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 practical 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 utilize data science to translate information into knowledge.

Personal Data

Email	diegogradosb@agro.au.dk	ResearchID	GYR-1584-2022
Web	https://diegogradosb.github.io	ORCID	0000-0001-5548-3204

Relevant Experience

SEP 2020 - PRESENT	**Postdoctoral Researcher** - *AARHUS UNIVERSITY*, Aarhus - Denmark *Climate and Water - Agroecology Department - Faculty of Technical Sciences* - Mitigation strategies for greenhouse gas emissions (field experiments, data-driven applications, process-based models). - International collaboration projects: PROENV, MACSUR SciPol, 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 *Institute of Meteorology and Climate Research, Atmospheric Environmental Research* - Collaboration on using terrestrial ecosystem model LandscapeDNDC to simulate greenhouse gas emissions and yield at the regional and point source level. Reference: Dr. Edwin HAAS, Dr. Clemens SCHEER
JAN 2020 - MAR 2020	**Researcher** - *KU LEUVEN*, Leuven - Belgium *Mechatronics, Biostatistics and Sensors - Biosystems Department - Faculty of Bioscience Engineering*
APR 2016 - DEC 2019	**PhD Researcher** - 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 *Strengthening of Smallholder Horticultural Systems Subproject* - 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 *Sustainable Agriculture in the Central Peruvian Andes Subproject* - 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 *Drone Technology in Agriculture Subproject* - 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 *Watersheds Management Subproject* - 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**, *Mechatronics, Biostatistics and Sensors* - KU Leuven, Belgium Thesis Title: "Multi-target methodologies for the improvement of agricultural systems research - *Study cases at system and field level*". | 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.agsy.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.**, Vetters, 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 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

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

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

Technical Skills

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