Speaker Committee (Chair)**
Collaborated with a team to organize and coordinate a departmental seminar featuring an invited external scholar, including managing logistics, promoting the event, and facilitating engagement between the speaker and attendees.

2022 – 2026 **IBGSA Invited Speaker Committee (Member)**
Collaborated with a team to organize and coordinate a departmental seminar featuring an invited external scholar, including managing logistics, promoting the event, and facilitating engagement between the speaker and attendees.

Professional Memberships

| | |
|----------------|------------------------------------|
| 2023 – Present | American Society of Naturalists |
| 2023 – Present | Society for the Study of Evolution |
| 2023 – Present | Genetics Society of America |

Technical Skills

Programming Languages

Proficient: R, Bash

Familiar: Python, JavaScript

Pipelines & Workflow

Nextflow, Snakemake, Docker, Singularity/Apptainer

Genomics Tools

GATK4, BWA, SnpEff, samtools

Infrastructure

SLURM, HPCMAN, Git, GitHub, Linux, L^AT_EX

Languages

English (fluent), Portuguese (native), Spanish (reading knowledge)