

LUIS ALEJANDRO ROMERO SOTO

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EDUCATION

PhD in Engineering in Biotechnology, Lund University 2021

Dissertation: *Microbial polymers produced from synthetic media, agro/forestry waste and bioprocesses residual biomass: exploring the potential of different microbes.*

Major in Chemical Engineering (Food Engineering Specialty), Universidad Mayor de San Andrés-Bolivia, 2014

Thesis: *“Study of the Influence of the Winemaking Process on the Antioxidant Bioactive Compounds found in black grapes, for the justification of red wine as a functional food, and also as a scientific basis for the Denomination “Vinos de Altura Bolivianos” (Bolivian High-Altitude Wines)”*

EXPERIENCE IN RESEARCH

PhD fellowship, Division of Biotechnology, Lund University, 2014-2021.

Extensive laboratory work for the production of biomolecules from agro-industrial wastes and biomass residues.

Research Professor, IIDEPROQ - Universidad Mayor de San Andrés, 2016-2023.

SCIENTIFIC PUBLICATIONS

Soto, L.R., Byrne, E., van Niel, E.W.J., Sayed, M., Villanueva, C.C., Hatti-Kaul, R. (2019), Hydrogen and polyhydroxybutyrate production from wheat straw hydrolysate using *Caldicellulosiruptor* species and *Ralstonia eutropha* in a coupled process. *Bioresource Technology*.

Romero-Soto, L., Thabet, H., Gameiro, D., van Thuoc, D., Maghembe R., Dishisha T., Hatti-Kaul R. (2021) Metabolic potential of the moderate halophile *Yangia* sp. ND199 for co-production of polyhydroxybutyrate and exopolysaccharides. *MicrobiologyOpen*, 10(1), e1160.

Chambi, D., **Romero-Soto, L.**, Villca, R., Orozco-Gutiérrez, F., Vega-Baudrit, J., Quillaguamán, J., ... & Carrasco, C. (2021). Exopolysaccharides Production by Cultivating a Bacterial Isolate from the Hypersaline Environment of Salar de Uyuni (Bolivia) in Pretreatment Liquids of Steam-Exploded Quinoa Stalks and Enzymatic Hydrolysates of Curupáú Sawdust. *Fermentation*, 7(1), 33.

Flores, V; **Romero-Soto, L.**; Romero-Calle, D., Álvarez, M.T., Orozco-Gutiérrez, F., Vega-Baudrit, J.; Carrasco, C. (2021) Biomass and biopolymer production using *Candida 2altose* SM4 by fermentation of pre-treated brewery residues and statistical identification of optimum process conditions.

Chambi, D.; Lundqvist, J.; Nygren, E.; **Romero-Soto, L.**; Marin, K.; Gorzsás, A.; Hedenström, M.; Carlborg, M.; Broström, M.; Sundman, O.; et al. (2022) Production of Exopolysaccharides by Cultivation of Halotolerant *Bacillus atrophaeus* BU4 in Glucose- and Xylose-Based Synthetic Media and in Hydrolysates of Quinoa Stalks. *Fermentation*, 8, 79. <https://doi.org/10.3390/fermentation8020079>

Martín, C., Xiong, S., Passoth, V., Pöldmaa, K., Solberg, S.Ø, Hultberg, M., Strætkvern, K.O., Golovko, O., Pilotto, F., Müller, B., Pent, M., Klausen, S.J., **Romero-Soto, L.A.** (2023) Mushrooms for enhanced agriculture sustainability – the MUSA concept. C3-BIOECONOMY: Circular and Sustainable Bioeconomy 4, 131-146. <https://hdl.handle.net/11250/3135259>

PRESENTATIONS IN EVENTS

Miranda, D.A., **Romero-Soto, L.A.**, Jönsson, L.J., Carrasco, C., Martín, C. Exopolysaccharides from quinoa stalks: biosynthesis and in-depth characterization. 5th Ibero-American Congress on Biorefineries – 5CIAB. Jaén, Spain, October 2-4, 2024.

