

## Gabriel Dall'Alba

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### Education

#### UNIVERSITY OF BRITISH COLUMBIA

Master of Science, Genome Science and Technology.

Recipient of Faculty of Science Graduate Award (for outstanding academic achievements)

Vancouver, BC

April 2024

#### UNIVERSIDADE DE CAXIAS DO SUL

Bachelor of Science, Biological Sciences.

Recipient of Undergraduate Researcher Awards (2014 – 2018)

Caxias do Sul, RS, Brazil

2018

### Experience

#### UNIVERSITY OF BRITISH COLUMBIA

##### Sessional Lecturer

Vancouver, BC

September 2024 – April 30

- Taught and mentored over 150 students, delivering engaging lectures and interactive learning experiences.
- Built positive relationships with students and co-workers through inclusive communication, responsive support, and pedagogical partnerships.
- Developed approachable and unique materials to support the teaching of subject matter, including data visualization methods, evidence-based case studies, and assessment metrics.
- Created and implemented iClicker questions, "think-pair-share" exercises, and collaborative group activities to assess real-time understanding and promote the practice of critical thinking.
- Designed and integrated in-class activities that promote active learning, encouraging students to move, discuss, and engage in evidence-based reasoning.
- Provided mentoring guidance to students, provided references for job and graduate studies applicants.
- **First-Year Seminar in Science (SCIE 113)**
  - Delivered the SCIE113 envisioned curriculum while implementing my own lessons on critical thinking, evidence-based reasoning, and interdisciplinary approaches to scientific questions.
  - Designed (with support of course-wide guidelines) and conducted three 1-hour classes weekly, employing a blend of interactive, expository teaching and activity-based learning.
  - Committed to student success through personalized, insightful feedback on assignments, with in-depth guidance on written essays and whole-class/1-on-1 office hours.
  - Managed a range of student-related responsibilities outside of class, including conflict resolution, absence coordination, and accessibility accommodations.
- **Thinking Like a Life Scientist (BIOL180)**
  - Designed and delivered weekly 3-hour classes combining lecture techniques such as interactive presentations and hands-on learning activities to maximize student engagement and comprehension.
  - Recognized and rewarded intellectual curiosity by celebrating students who demonstrated virtues like analytical rigor, epistemic humility, and clear science communication.
  - Covered principles of evolutionary biology tailored towards incoming first-year students.
- **Fundamentals of Evolutionary Biology (BIOL336) – Macroevolution Guest Lecture**
  - Designed and delivered a 1.5-hour lecture on macroevolution for third-year biology students.
  - Create exam questions to assess learning outcomes of the lecture.
  - Worked with course coordinator to ensure lecture content was aligned with course goals.

#### UNIVERSITY OF BRITISH COLUMBIA

##### Graduate Teaching Assistant

Vancouver, BC

September 2020 – August 2024

- Instructed more than 500 students. Acted as Coordinator on multiple occasions across courses.

- Supported instruction in courses including **Molecular Genetics (BIOL 335)**, **Introduction to Bioinformatics (BMEG 310)**, **Fundamentals of Ecology (BIOL 230)**, and **Fundamentals of Evolutionary Biology (BIOL 336)** leading tutorials, mentoring students, and fostering inclusive, student-centered learning environments.
- Designed and evaluated assignments, providing personalized feedback on pedagogical approaches, content used, and assessment metrics.
- Coordinated teaching assistant teams and course logistics as a Teaching Assistant Coordinator, streamlining task delegation, managing academic accommodations, and ensuring effective communication between instructors, teaching assistants, and students.

## UNIVERSITY OF BRITISH COLUMBIA

Vancouver, BC

### Graduate Research Assistant

September 2020 – April 2024

- Built and maintained reproducible bioinformatics pipelines using Python, Perl, and Bash for large-scale biological data analysis across HPC platforms.
- Applied statistical methods, data visualization techniques, and big data management strategies to analyze high-throughput sequencing datasets and communicate results effectively.
- Experienced in Linux/Unix systems for command-line data processing, software deployment, and server operations in bioinformatics workflows.
- Familiar with end-to-end NGS workflows, including quality control, alignment, expression analysis, and interpretation; skilled in statistical hypothesis testing and algorithm evaluation.

## UNIVERSIDADE DE CAXIAS DO SUL

Caxias do Sul, Brazil

### Undergraduate Research Assistant & Private Consultant

June 2014 – August 2020

- Applied K-means clustering and Artificial Neural Networks for the prediction of bacterial promoter sequences.
- Published research in bioinformatics, bacterial genomics, and big data, and presented findings at national and international academic conferences.
- Collaborated with faculty and graduate students on developing bioinformatics approaches for joint projects, including the application of clustering techniques and machine learning models to biological datasets.
- Supervised and consulted with undergraduate, M.Sc., and PhD students on experimental design, data analysis, and bioinformatics methods, supporting skill development and research outcomes across disciplines.

### Skills

**Teaching:** Evidence-based lectures, Student-centered learning, Critical thinking, Case study design.

**Soft Skills:** Lecturing and oral communication, Student mentorship and academic guidance, Student-centered evaluation, Facilitation of respectful dialogue, Inclusivity, Collegiality.

