

BIOGRAPHICAL SKETCH

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NAME Tania Pozzo	POSITION TITLE Postdoctoral Researcher
eRA COMMONS USER NAME (credential, e.g., agency login)	

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
San Andres University, La Paz-Bolivia	B.S.	12/2002	Biochemistry
Lund University, Lund, Sweden	M.Sc.	01/2005	Bio and Food technology
Lund University, Lund, Sweden	Ph.D.	1/2013	Biotechnology

A. Personal Statement

My research interest involves the use of metagenome and transcriptome analyses as tools to dissect metabolic pathways involved in the biosynthesis of naturally occurring complex carbohydrates and secondary metabolites from bacteria and plants. My overall aim is to combine techniques in Systems Biology and Synthetic Biology to design microbial consortia that possess the necessary metabolic machinery for innovation in Biotechnology.

B. Positions and Honors

Positions and Employment

2006-2007	Researcher, BASF- Plant Science Sweden, Svalöv, Sweden.
2013-2016	PostDoc. at Department of Plant Sciences, UC Davis, Davis, USA.
2016-2018	PostDoc. at Department of Biomedical Engineering, UC Davis, Davis, USA.

Other Experience and Professional Memberships

2015	Review Editor, Journal Bioprocess and Biosystems Engineering
2016	Review Editor, Journal of Frontiers in Bioengineering and Biotechnology - Marine Biotechnology
2016	Member, American Association for the Advancement of Science (AAAS)
2017-present	Review Editor, Journal of Frontiers in Microbiology - Micro biotechnology, Ecotoxicology and Bioremediation

Honors

2003- 2005	Full scholarship for a Master's Program from the Swedish Institute.
2014	Recipient of the Marie Curie Award in 2014 from the Gender Commission of the National Academy of Sciences of Bolivia.
2014-2015	Awarded as an International Fellow by the L'OREAL-UNESCO Programme for Young Women in Life Sciences.
2015-2017	Awarded research funding by the Innovative Development Award Program from the Academic Federation at UC Davis.

