Gabriel Dall'Alba

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Education

UNIVERSITY OF BRITISH COLUBIA Vancouver, BC
Master of Science, Genome Science and Technology. April 2024
Recipient of Faculty of Science Graduate Award (for outstanding academic achievements)

UNIVERSIDADE DE CAXIAS DO SUL Caxias do Sul, RS, Brazil
Bachelor of Science, Biological Sciences. 2018
Recipient of Undergraduate Researcher Awards (2014 – 2018)

Experience

UNIVERSITY OF BRITISH COLUMBIA Vancouver, BC
Sessional Lecturer September 2024 – April 31

- 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 Vancouver, BC
Graduate Teaching Assistant 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 Coorinator, 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*

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

Promotion of Science and Education

- 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

- 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

- Prof. Dr. Pamela Kalas
  Associate Head of the Biology Program at UBC, **Supervisor (Sessional Lecturer role)**
  Email: kalas@zoology.ubc.ca