

Diego Grados

As a bioscience engineer and applied statistician, my work is centered on solving sustainable development challenges in agriculture. I use interdisciplinary approaches focusing on the fundamental and applied aspects of soil-plant-atmosphere interactions, agroecosystem analysis and remote sensing. With extensive involvement in international research projects alongside multidisciplinary partners, I have honed my teamwork and communication skills. I am proficient in programming languages for data-processing applications and process-based modelling. Additionally, I am enthusiastic about creating integrated assessments that use data science to translate information into knowledge.

Personal Data

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Relevant Experience

SEP 2020 - PRESENT	Postdoctoral Researcher - AARHUS UNIVERSITY , Aarhus - Denmark <i>Climate and Water - Agroecology Department - Faculty of Technical Sciences</i> <ul style="list-style-type: none">- Study of mitigation strategies for greenhouse gas emissions and adaptation practices to climate change.- International and national collaboration projects: PROENV, MACSUR SciPoI, ZERO, KlimaGødning.- Dissemination of results in seminars, workshops, peer-reviewed journals and international conferences.- Supervision of MSc and PhD thesis students. Reference: Prof. Dr. Diego ABALOS, Prof. Dr. Jørgen Eivind OLESEN
JUL 2023 - AGO 2023	Visiting Researcher - MASSACHUSETTS INSTITUTE OF TECHNOLOGY (<i>Faculty of Climate, Environment and Life Science</i>) and BOSTON COLLEGE (<i>Faculty of Earth and Environmental Sciences</i>), Massachusetts - United States of America <ul style="list-style-type: none">- Collaboration on using machine-learning techniques and the terrestrial biosphere model (DLEM) to assess nitrogen cycling and crop production from agroecosystems at global scale. Reference: Prof. Dr. César TERRER, Prof. Dr. Hanqin TIAN
NOV 2021 - DEC 2021	Visiting Researcher - KARLSRUHE INSTITUTE OF TECHNOLOGY , Garmisch-Partenkirchen - Germany <i>Institute of Meteorology and Climate Research, Atmospheric Environmental Research</i> <ul style="list-style-type: none">- Collaboration on using the LandscapeDNDC terrestrial ecosystem model to simulate greenhouse gas emissions and crop production at site and regional scale. Reference: Dr. Edwin HAAS, Prof. Dr. Klaus BUTTERBACH-BAHL
JAN 2020 - MAR 2020	Researcher - KU LEUVEN , Leuven - Belgium <i>Biostatistics and Sustainability Groups - Biosystems Department - Faculty of Bioscience Engineering</i>
APR 2016 - DEC 2019	PhD Researcher - KU LEUVEN , Leuven - Belgium <ul style="list-style-type: none">- Developing multi-target and system modeling methodologies for the agroecosystems’ sustainability assessment.- Dissemination of results in seminars, workshops, peer-reviewed journals and international conferences.- Supervision of BSc and MSc thesis students in Peru (UNALM and UNCP) and Belgium (KU Leuven). Reference: Prof. Dr. Eddie SCHREVENs
NOV 2014 - APR 2019	Research Assistant - VLIR/UOS PROJECT , Lima - Peru <i>Strengthening of Smallholder Horticultural Systems Subproject</i> <ul style="list-style-type: none">- Co-leading the study of soil-plant-atmosphere interactions in the Peruvian Coastal Desert.- Installation of soil, meteorological and irrigation equipment.- Design, installation and analysis of agricultural experiments under drip irrigation systems. Reference: Prof. Dr. Eddie SCHREVENs, Prof. Dr. Guido WYSEURE, Prof. Dr. Jan DIELS
SEP 2013 - DEC 2018	Research Officer - VLIR/UOS PROJECT , Junin - Peru <i>Sustainable Agriculture in the Central Peruvian Andes Subproject</i> <ul style="list-style-type: none">- Lead the design, installation and evaluation of agricultural experiments under rainfed conditions.- Consolidation of rational databases, development of soil-plant-atmosphere models and statistical techniques.- Analysis of agroecosystems using participatory approaches along with biophysical and biochemical assessments. Reference: Prof. Dr. Eddie SCHREVENs, Prof. Dr. Sady GARCÍA
FEB 2013 - APR 2019	Research Officer - VLIR/UOS PROJECT , Junin Lima - Peru <i>Drone Technology in Agriculture Subproject</i> <ul style="list-style-type: none">- Lead the feasibility study for uses of drone technology in agroecosystems.- In charge of drone flights in Peruvian’s Andes and Arid regions. Implementation of photogrammetric and GIS databases.- Development of mathematical and statistical workflows for land use classification and field experiments’ assessment. Reference: Prof. Dr. Eddie SCHREVENs, Sr. R&D Dries RAYMAEKERS
JAN 2012 - DEC 2018	Research Officer - VLIR/UOS PROJECT , Junin - Peru <i>Watersheds Management Subproject</i> <ul style="list-style-type: none">- Lead the study of soil-plant-atmosphere interactions and hydrology in the Peruvian Central Andes.- Installation of soil, climatological and hydrometric equipment.- Implementation of databases, application of hydrological models and assessment of rainfall-runoff relations. Reference: Prof. Dr. Eduardo CHÁVARRI, Prof. Dr. Guido WYSEURE

