

# 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

Address:	
Phone:	
Email:	diego gradosb@gmail.com
Web:	https://diego gradosb.github.io/

## Relevant Experience

SEP 2020 - PRESENT	<b>Postdoctoral Researcher - AARHUS UNIVERSITY</b> , Aarhus - Denmark <i>Climate and Water - Agroecology Department - Faculty of Technical Sciences</i> <ul style="list-style-type: none"><li>- Mitigation strategies of greenhouse gas emissions using process-based modeling and data-processing applications.</li><li>- Systematic review and meta-analysis of greenhouse gas emissions of agroecosystems.</li><li>- Dissemination of results in seminars, workshops, peer-reviewed journals and international conferences.</li></ul> Reference: Prof. Dr. Diego ABALOS
JAN 2020 - MAR 2020	<b>Researcher - KU LEUVEN</b> , Leuven - Belgium <i>Mechatronics, Biostatistics and Sensors - Biosystems Department - Faculty of Bioscience Engineering</i> <ul style="list-style-type: none"><li>- Developing of multi-target and system modeling methodologies for the agroecosystems' sustainability assessment.</li><li>- Dissemination of research results in workshops and peer-reviewed journals. Mentoring of PhD thesis students.</li></ul>
APR 2016 - DEC 2019	<b>PhD Researcher</b> <ul style="list-style-type: none"><li>- Developing of multi-target and system modeling methodologies for the agroecosystems' sustainability assessment.</li><li>- Dissemination of results in seminars, workshops, peer-reviewed journals and international conferences.</li><li>- Mentoring and supervision of BSc and MSc thesis students in Peru (UNALM and UNCP) and Belgium (KU Leuven).</li></ul> Reference: Prof. Dr. Eddie SCHREVENs
NOV 2014 - APR 2019	<b>Research Assistant - VLIR/UOS-UNALM PROJECT</b> , Lima - Peru <i>Strengthening of Smallholder Horticultural Systems Subproject</i> <ul style="list-style-type: none"><li>- Co-leading the study of soil-crop-environment interactions in the Peruvian Coastal Desert.</li><li>- Installation of soil, meteorological and irrigation equipment.</li><li>- Design, installation and analysis of agricultural experiments under drip irrigation systems.</li></ul> References: Prof. Dr. Eddie SCHREVENs, Prof. Dr. Guido WYSEURE, Prof. Dr. Jan DIELS
SEP 2013 - DEC 2018	<b>Research Officer - VLIR/UOS-UNALM PROJECT</b> , Junin - Peru <i>Sustainable Agriculture in the Central Peruvian Andes Subproject</i> <ul style="list-style-type: none"><li>- Leading the design, installation and evaluation of agricultural experiments under rainfed conditions.</li><li>- Consolidation of rational databases, development of soil-crop-atmosphere models and advanced statistical techniques.</li><li>- Analysis of agroecosystems using participatory approaches along with biophysical and biochemical assessments.</li></ul> References: Prof. Dr. Eddie SCHREVENs, Prof. Dr. Sady GARCÍA
FEB 2013 - APR 2019	<b>Research Officer - VLIR/UOS-UNALM PROJECT</b> , Junin   Lima - Peru <i>Drone Technology in Agriculture Subproject</i> <ul style="list-style-type: none"><li>- Leading the feasibility study for uses of drone technology in agroecosystems.</li><li>- In charge of drone flights in Peruvian's Andes and Arid regions. Implementation of photogrammetric and GIS databases.</li><li>- Development of mathematical and statistical workflows for land use classification and field experiments' assessment.</li></ul> References: Prof. Dr. Eddie SCHREVENs, MSc. Dries RAYMAEKERS
JAN 2012 - DEC 2018	<b>Research Officer - VLIR/UOS-UNALM PROJECT</b> , Junin - Peru <i>Watersheds Management Subproject</i> <ul style="list-style-type: none"><li>- Leading the study of soil-crop-environment interactions and hydrology in the Peruvian Central Andes.</li><li>- Installation of soil, climatological and hydrometric equipment.</li><li>- Implementation of databases, application of hydrological models and assessment of rainfall-runoff relations.</li></ul> References: Prof. Dr. Eduardo CHÁVARRI, Prof. Dr. Guido WYSEURE

## Education

APR 2016 - DEC 2019	<b>PhD in Bioscience Engineering</b> , <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	<b>BSc in Agricultural Engineering</b> , <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.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.**, 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, <b>KU Leuven</b> <b>Teacher Assistant:</b> 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, <b>KU Leuven</b> <b>Teacher Assistant:</b> 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, <b>KU Leuven</b> <b>Teacher Assistant:</b> 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	<b>FONDECYT-CONCYTEC</b> Research Grant [5 500€]
2016 - 2019	<b>VLIR/UOS-UNALM</b> PhD Fellowship [82 000€]
2013   2014   2015	<b>VLIR/UOS-UNALM</b> International Scholar Fellowships [67 000€]

Ad-Hoc Reviewer

Agricultural Systems, Geoderma, Journal of Cleaner Production, 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, L <sup>A</sup> T <sub>E</sub> X
Other	RStudio, Spyder, Office, QGIS, GRASS GIS, Git/GitHub, HTML/CSS, Make, HPC