LUCIANA CHAVEZ RODRIGUEZ

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PROFESSIONAL APPOINTMENTS

Postdoctoral Scholar, University of California Irvine, CA, USA October 2021 - current
Advisor: Steven D. Allison, Department of Ecology and Evolutionary Biology

EDUCATION

Ph.D in Agricultural sciences (Dr. agrar.) November 2017 - September 2021
University of Hohenheim, Germany
Advisor: Thilo Streck
Thesis topic: "Modelling Microbial Regulation of Pesticide Turnover in Soil and Development of Mechanistic Up-scaled Process Descriptions"

Master of Science (MS) October 2015 - October 2017
University of Hohenheim, Germany
Advisor: Thilo Streck
Thesis topic: "Calibration and validation of the XN-GECROS model with Soybean (*Glycine max*) and Durum (*Triticum durum*) data from Southwest Germany"

Bachelor in Environmental engineering September 2007 - July 2012
Universidad Nacional Agraria la Molina, Peru
Diploma in Environmental engineering August 2013 - August 2014
Thesis topic: "Phytoremediation of lead-polluted soils with native plant species"

PEER-REVIEWED PUBLICATIONS

Schwarz, E., Khurana, S., Chakrawal, A., **Chavez Rodriguez, L.**, Wirsching, J., Streck, T., Manzoni, S., Thullner, M., & Pagel, H. (2022). Spatial Control of Microbial Pesticide Degradation in Soil: A Model-Based Scenario Analysis. Environmental Science & Technology, acs.est.2c03397. https://doi.org/10.1021/acs.est.2c03397

Chavez Rodriguez, L., González-Nicolás, A., Ingalls, B., Streck, T., Nowak, W., Xiao, S., & Pagel, H. (2022). Optimal design of experiments to improve the characterisation of atrazine degradation pathways in soil. European Journal of Soil Science, 73(1). https://doi.org/10.1111/ejss.13211

Chavez Rodriguez, L., Ingalls, B., Meierdierks, J., Kundu, K., Streck, T., & Pagel, H. (2021). Modeling Bioavailability Limitations of Atrazine Degradation in Soils. Frontiers in Environmental Science, 9, 706457. https://doi.org/10.3389/fenvs.2021.706457

Chavez Rodriguez, L., Ingalls, B., Schwarz, E., Streck, T., Uksa, M., & Pagel, H. (2020). Gene-Centric Model Approaches for Accurate Prediction of Pesticide Biodegradation in Soils. Environmental Science & Technology, 54(21), 13638–13650. https://doi.org/10.1021/acs.est.0c03315

Forthcoming Publications :

Wirsching J., **Chavez Rodriguez, L.**, Ditterich R., Pagel H., He R., Uksa M., Zwiener C., Kandeler E., Poll C. (2022), Temperature and soil moisture change microbial allocation of pesticide-derived carbon. Minor Revisions in Journal of Environmental Pollution.

ADDITIONAL PUBLICATIONS

Vargas-Soplín, A. de J., Alva-Alvarado, I. M., Castañeda-Santa-Cruz, E., Padilla-Huamán, D. A., Cueva-Llaja, M., Meléndez- Avila, P. Y., & **Chavez Rodriguez, L.**. (2022). Toneladas de cabello: recomendaciones para contribuir al debate frente al uso del cabello como coadyuvante a la limpieza del derrame de petróleo en Ventanilla (Lima, Perú). South Sustainability, e055. https://doi.org/10.21142/SS-0301-2022-e055

Chavez Rodriguez, L.. (2015), Phytoremediation of lead polluted soils with native plant species. Minor Revisions in Journal of Environmental Pollution. IOSR Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT). 42-49.

Chavez Rodriguez, L.. & Ponce de Leon M.A. (2014). Análisis territorial para el cultivo de *Chenopodium Quinoa.* Revista Delos, vol. 7, N° 21.

WORK & RESEARCH EXPERIENCE

Student Assistant July 2016 - February 2017
University of Hohenheim, Germany
Writing the script for the courses of Environmental Modelling and Spatial Data Analysis with GIS

Research Assistant July 2015 - September 2015
Helmholtz-Zentrum für Umweltforschung GmbH – UFZ, Germany
Lab assistant in a Ph.D. project in quantifying phosphorus in bacteria in soil polluted with glyphosate

Research Assistant January 2015 - February 2015
Universidad Nacional Agraria la Molina, Peru
Lab assistant in a project about carbon stock and soil quality changes due to land use change.

Internship January 2014 - December 2014
Peruvian Society of Soil Science
Organization of the 20. Peruvian and Latin-American congress of Soil science.

Internship January 2012 - April 2012
Consultores Asociados en Naturaleza y Desarrollo (CANDES), Peru
Assistant in two remote-sensing and GIS projects: Updating of vegetation coverage and agricultural classification map of the Altomayo basin, and evaluation of population of vicuñas in Peru.

INTERNATIONAL EXPERIENCE

Visiting student March 2018 - August 2018
Department of Applied Mathematics at the University of Waterloo, Canada
Advisor: Brian Ingalls

Postgraduate Summer School August 2016
Lincoln University, New Zealand

ECOL697 (ELLS Postgraduate Summer School for 2016) Ecological Restoration: Remediation of Degraded and Contaminated Land.

Exchange Student August 2012 - May 2013
University of Turku, Finland
Exchange studies in Environmental sciences as part of the FINPE project.