Romero-Soto, L.A., Fernández, L., Miranda, D.A., Strætkvern, K.O., Martín, C. Exopolysaccharide production from underexplored agrowastes through microbial fermentation using bacterial isolates from a hypersaline environment. 5th Ibero-American Congress on Biorefineries – 5CIAB. Jaén, Spain, October 2-4, 2024.

Akter, A., Klausen, S.J., **Romero-Soto, L.A.**, Díaz, F., Domínguez, H., Strætkvern, K.O., Martín, C. Pressurized liquid extraction of bioactive compounds from spent mushroom substrate of *Lentinula edodes* and *Pleurotus ostreatus*. 5th Ibero-American Congress on Biorefineries – 5CIAB. Jaén, Spain, October 2-4, 2024.

Martín, C., Xiong, S., Passoth, V., Strætkvern, K.O., Klausen, S.J., **Romero-Soto, L.A.** Spent mushroom substrate – potential feedstock for biorefinery exploitation. 31st European Biomass Conference and Exhibition – EUCBE 2022. Marseille, France, June 24-27, 2024.

Miranda, D.A., Marín, K., Sundman, O., Lundqvist, L., **Romero-Soto, L.**, Jönsson, L.J., Carrasco, C., Martín, M. From lignocellulosic residues to biopolymers – poly(3-hydroxybutyrate) production from cellulosic hydrolysates of quinoa stalks using *Halomonas boliviensis*. 3rd International Workshop on Biorefinery of Lignocellulosic Materials. Córdoba, Spain, September 12-15, 2023.

AWARDS, HONORS and SCIENTIFIC SYMPOSIUMS

- Wissenschaft und Forschung in Deutschland, 2023
Invited researcher
Federal Ministry of Education and Research, Germany
- Science Clubs International 2022
Invited to be an instructor for SCI (Science Clubs International)
- Falling Walls Lab, Factory on Bioeconomy 2021
Invited for discussions at the Bioeconomy Days
Federal Ministry of Education and Research, **Germany**
- Global Bioeconomy Summit 2020
Invited guest for project presentation: Land-Based Bioeconomy
Organized by BioVoices – **Europe**
- Falling Walls, 2020
Winner of the Falling Walls Lab Bolivia
Organized by DAAD Lektorat – Deutscher Akademischer Austauschdienst.
- Falling Walls Remote, 2020
Representative for Bolivia to the Falling Walls Remote Event, Emerging Talents 2020.
Falling Walls Foundation.
DAAD Lektorat – Deutscher Akademischer Austauschdienst.
Federal Ministry of Education and Research – **Germany**
- Innovation Week, 2020
Representative for Bolivia as one of the 15 exhibitors at world level.
DAAD Lektorat – Deutscher Akademischer Austauschdienst.
Federal Ministry of Education and Research – **Germany**

RECENT RELEVANT TEACHING ACTIVITY

- Inland University of Applied Sciences (2024)
Bioprocess Technology, Master Course
- Universidad Mayor de San Andrés (2023)
Biotechnology and Bioprocesses Program Coordinator
- Universidad Católica Boliviana (Santa Cruz), I-2023
Bioreactor Design Teacher
- Universidad Mayor de San Andrés, I/II-2023
Introduction to Polymer Science (interim lecturer)
- Universidad Privada Boliviana, II-2022
Professor of Industrial Biotechnological Processes
- Universidad Privada Boliviana, II-2022
Research Methods and Techniques Lecturer

- Universidad Privada Boliviana, II-2022
Undergraduate Project I Lecturer
- Universidad Privada Boliviana, II-2022
Agroindustrial Processes Lecturer
- Universidad Católica Boliviana (Santa Cruz), II-2022
Biotechnological Processes Lecturer
- Universidad Privada Boliviana, I-2022
Research Methods and Techniques Lecturer
- Universidad Privada Boliviana, I-2022
Unit Processes IV Lecturer
- Universidad Privada Boliviana, I-2022
Undergraduate Project I Lecturer

RELEVANT SKILLS

Extensive knowledge in the use of laboratory research equipment, including HPLC, GC and bioreactors.

Proven oral dissertation skills (professional voice charisma analysis conducted by *All Good Speakers - Denmark* is available).

Fluent in English and Spanish, basic knowledge of German.