C. Contribution to Science

1. Developed biosynthetic pipelines to produce chemicals, surfactants, oligosaccharides and antioxidants.
 - **Pozzo T.**, Linares-Pasten J., Nordberg Karlsson E., Logan DT. (2010) Structural and functional analysis of a β -Glucosidase 3B from *Thermotoga neapolitana*: A thermostable three- domain representative of a glycoside hydrolase 3. Journal of Molecular Biology 397:3, 724-739. <https://doi.org/10.1016/j.jmb.2010.01.072>
 - Gräber M., Andersson M., Rundbäck F., **Pozzo T.**, Nordberg Karlsson E., Adlercreutz P. (2010) A novel direct screening method for alkyl glucoside production by glucosidases expressed in *E.coli* in 96-well plates. Journal of Biotechnology 145, 186-192. <https://doi.org/10.1016/j.jbiotec.2009.11.005>
 - Khan S., **Pozzo T.**, Megyeri M., Lindahl S., Sundin A., Turner C., Nordberg Karlsson E. (2011) Aglycone specificity of *Thermotoga neapolitana* β -glucosidase 1A modified by mutagenesis, leading to increased catalytic efficiency in quercetin-3-glucoside hydrolysis. BioMedCentral Biochemistry 12:11, 2-15. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3056771/pdf/1471-2091-12-11.pdf>
 - Kazi A., Khan S., Kulkarni T., **Pozzo T.**, Nordberg Karlsson E. (2013) **Book Chapter 2**: Glycoside hydrolases for modification of glycosylation in polyphenolic antioxidants. Book Advances in Enzyme Biotechnology, Springer. | https://link.springer.com/chapter/10.1007/978-81-322-1094-8_2
 - Plaza M., **Pozzo T.**, Liu J., Kazi A., Turner L., Nordberg Karlsson E. (2014) **Review**: Substituent effects on *in Vitro* Antioxidizing properties, stability and solubility in flavonoids. Journal of Agricultural and food chemistry, 62, 3321-3333. <http://pubs.acs.org/doi/ipdf/10.1021/jf405570u>
 - **Pozzo T.**, Plaza M., Romero-García J., Fajjes M., Nordberg Karlsson E., Planas A. (2014). Glycosynthases from *Thermotoga neapolitana* β -glucosidase 1A: A comparison of α -glucosyl fluoride reactions with reactions using exogenous nucleophile. Journal of molecular catalysis B: enzymatic, 107, 132-139. <https://doi.org/10.1016/j.molcatb.2014.05.021>
 - **Pozzo T.**, Romero-García J., Fajjes M., Planas A., Nordberg Karlsson E. (2017). Rational design of a thermostable member from glycoside hydrolase family 3 introduces β -glycosynthase activity. Glycobiology: Structural Biology, 2, 165-175. <https://doi.org/10.1093/glycob/cww081>
 - Amicucci MG., Galermo AG., Guerrero A., Treves G., Nandita E., Muchena JK., Higdon SM., **Pozzo T.**, Labavitch JM., Bennett AB., Lebrilla CB. Analysis of a Maize Polysaccharide and a Platform for the General Structural Characterization of Polysaccharides. **Manuscript under Intellectual Property evaluation.**
 2. Study of microbial biodiversity from extreme environments and their potential in biotechnological applications.
 - Alvarez M.T., **Pozzo T.**, Mattiasson B. (2006) Enhancement of sulfide production in anaerobic packed bed bench-scale biofilm reactor by sulphate reducing bacteria. Biotechnology Letters 28, 175–181. <https://link.springer.com/article/10.1007/s10529-005-5332-7>
 - Crespo, **Pozzo T.**, Alvarez M.T., Nordberg Karlsson E., Mattiasson B. (2012) *Caloramator boliviensis* sp. nov., a thermophilic, ethanol-producing bacterium isolated from a hot spring. International journal of systematic and evolutionary microbiology, 62(7), 1679–1686. [10.1099/ijs.0.032664-0](https://doi.org/10.1099/ijs.0.032664-0)
 - Cabero K., **Pozzo T.**, Liden G., Nordberg Karlsson E., (2012) A cellulolytic *Hypocrea* strain isolated from South American brave straw produces a modular xylanase. Carbohydrate research, 356, 215–223. <https://doi.org/10.1016/j.carres.2012.03.030>
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- Higdon SM., Bennett AB., Quillaguaman J., **Pozzo T.** (2018). Genome characterization of *Marinococcus halophilus* and its evolutionary traits within the family *Bacillaceae*. **Manuscript in preparation**
3. Discovery of novel enzymes and pathways from metagenome, genome and transcriptome analyses using synthetic biology.
- Nordberg Karlsson E., Labes A., Turner P., Fridjonson O. H., Wennerberg C., **Pozzo T.**, Hreggvidson G. O., Kristjansson J. K., Shönhet P. (2008) **Review:** Differences and similarities in enzymes from the neopullulanase subfamily isolated from thermophilic species. *Biologica* 63:6, 1006-1014.
<https://link.springer.com/article/10.2478/s11756-008-0171-3>
 - Paul C.J., **Pozzo T.**, Nordberg Karlsson E., (2009) Challenges in directed enzyme engineering and production. Annual Report GreenChem, Speciality Chemicals from Renewable Resources, 14-16.
http://www.lth.se/fileadmin/greenchem/Filer/AR/AArsrapport2009_final.pdf
 - **Pozzo T.**, Akter F., Nomura Y., Louie A., Yokobayashi Y. (2018) Firefly Luciferase Mutant with Enhanced Activity and Thermostability. *ACS Omega* 3:3, 2628–2633.
<https://pubs.acs.org/doi/abs/10.1021/acsomega.7b02068>
 - **Pozzo T.**, Higdon SM., Pattathil S., Jospin G., Hahn MH., Eisen JA., Bennett AB. (2018). Characterization of novel glycosyl hydrolases discovered by cell wall glycan directed monoclonal antibody screening and metagenome analysis of maize aerial root mucilage. **Submitted to PlosOne.**
 - **Pozzo T.**, Higdon SM., Garcia-Llanos A., Weimer B., Bennett AB. (2018). Maize aerial root mucilage is comprised of a novel complex polysaccharide and harbors a distinct microbial community. **Manuscript under Intellectual Property evaluation.**

D. Additional Information: Research Support and/or Scholastic Performance

Completed Research Support

Innovative Developmental Award

APSFS16RXJ, Academic Federation Research Grants

Pozzo, Tania (PI)

06/01/15-06/01/17

Harnessing the genetic potential of a rhizobiome from a unique maize landrace: a new strategy to design functional food

15,000 USD\$

<http://academicfederation.ucdavis.edu/awards/>

International L'Oréal-UNESCO Award

Pozzo, Tania (PI)

04/01/14-12/01/15

Discovering proteins and molecular mechanisms in oligosaccharide recognition by probiotic bacteria: A new approach to improve human health.

25,000 USD\$

http://en.wikipedia.org/wiki/L%27Or%C3%A9al-UNESCO_Awards_for_Women_in_Science