**Technology:** Comfortable with POS systems, iClicker, Canvas, Microsoft Office, social media, Windows and Linux OS.

**Languages:** English (fluent), Portuguese (native)

### Relevant Publications and Book Chapters

*\* Titles of publications and book titles originally in Portuguese were translated to English.*

- **Dall’Alba, G** (2024). Toward a comprehensive understanding of early metazoans: reannotation for enhanced completeness of the ctenophore *Mnemiopsis leidyi* genome. Masters Thesis, UBC.
- **Dall’Alba, G**, Casa, PL, et al. (2022). A survey of biological data in a Big Data perspective. Big Data.
- Coelho R, **Dall’Alba G**, et al. (2020). Towards algorithms for automation of postgenomic data analyses: *Bacillus subtilis* promoter prediction with Artificial Neural Network. OMICS: A Journal of Integrative Biology.
- **Dall’Alba G**, et al. (2019). Bibliometric Study on Bioinformatics: A Survey in the Brazilian Library of Theses and Dissertations. NBC-Periódico Científico do Núcleo de Biociências.
- Schiavo M, **Dall’Alba G**, et al. (2019). Synthetic Biology and Metabolic Engineering for Developing

Solutions in Biotechnology. In As Ciências Biológicas e da Saúde na Contemporaneidade 2. Atena Editora.

- **Dall'Alba, G**, et al. (2019). Analysis of the nucleotide content of *Escherichia coli* promoter sequences related to the alternative sigma factors. Journal of Molecular Recognition.
- **Dall'Alba, G**, et al. (2016). In silico analysis of *Escherichia coli* promoters recognized by sigma factors. SaBios.

### **Educationally Relevant Publications and Book Chapters**

*\* Titles of publications and book titles originally in Portuguese were translated to English.*

- Guzzo, GB, **Dall'Alba, G** (2025). When We Become the Seekers. Free Inquiry. 2025
- Guzzo, G.B., **Dall'Alba, G** (2024). Science does not have all the answers – And this is not a problem. Skeptical Inquirer.
- Elias DC, **Dall'Alba G** (2023). Nature's Imposters: Mimicry. In Science to be read in schools. Pages 75-83.
- Guzzo GB, **Dall'Alba G** (2022) LAATS, A.; SIEGEL, H. Teaching evolution in a creation nation. Chicago: The University of Chicago Press, 2016. Revista Conjectura.
- **Dall'Alba G** (2022). Science as a process: Critical Thinking and Scientific through the lens of Biotechnology. In Biotechnology in Schools: Educational Practices for Basic Education. Pages 39-62
- **Dall'Alba G**, Guzzo GB. (2022). The importance of qualified communication of ideas on science education. Revista Interdisciplinar de Ciência Aplicada
- Guzzo GB, **Dall'Alba G** (2021) Science as a process: epistemic lessons from the pandemic. ACTIO: Docência em Ciências.
- Guzzo GB, **Dall'Alba G** (2017) What is an ideal critical thinker expected to conclude about anthropogenic global warming?. Philosophical Inquiry in Education.
- **Dall'Alba G**, Guzzo GB, de Avila e Silva S. (2016). Science and Education: A Perspective of Didactic Transposition with Bioinformatics Concepts. International Journal for Infonomics.
- Guzzo GB, **Dall'Alba G** (2016). The Role of Educators in Desacralizing Ideas. Humanist Perspectives, Ottawa 196, Pages 8-11.

### **Relevant contributions to science and education**

*\*As instructor and coordinator*

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|---|---------------------------------------|
| • Discussing the Nature of Science through Case Studies               | <b>Brazil (2021) Workshop</b>         |
| • Critical Thinking in the Teaching Practice for High School Teachers | <b>Brazil (2019) Workshop</b>         |
| • “Is this true?” Identifying Fake News on the Internet               | <b>Brazil (2018) Workshop</b>         |
| • Logic Workshop for Elementary School students                       | <b>Brazil (2016) Workshop</b>         |
| • Why can we trust science: The nature of scientific processes        | <b>Brazil (2021) Talk</b>             |
| • Science as a Process: Why science is not only about results         | <b>Humanist Canada (2021) Seminar</b> |
| • How to evaluate scientific information on the Internet?             | <b>Brazil (2017) Talk</b>             |
| • The Role of Bioinformatics in Science and Education                 | <b>CICE, Canada (2016) Talk</b>       |

### **Promotion of Science and Education**

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|---|--------------|
| • Featured in a promotional video at UBC aimed at inviting international students                 | TBA – 2025   |
| • Judge for UBC Science Case Competition 2024   | 2024         |
| • Science Communication project called “On the Paths of Reason”                                   | 2019-Present |
| • Reviewer for E-book “Science in School: Bioinformatics Practices for High School                | 2023         |
| • Preface for E-book “Science to be Read in Schools”  | 2023         |
| • Interview for UBC Bio News “Teaching Spotlight: Getting to Know Diverse Scientists in BIOL 336  | 2022         |
| • Preface for E-book “Biotechnology in Schools: Pedagogical Practices for Basic Education”        | 2022         |
| • Editor of E-book “Bioinformatics: Computational Context and Applications”                       | 2020         |
| • Preface for E-book “Bioinformatics: Computational Context and Applications”                     | 2020         |
| • Assistance in the creation of the Academic League of Science Communication                      | 2019         |
| • Organization of major event “ENZITEC 2016 - XII Seminário Brasileiro de Tecnologia Enzimática.” | 2016         |

## References

- Prof. Dr. Marcia Graves  
Associate Professor of Teaching, Department of Microbiology and Immunity, University of British Columbia, **Supervisor (Sessional Lecturer role – SCIE 113)**  
**Email:** [marcia.graves@ubc.ca](mailto:marcia.graves@ubc.ca)
- Prof. Dr. Blaire Steinwand  
Associate Professor of Teaching, Department of Zoology, University of British Columbia, **Supervisor (Sessional Lecturer role – BIOL 180)**  
**Email:** [blaire.steinwand@ubc.ca](mailto:blaire.steinwand@ubc.ca)
- Prof. Dr. Pamela Kalas  
Associate Head of the Biology Program at UBC, **Supervisor (Sessional Lecturer role)**  
**Email:** [kalas@zoology.ubc.ca](mailto:kalas@zoology.ubc.ca)