

Diego Grados Bedoya

I am a quality-driven bioscience engineer and applied statistician using interdisciplinary approaches to address sustainable development challenges in agriculture, focused on soil-crop-atmosphere interactions, agroecosystems analysis and remote sensing. During my involvement in international research projects with multidisciplinary partners, I have demonstrated excellent teamwork and communication skills. I am proficient in programming languages for data-processing applications and process-based modelling. I have also cultivated my enthusiasm for the creation of integrated assessments, focusing on the 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">- Mitigation strategies of greenhouse gas emissions using process-based modeling and data-processing applications.- Systematic review and meta-analysis of greenhouse gas emissions of agroecosystems.- Dissemination of results in seminars, workshops, peer-reviewed journals and international conferences. Reference: Prof. Dr. Diego ABALOS
JAN 2020 - MAR 2020	Researcher - KU LEUVEN , Leuven - Belgium <i>Mechatronics, Biostatistics and Sensors - Biosystems Department - Faculty of Bioscience Engineering</i> <ul style="list-style-type: none">- Developing of multi-target and system modeling methodologies for the agroecosystems' sustainability assessment.- Dissemination of research results in workshops and peer-reviewed journals. Mentoring of PhD thesis students.
APR 2016 - DEC 2019	PhD Researcher <ul style="list-style-type: none">- Developing of multi-target and system modeling methodologies for the agroecosystems' sustainability assessment.- Dissemination of results in seminars, workshops, peer-reviewed journals and international conferences.- Mentoring and 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-crop-environment interactions in the Peruvian Coastal Desert.- Installation of soil, meteorological and irrigation equipment.- Design, installation and analysis of agricultural experiments under drip irrigation systems. References: 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">- Leading the design, installation and evaluation of agricultural experiments under rainfed conditions.- Consolidation of rational databases, development of soil-crop-atmosphere models and advanced statistical techniques.- Analysis of agroecosystems using participatory approaches along with biophysical and biochemical assessments. References: 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">- Leading 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. References: Prof. Dr. Eddie SCHREVENs, MSc. 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">- Leading the study of soil-crop-environment 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. References: Prof. Dr. Eduardo CHÁVARRI, Prof. Dr. Guido WYSEURE

Education

APR 2016 - DEC 2019	PhD in Bioscience Engineering , <i>Mechatronics, Biostatistics and Sensors</i> - 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 , <i>Water Resources</i> - 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

Publications

1. **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>.
2. **Grados, D.**, Schrevens, E., 2020. Cassava NDVI analysis: A nonlinear mixed model approach based on UAV-imagery. *PFG - Journal of Photogrammetry, Remote Sensing and Geoinformation Science*. <http://dx.doi.org/10.1007/s41064-020-00116-x>.
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>.

2019 Reynafarje, X., **Grados, D.**, Casas, A., Schrevens, E., Effect of water stress after flowering stage on tomato crop yield and soil water content in the semi-arid Peruvian coastline. *Acta Horticulturae* (1253, 279–286). *International Symposium on Water and Nutrient Relations and Management of Horticultural Crops*, Istanbul, Turkey, 12-16 Aug 2018. <http://doi.org/10.17660/actahortic.2019.1253.37>.

2017 **Grados, D.**, Gil, R., Raymaekers, D., Schrevens, E., Developing of an automated UAV-based RGB imagery workflow analysis for land use evaluation. *European Federation for Information Technology in Agriculture, Food and the Environment*, Montpellier, France, 02-06 Jul 2017. ISBN: 978-2-85362-686-6.

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 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 the discussion 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 agroecosystems 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 agroecosystems: identification, implementation, calibration and validation. [10 students]

Fellowships

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€]

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, GRASS GIS, Git/GitHub, HTML/CSS, Make, HPC