CAROLINA LOBATO

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Graz, Steiermark, Austria

ABOUT ME

My expertise spans biotechnology, microbial ecology, and bioinformatics. I have conducted extensive research on seed-associated microbiomes, focusing on developing bacterial inoculants to promote plant growth and improve plant health sustainably.

EXPERIENCE

- **Institute of Environmental Biotechnology – Graz University of Technology [⊕]** *Jan 2021 - Dec 2024*
  University Assistant Graz, Austria
  ◦ **Supervision:** Univ.-Prof. Dipl.-Biol. Dr.rer.nat. Gabriele Berg

- **Institute of Environmental Biotechnology – Graz University of Technology [⊕]** *Apr - Dec 2020*
  Project Assistant – HydroBioBis Graz, Austria
  ◦ **Supervision:** Univ.-Prof. Dipl.-Biol. Dr.rer.nat. Gabriele Berg & Dr. Tomislav Cernava

- **Plant Science and Crop Production Group – ISA, University of Lisbon [⊕]** *Apr 2018 - Nov 2019*
  Research Fellow – HybridOak Lisboa, Portugal
  ◦ **Supervision:** Prof. Dr. Leonor Morais-Cecílio

- **Forest Ecology Group – ISA, University of Lisbon [⊕]** *May 2017 - Mar 2018*
  Research Fellow – BIOTECH II Lisboa, Portugal
  ◦ **Supervision:** Prof. Dr. José Carlos Rodrigues

- **CERNAS – Polytechnic University of Coimbra [⊕]** *Sep 2013 - Jun 2014*
  Graduate Research Intern Coimbra, Portugal
  ◦ **Supervision:** Dr. Sandra Gamboa

EDUCATION

- **Institute of Environmental Biotechnology – Graz University of Technology [⊕]** *2021 - ongoing*
  PhD. candidate, Molecular Biosciences and Biotechnology Graz, Austria
- **Supervision:** Dipl.-Biol. Dr.rer.nat. Gabriele Berg

- **Institute of Biomedicine – University of Aveiro [⊕]** *2014 - 2016*
  MSc., Molecular Biomedicine Aveiro, Portugal
- **Supervision:** Prof. Dr. Gabriela Moura

- **Department of Infectious Diseases and Microbiology – University of Veterinary Sciences Brno [⊕]** *May - Sep 2013*
  Internship - LLLP-Erasmus Brno, Czechia
- **Supervision:** Prof. MVDr. Vladimír Celer, Ph.D.

- **Higher School of Agriculture – Polytechnic University of Coimbra [⊕]** *2009 - 2013*
  BSc., Biotechnology Coimbra, Portugal

TEACHING EXPERIENCE

- **Environmental Microbiology (MOL.963UF)** *2023-2024*
  Guest Lecture – The Seed Microbiome Institute of Environmental Biotechnology
- **Laboratory Course Microbiome Analysis (MOL.972UF)** *2023-2024*
  Teaching Assistant Institute of Environmental Biotechnology
- **Laboratory Course Environmental Biotechnology (MOL.935UF)** *2023-2024*
  Teaching Assistant Institute of Environmental Biotechnology
- **Biodiversity and Applied Microbiology (MOL.731UF)** *2021-2024*
  Teaching Assistant Institute of Environmental Biotechnology
- **Biodiversity and Applied Microbiology (PLA.221UF)** *2021-2024*
  Teaching Assistant Institute of Environmental Biotechnology
- **Laboratory Course Biotechnology (CHE.177UF)** *2021-2024*
  Teaching Assistant Institute of Environmental Biotechnology
- **Environmental Microbiology (MOL.963UF)** *2021-2022*
  Teaching Assistant Institute of Environmental Biotechnology
- **Laboratory Course Microbiology (MOL.209UF)** *2022*
  Teaching Assistant Institute of Environmental Biotechnology
- **Laboratory Course Bioinformatics (MOL.923UF)** *2021*
  Teaching Assistant Institute of Environmental Biotechnology
- **Genetic Engeneering** *2013*
  Undergraduate Preceptor Higher School of Agriculture

RESEARCH MENTORSHIP

- **Daniel Shelegy** — *2024*
  Bachelor Student – Institute of Environmental Biotechnology
- **Matevž Zlatnar** — *2022*
  Project Lab Student – Institute of Environmental Biotechnology
- **Anna Mitterrutzner** — *2021*
  Project Lab Student – Institute of Environmental Biotechnology
- **Daniel Habich** — *2021 - 2023*
  Master Student – Institute of Environmental Biotechnology
- **Daniela Dreisiebner** — *2021 - 2023*
  Master Student – Institute of Environmental Biotechnology
- **Magdalena Egger** — *2021*
  Master Student – Institute of Environmental Biotechnology
- **Zahra Azizi** — *2021*
  Bachelor Student – Institute of Environmental Biotechnology
- **Bettina Semler** — *2020*
  Master Student – Institute of Environmental Biotechnology

PUBLICATIONS   J=Peer-reviewed Publication, S=In Submission, O=Oral presentation, P=Poster presentation, T=Thesis