AWARDS

Scholarship award "Beca Presidente de la República – ALEPRONA" April 2015 - October 2017

Scholarship award FINPE (Finland-Peru) August 2012 - May 2013

Best GPA during 5 years of university studies 2007 - 2012
Universidad Nacional Agraria la Molina, Peru.

INVITED TALKS

Chavez Rodriguez, L. "Modelamiento de la regulación microbiana de la degradación de pesticidas en el suelo". Club de Suelos, Universidad Zamorano, Honduras. September 2021.

Chavez Rodriguez, L. "Modeling Microbial Regulation of Pesticide Turnover in Soils". Environmental Engineering Research seminars at the University of Newcastle University, England. January 2020

POSTER PRESENTATIONS

Chavez Rodriguez L., Karaoz U., Malik A., Brodie E., Allison S. "Integrating omics data into trait-based models for litter decomposition". Microbial communities at the interface between ecology and evolution. Mexico. August 2022.

Chavez Rodriguez L., Pagel H., Streck T., Ingalls B. "From Chemostat/Retentostat to Soil: Modeling bioavailability limitations on atrazine degradation". The annual EGU General Assembly. May 2020.

Chavez Rodriguez L., Pagel H., Ingalls B., Streck T. A biogeochemical model informed by genetic data for accurate prediction of pesticide degradation in soils". The Society for Mathematical Biology annual meeting. July 2019.

Chavez Rodriguez L., Pagel H., Ingalls B., Streck T. A biogeochemical model informed by genetic data for accurate prediction of pesticide degradation in soils". The 69th annual conference of the Canadian society of microbiologist. June 2019.

Chavez Rodriguez L., Pagel H., Uksa M., Wirsching J., Kandeler E., Poll C., Streck T. "Modeling of atrazine degradation: a gene – based model approach". 2nd International soil modeling consortium conference: New perspectives on soil models. November 2018.

Chavez Rodriguez L., Pagel H., Uksa M., Wirsching J., Kandeler E., Poll C., Streck T. "Gene- based approaches for pesticides-how to incorporate genetic information into biogeochemical models". The biannual meeting of commission I "Soil Physics and Soil Hydrology". September 2018.

Chavez Rodriguez L., Pagel H., Gonzales-Nicolas A., Nowak W., Streck T. "Modeling Microbial Regulation of Pesticide Turnover in Soils: Development of Up-scaled Process Descriptions". The annual EGU General Assembly. April 2018.

Chavez Rodriguez L. "Calibration of the soil-crop model Expert-N for soybean (*Glycine Max*), durum wheat (*Triticum Durum*) and sunflower (*Helianthus Annuus*) in South Germany". ELLS Scientific Student Conference: "Bio-Based Economy for a Sustainable Future" . November 2016.

TEACHING EXPERIENCE

Introduction to parallel and high performance computing (computer exercises). INICTEL-UNI, Peru. April 2022 - May 2022
- Free 4-session (16 hrs) course targeting students and young professionals working at the National Research Institute of Telecommunications (Instituto Nacional de Investigación y Capacitación de Telecomunicaciones - INICTEL)
- I designed the course and create the material for the sessions, providing guidance for about 12 students.
- The topics included an introduction to version control Git and introduction to high performance computing (HPC).

Introduction to Environmental Modeling. Universidad Andina del Cusco, Peru. November 2022 - December 2022.
- Free 4-session (16 hrs) course targeting students from the last year of the environmental engineering program, young professionals, and the general public.
- I designed the course and created the material for the sessions, guiding about 40 students.

(3103-512) Environmental Modeling (computer exercises). University of Hohenheim, Germany (Winter Semester 2019-2020).
- Lecturer of the computer exercise of the course Environmental modeling for about 20 students of the Master Programs of ENVIROFOOD, ENVIRO and Landscape Ecology.

(3103-451) Spatial Data Analysis with GIS. University of Hohenheim, Germany (Summer Semester 2018).
- Teaching assistant to support about 20 students from the Master Program of ENVIROFOOD, ENVIRO and Landscape Ecology during computing exercises.

MENTORING EXPERIENCE

- Nicole Hemming-Schroeder, University of California-Irvine (2022-current), Ph.D. student.

- Elizabeth Siyi Duan, University of California-Irvine (May 2022 - August 2022), Laboratory Coordinator.
Australia Wood Termites Fungi project.

- Carin Noerhadi, University of Hohenheim (2020), Master student. Current position: Industry
Advice in Geographic information systems for master thesis elaboration.

- Jairo Guzman, University of Hohenheim (2019), Master student. Current position: Doctoral Researcher at United Nations University-FLORES
Advice in Geographic information systems for master thesis elaboration.

- Erik Schwarz, University of Hohenheim (2018), Master student. Current position: PhD Student at Stockholm University
Advice during Soil project elaboration.

OUTREACH

Science Communication: Talk at the Laguna Woods College Club. ”Why are they still there? - Understanding the processes and implications of long-term persistence of pesticides in soils” (February 2022)

Diversity and Inclusion: Program ”Sisay Peru”, which connects STEM professionals with students from public Peruvian universities for online mentoring sessions. (April 2022 - current)

Diversity and Inclusion: Program ”Sensei Peru”, Universidad Nacional Agraria, la Molina, which connects working professionals with current students for online mentoring sessions. (2021 - current)

ADDITIONAL SKILLS

Languages:
Spanish: Native
English: Advanced
German: Advanced
Portuguese: Basic

Software proficiency:
Spatial information software: ArcGIS, QGIS, AutoCAD and ERDAS.
Programing Languages: Matlab, R, Python.