Diego Grados Bedoya

Quality-driven bioscience engineer and applied statistician with broad interests in various disciplines and topics. Specifically, I am using interdisciplinary approaches to address sustainable development challenges focused on farming systems analysis, soil-plant-weather interactions, resource use efficiency, and drone technology. I have experience working on several research projects with diverse partners in multidisciplinary and international context (Belgium, Colombia, Cuba, and Peru) on cutting edge themes. My ability to work on different problems is supported by my analytical, technical, and management skills.

Personal Data

Place and Date of Birth:	Lima - Peru | 07 February 1990
Address:	30/0102 Verbindingslaan, Leuven, Belgium
Phone:	+32 48 50 22 007
Email:	diegogradosb@gmail.com
Web:	https://diegogradosb.github.io/

Education

Apr 2016 - Dec 2019 — **PhD in Bioscience Engineering**, *Mechatronics, Biostatistics and Sensors (MeBioS)*
KU Leuven, Leuven, Belgium
Thesis Title: "Multi-target methodologies for the improvement of agricultural systems research - *Study cases at system and field level*"
Advisor: Prof. Dr.ir. Eddie Schrevens

Jan 2007 - Dec 2011 — **BSc in Agricultural Engineering**, *Water Resources*
National Agrarian University - La Molina, Lima, Peru
Honor Thesis Title: "Analysis of Flood Peaks in Small Andean Watersheds, Junin Department, Peru (2011-2012 Period)"
Advisor: Prof. Dr.ir. Eduardo Chávarri

Relevant Experience

Apr 2016 - Dec 2019 — **PhD Researcher** at *KU Leuven*, Leuven - Belgium
Divison of MeBioS - Biosystems Department - Faculty of Bioscience Engineering
Developing of multi-target methodologies and system modeling approaches for the agroecosystems' technical 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).
References: Prof. Dr.ir. Eddie Schrevens

Jan 2012 - Dec 2018 — **Research Officer** at *VLIR/UOS-UNALM Project*, Junin - Peru
Watersheds Management Subproject
Leading the study of soil-water-atmosphere interactions in the Central Peruvian Andes, Junín – Peru. Installation of soil, climatological, and hydrometric equipment. Implementation of databases, development of hydrological models, and application of advanced statistical techniques.
References: Prof. Dr.ir. Eduardo Chávarri, Prof. Dr.ir. Guido Wyseure

Feb 2013 - Apr 2019 — **Research Officer** at *VLIR/UOS-UNALM Project*, Junin | Lima - Peru
Drone Technology in Agriculture Subproject
Leading the feasibility study for uses of drone technology in agriculture. In charge of drone flights in Peruvian's Mountain and Arid regions. Implementation of GIS databases. Development of mathematical and statistical techniques to evaluate orthophotos and digital surface model data for land use classification and field experiments.
References: Prof. Dr.ir. Eddie Schrevens, MSc.ir. Dries Raymaekers

Sep 2013 - Dec 2018 — **Research Officer** at *VLIR/UOS-UNALM Project*, Junin - Peru
Sustainable Agriculture in the Central Peruvian Andes Subproject
Leading the design and installation of agricultural experiments under rainfed conditions. Implementation of databases, development of crop and statistical models, and application of multivariate exploratory techniques. Analysis and evaluation of agricultural systems using participatory approaches.
References: Prof. Dr.ir. Eddie Schrevens, Prof. Dr. Sady García

Nov 2014 - Apr 2019 — **Research Assistant** at *VLIR/UOS-UNALM Project*, Lima - Peru
Strengthening of Smallholder Horticultural Systems Subproject
Co-leading the study of plant-soil-weather interactions in the Costal Peruvian Desert, Lima – Peru. Installation of soil, climate, and water equipment. Design and installation of agricultural experiments under drip irrigation systems.
References: Prof. Dr.ir. Eddie Schrevens, Prof. Dr.ir. Guido Wyseure, Prof. Dr.ir. Jan Diels

Publications

1. **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://dx.doi.org/10.1016/j.scitotenv.2019.01.414.
2. **Grados, D.**, García, S., Schrevens, E., 2019. Assessing the potato yield gap in the Peruvian Central Andes. [Under revision].
3. **Grados, D.**, Reynafarje, X., Schrevens, E., 2019. A methodological approach to assess canopy NDVI–based tomato dynamics under irrigation treatments. [Under review].
4. **Grados, D.**, Schrevens, E., 2019. Cassava NDVI analysis: A nonlinear mixed model approach based on UAV-imagery. [Under revision].

Conference Proceedings [Peer-Reviewed]

2019 **Grados, D.**, García, S., Schrevens, E., Nitrogen and water use efficiency under rain-fed potato agriculture: An experimental study. In: *Acta Horticulturae. International Symposium on Water and Nutrient Relations and Management of Horticultural Crops*, Istanbul, Turkey, 12-16 Aug 2018. http://dx.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. In: *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://dx.doi.org/10.17660/actahortic.2017.1154.20.

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.

2016 **Grados, D.**, Vera, J., Schrevens, E., Corn-faba bean associations in the Peruvian Central Andes. In: *Acta Horticulturae: vol. 1 (1128) (79-88). International Symposium on Horticulture in Developing Countries and World Food Production*, Brisbane, Australia, 19-22 Aug 2014. http://dx.doi.org/10.17660/actahortic.2016.1128.11.

Teaching Experience

FA 2017 - 2019 Applied Multivariate Statistical Analysis - Master in Bioscience Engineering, **KU Leuven**
Graduate Teacher Assistant: Data visualization, data manipulation, matrix algebra, R programming. Diverse multivariate techniques: ordination, cluster analysis, and discrimination.
Professor: Dr.ir. Eddie Schrevens

FA 2019 Biological Production Systems - Bachelor in Bioscience Engineering, **KU Leuven**
Undergraduate Teacher Assistant: Review sessions to assess diverse agroecosystems.
Professor-Coordinator: Dr.ir. Eddie Schrevens

SP 2016 Ecosystems Modelling - Master in Bioscience Engineering, **KU Leuven**
Graduate Teacher Assistant: Introductory statistical concepts, data visualization, data manipulation, R programming. Mathematical modelling of agroecosystems.
Professors: Dr.ir. Eddie Schrevens, Dr.ir. Herman Ramon

Fellowships

2019 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
French: Limited Working Proficiency
Italian: Elementary Working Proficiency
Spanish: Native/Bilingual

Technical Skills

Programming R, MATLAB, SAS, Python, FORTRAN
Markup Markdown, LaTeX
Other RStudio, MS Office, HTML, QGIS, GRASS GIS, ArcGIS, Git, GitHub