Diego Grados Bedoya

I am a 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, soft, writing and presentation skills. I am currently finishing my PhD in Bioscience Engineering at KU Leuven.

Personal Data

Place and Date of Birth:	Lima - Peru | 07 February 1990
Address:	30/0102 Verbindingslaan, Heverlee, Leuven, Belgium
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Education

Apr 2016 - *EXP* Dec 2019
PhD in Bioscience Engineering, *Mechatronics, Biostatistics and Sensors*
KU Leuven, Leuven, Belgium
Thesis Title: "Development of multi-target and systems modeling methodologies for technical sustainability optimization of agroecosystems"
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, Junín Department, Peru (2011-2012 Period)"
Advisor: Prof. Dr.ir. Eduardo Chávarri

Relevant Experience

Jan 2012 - Dec 2018
Research Officer at VLIR/UOS-UNALM Project, Junín - Peru
Watersheed Management Subproject
Study of soil-water-atmosphere interactions in the Central Peruvian Andes, Junín – Peru. Installation of soil, climatological, and hydrometric equipments. Implementation of data bases, development of hydrological models, and application of advanced statistical techniques. Mentoring of BSc thesis students at UNALM.
References: Prof. Dr.ir. Eduardo Chávarri, Prof. Dr.ir. Guido Wyseure

Feb 2013 - Apr 2019
Research Officer at VLIR/UOS-UNALM Project, Junín | Lima - Peru
Drone Technology in Agriculture Subproject
Feasibility for uses of drone technology in agriculture. In charge of drone flights in Peruvian's Mountain and Arid regions. Implementation of GIS data bases. 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, Dries Raymaekers

Sep 2013 - Dec 2018
Research Officer at VLIR/UOS-UNALM Project, Junín - Peru
Sustainable Agriculture in the Central Peruvian Andes Subproject
Design and installation of agricultural experiments under rainfed conditions. Implementation of data bases, development of crop and statistical models, and application of multivariate exploratory techniques. Analysis and evaluation of agricultural systems using participatory approaches. Mentoring of BSc and MSc thesis students at UNALM, UNCP, and KU Leuven.
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
Study of plant-soil-weather interactions in the Costal Peruvian Desert, Lima – Peru. Installation of soil, climate, and water equipments. Design and installation of agricultural experiments under drip irrigation systems. Mentoring of BSc and MSc thesis students at UNALM and KU Leuven.
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. *Agricultural Systems* [Under review].
3. **Grados, D.**, Reynafarje, X., Schrevens, E., 2019. A methodological approach to assess canopy NDVI–based tomato dynamics under irrigation treatments. *Computers and Electronics in Agriculture* [Under review].
4. **Grados, D.**, Schrevens, E., 2019. Cassava NDVI analysis: A nonlinear mixed model approach based on UAV-imagery. *Journal of Photogrammetry, Remote Sensing and Geoinformation Science* [Under review].

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**
Professor: Dr.ir. Eddie Schrevens
Graduate Teacher Assistant: Data visualization, data manipulation, matrix algebra, R programming. Diverse multivariate techniques: ordination, cluster analysis, and discrimination.

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

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

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