

# 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 the effects of bacterial inoculants in promoting 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


• <b>Daniel Shelegy</b> <i>Bachelor Student – Institute of Environmental Biotechnology</i>	2024
• <b>Matevž Zlatnar</b> <i>Project Lab Student – Institute of Environmental Biotechnology</i>	2022
• <b>Anna Mitterrutzner</b> <i>Project Lab Student – Institute of Environmental Biotechnology</i>	2021
• <b>Daniel Habich</b> <i>Master Student – Institute of Environmental Biotechnology</i>	2021 - 2023
• <b>Daniela Dreisiebner</b> <i>Master Student – Institute of Environmental Biotechnology</i>	2021 - 2023
• <b>Magdalena Egger</b> <i>Master Student – Institute of Environmental Biotechnology</i>	2021
• <b>Zahra Azizi</b> <i>Bachelor Student – Institute of Environmental Biotechnology</i>	2021
• <b>Bettina Semler</b> <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] Chen X., Olimi E., **Lobato C.**, Berg G. & Cernava T., "The tomato seed microbiome is mainly shaped by host genotype and the production site" *New Phytologist*, 2025
- [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-Patiño 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
- [O] **Lobato C.**, Cuadros-Patiño K., Cernava T. & Berg G., "[Characterization of the \*Cannabis\* seed microbiome for the development of improved cultivation strategies](#)" *Virtual Cannabis Research Conference*, 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
- [P] Inácio V., **Lobato C.**, Graça J. & Morais-Cecílio L., "How cork cells differentiate: The role of Programmed Cell Death and proanthocyanidin deposition in cork oak periderm" *PADiBa*, 2019
- [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

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- **TU Graz Lange Nacht der Forschung 2024** May 2024  
*Organization 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 in animal fertilization*

## PROFESSIONAL DEVELOPMENT & SERVICE

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- **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

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