

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

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| 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 for climate change.- International 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 |
| 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 production at site and regional level. Reference: Dr. Edwin HAAS, Dr. Clemens SCHEER |
| 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-UNALM 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-UNALM 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-UNALM 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-UNALM 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

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| 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. *Journal of 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. *Journal of 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

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| FA 2021 - 2023 | Carbon Cycling and Climate Change - Master in Agrobiology, 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. [10-20 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

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

Ad-Hoc Reviewer

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

Languages

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

Technical Skills

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| Programming | R, Python, MATLAB |
| Markup | Markdown, \LaTeX |
| Other | RStudio, Spyder, Office, QGIS, ArcGIS, Git/GitHub, HTML/CSS, HPC |