

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
◦ **Supervision:** Univ.-Prof. Dipl.-Biol. Dr.rer.nat. Gabriele Berg
Graz, Austria
- **Institute of Environmental Biotechnology – Graz University of Technology**  Apr - Dec 2020
Project Assistant – HydroBioBis
◦ **Supervision:** Univ.-Prof. Dipl.-Biol. Dr.rer.nat. Gabriele Berg & Dr. Tomislav Cernava
Graz, Austria
- **Plant Science and Crop Production Group – ISA, University of Lisbon**  Apr 2018 - Nov 2019
Research Fellow – HybridOak
◦ **Supervision:** Prof. Dr. Leonor Morais-Cecílio
Lisboa, Portugal
- **Forest Ecology Group – ISA, University of Lisbon**  May 2017 - Mar 2018
Research Fellow – BIOTECH II
◦ **Supervision:** Prof. Dr. José Carlos Rodrigues
Lisboa, Portugal
- **CERNAS – Polytechnic University of Coimbra**  Sep 2013 - Jun 2014
Graduate Research Intern
◦ **Supervision:** Dr. Sandra Gamboa
Coimbra, Portugal

EDUCATION

- **Institute of Environmental Biotechnology – Graz University of Technology**  2021 - ongoing
PhD. candidate, Molecular Biosciences and Biotechnology
◦ **Supervision:** Dipl.-Biol. Dr.rer.nat. Gabriele Berg
Graz, Austria
- **Institute of Biomedicine – University of Aveiro**  2014 - 2016
MSc., Molecular Biomedicine
◦ **Supervision:** Prof. Dr. Gabriela Moura
Aveiro, Portugal
- **Department of Infectious Diseases and Microbiology – University of Veterinary Sciences Brno**  May - Sep 2013
Internship - LLLP-Erasmus
◦ **Supervision:** Prof. MVDr. Vladimír Celer, Ph.D.
Brno, Czechia
- **Higher School of Agriculture – Polytechnic University of Coimbra**  2009 - 2013
BSc., Biotechnology
Coimbra, Portugal

TEACHING EXPERIENCE

- **Environmental Microbiology (MOL.963UF)** 2023-2024
Guest Lecture on 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 Engineering** 2013
Undergraduate Preceptor
Higher School of Agriculture



RESEARCH MENTORSHIP

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

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