Education

APR 2016 - DEC 2019	PhD in Bioscience Engineering, Biostatistics and Sustainability - KU Leuven, Belgium Thesis Title: “Multi-target methodologies for the improvement of agricultural systems research - <i>Study cases at system and field level</i> ”. Advisor: Prof. Dr. Eddie SCHREVENs
JAN 2007 - DEC 2011	BSc in Agricultural Engineering, Hydrology - Agrarian National University La Molina , Peru Honor Thesis Title: “Analysis of flood peaks in small Andean watersheds, Junin Department, Peru (2011-2012 Period)”. Advisor: Prof. Dr. Eduardo CHÁVARRI

Relevant Publications

1. **Grados, D.**, Butterbach-Bahl, K., Chen, J., Van Groenigen, K. J., Olesen, J., Van Groenigen, J. W., Abalos, D., 2022. Synthesizing the evidence of nitrous oxide mitigation practices in agroecosystems. *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/ac9b50>.

2. **Grados, D.**, Reynafarje, X., Schrevens, E., 2020. A methodological approach to assess canopy NDVI-based tomato dynamics under irrigation treatments. *Agricultural Water Management*, 240, 106208. <https://doi.org/10.1016/j.agwat.2020.106208>.

3. **Grados, D.**, García, S., Schrevens, E., 2020. Assessing the potato yield gap in the Peruvian Central Andes. *Agricultural Systems*, 181, 102817. <https://doi.org/10.1016/j.agry.2020.102817>.

4. **Grados, D.**, Schrevens, E., 2019. Multidimensional analysis of environmental impacts from potato agricultural production in the Peruvian Central Andes. *Science of The Total Environment*, 663, 927–934. <http://doi.org/10.1016/j.scitotenv.2019.01.414>.

Relevant Conference Proceedings [PEER-REVIEWED]

2019 **Grados, D.**, García, S., Schrevens, E., Nitrogen and water use efficiency under rain-fed potato agriculture: An experimental study. *Acta Horticulturae* (1253, 243–252). *International Symposium on Water and Nutrient Relations and Management of Horticultural Crops*, Istanbul, Turkey, 12-16 Aug 2018. <http://doi.org/10.17660/actahortic.2019.1253.33>.

2017 **Grados, D.**, Vetter, E., Heuts, R., Schrevens, E., A model based technical sustainability analysis of potato production systems in the Mantaro Valley, Central Highlands, Peru. *Acta Horticulturae* (1154, 155-152). *Symposium on Applications of Modelling as an Innovative Technology in the Horticultural Supply Chain*, Wageningen, The Netherlands, 11-14 Oct 2015. <http://doi.org/10.17660/actahortic.2017.1154.20>.

2016 **Grados, D.**, Vera, J., Schrevens, E., Corn-faba bean associations in the Peruvian Central Andes. *Acta Horticulturae* (1128, 79-88). *International Symposium on Horticulture in Developing Countries and World Food Production*, Brisbane, Australia, 19-22 Aug 2014. <http://doi.org/10.17660/actahortic.2016.1128.11>.

Teaching Experience

FA 2021 - 2023	Carbon Cycling and Climate Change - Master in Agrobiolgy, Aarhus University Teacher Assistant: I lectured on soil nitrogen cycling and nitrous oxide emissions. I guided students during the discussion and practical sessions to assess agroecosystems. I supported them on the development of their research papers. [20 students]
FA 2017 - 2019	Applied Multivariate Statistical Analysis - Master in Bioscience Engineering, KU Leuven Teacher Assistant: I taught students how to analyze their databases using statistical software by leading R-tutorials. I was responsible for the practical sessions on data wrangling and visualization, matrix algebra, R-programming and advanced multivariate techniques. [80 students]
FA 2019	Biological Production Systems - Bachelor in Bioscience Engineering, KU Leuven Teacher Assistant: I guided students during discussions and practical sessions to assess agroecosystems. I taught them the essentials of process-based mathematical modelling and supported them on the development of their research papers. [25 students]
SP 2016	Ecosystems Modelling - Master in Bioscience Engineering, KU Leuven Teacher Assistant: I taught students how to develop and utilize ecosystems models at diverse scales by leading R-tutorials. I guided the practical sessions on mathematical and statistical concepts, data wrangling and visualization, R-programming. I taught them the fundamental topics on process-based modelling of ecosystems: identification, implementation, calibration and validation. [10 students]

Fellowships and Grants

2023	Land-CRAFT Research Grant [6 000€]
2022	Aarhus University Travel Grant [400€]
2021	iClimate Research Grant [3 600€]
2020	FONDECYT-CONCYTEC Research Grant [5 500€]
2016 - 2019	VLIR/UOS PhD Fellowship [82 000€]
2013 2014 2015	VLIR/UOS International Scholar Fellowships [67 000€]

Ad-Hoc Reviewer

Agronomy for Sustainable Development, Agricultural Systems, European Journal of Agronomy, European Journal of Soil Science, Geoderma, Journal of Cleaner Production, Plant and Soil, Soil Use and Management, Theoretical and Applied Climatology.

Languages

English: Full professional proficiency	Italian and Dutch: Elementary working proficiency
French: Limited working proficiency	Spanish: Native/Bilingual

Technical Skills

Programming	R, Python
Markup	Markdown, \LaTeX
Other	RStudio, Spyder, Office, QGIS, ArcGIS, Git/GitHub, HTML/CSS, HPC, Open Science Framework, Adobe Illustrator