[S] Olimi E., Wuggenig R., **Lobato C.**, Bickel S., Kusstatscher P., Wicaksono W. A., Battisti A., Coyne D., Adriko J., Cernava T., Berg G. "East Africa's Magical Plant: The Microbiome, Metabolome, and Antimicrobial Potential of *Mondia whitei*, an Herbal Medicinal Plant" ISME Communications, 2025

[S] **Lobato C.**, Abdelfattah A., Berg G., Cernava T. "Bridging the gap: Addressing the uncultured microbiota in *Cannabis* seeds" ISME Communications, 2025

[J] **Lobato C.**, Freitas J.M., Habich D., Kögl B., Berg G., Cernava T. "Wild again: recovery of a beneficial *Cannabis* seed endophyte from low domestication genotypes" Microbiome, 2024

[O] **Lobato C.**, Freitas J.M., Habich D., Kögl B., Berg G., Cernava T. "Symbiotic Futures: Leveraging Seed Microbiomes for Sustainable *Cannabis* Cultivation", LANDSCAPE Berlin, 2024

[P] **Lobato C.**, Freitas J.M., Habich D., Kögl B., Berg G., Cernava T. "Symbiotic Futures: Leveraging Seed Microbiomes for Sustainable *Cannabis* Cultivation", 5th Plant Microbiome Symposium Amsterdam (PMS), 2024

[O] **Lobato C.**, Freitas J.M., Habich D., Berg G., Cernava T. "Healthy *Cannabis* seeds harness a geno- and chemotype specific microbial signature" Slovenian Microbiome Network Symposium (SMNS) 2023

[O] **Lobato C.**, Freitas J.M., Habich D., Berg G., Cernava T. "Exploring the microbiome of *Cannabis* seeds through domestication and breeding stages" 2nd Young AMICI Symposium, 2023

[P] **Lobato C.**, Freitas J.M., Habich D., Berg G., Cernava T. "Uncovering *Cannabis* seed endophytic diversity and composition across varieties" 16th Symposium on Bacterial Genetics and Ecology (BAGECO), 2023

[J] Abdelfattah A., Tack A., **Lobato C.**, Wassermann B., Berg G., "From seed to seed: the role of microbial inheritance in the assembly of the plant microbiome" TIM, 2022

[P] **Lobato C.**, Cernava T., Berg G., "Exploring the *Cannabis* seed microbiome" 10th ISS Congress & 3rd International Conference on Holobionts, 2022

[P] **Lobato C.**, Cernava T., Berg G., "Exploring the *Cannabis* seed microbiome" miCROPe International Symposium 2022

[P] **Lobato C.**, Cuadros-Patino K., Cernava T., Berg G., "Characterization of the *Cannabis* seed microbiome for the development of improved cultivation strategies" 8th Theodor Escherich Symposium on Medical Microbiome Research (TES) & 4th AMICI Symposium, 2021

[J] Inácio V., **Lobato C.**, Graça J., Morais-Cecílio L., "Cork cells in cork oak periderms undergo programmed cell death and proanthocyanidin deposition" Tree Physiology, 2021

[T] **Lobato C.**, "A study of alternative initiation codons in *Candida cylindracea*" RIA, 2016

[P] Gamboa S., **Lobato C.**, Oliveira H., Oom M.M., Bahcevandziev K., "Flow cytometry for the assessment of equine sperm chromatin" GTIE, 2015

SCIENCE OUTREACH

- **TU Graz Lange Nacht der Forschung 2024** *May 2024*
  Organization and support of the UBT stand at the Long Night of Research 2024

- **10th Theodor Escherich Symposium on Microbiome Research** *Jan 2024*
  Session chair

- **TU Graz Science Day 2023: New Worlds in Production** *Sep 2023*
  Science communication seminar: Healthy seed microbiome - healthy Cannabis plants

- **9th Theodor Escherich Symposium on Microbiome Research** *Nov 2022*
  Session chair

- **Seed Microbiome Working Group (SMWG)** *2022 - ongoing*
  Co-founder and organizing member [🎧]

- **PEC 282 - Growth, Cellular Renovation, and Reproduction: From Theory to Practice** *2014*
  Engaging high school students through lectures and practical activities on recombinant DNA in bacteria, and animal fertilization [🎧]

PROFESSIONAL DEVELOPMENT & SERVICE

- **Peer reviewer:** Environmental Microbiome Journal *Sep - Dec 2024*
- **Teaching Academy:** University Didactics 1 & 2 (Basic Module) *Jul - Sep 2022*
- **Bacterial Metagenomics: from experimental design to data analysis** *May 2021*
- **Code Academy:** Learn the Command Line Course *Feb 2021*
- **Metagenomics applied to surveillance of pathogens and antimicrobial resistance** *Feb 2020*
- **Programming Initiation Course for Biologists** *Jan 2019*
- **Theoretical-practical course in Cytogenetics and Genomics in Diagnosis and Research** *Sep 2018*

ADDITIONAL INFORMATION

Languages: Portuguese (Native), English (Proficient), Spanish (Intermediate), German (A2) **Programming Languages:** R, Python (beginner) **Driver's license:** B1 **Hobbies:** Scientific illustration, Basketball