Alejandro Morales

morales.s.alejandro@gmail.com

1. Education

PhD Systems Biology

Wageningen University, The Netherlands   *Graduated on March 2017*

MSc Plant Sciences

Wageningen University, The Netherlands
                                                                              Graduated on July 2012
GPA: 8.9 (Scale: 0.0 – 10.0)

MEng Agronomy

University of Cordoba*, Spain.*
                                                                              Graduated on July 2010
GPA: 9.3 (Scale: 0.0 – 10.0)

MEng Forestry

University of Cordoba, Spain.   *Graduated on July 2011*

GPA: 9.5 (Scale: 0.0 – 10.0).

2. Scientific articles

Morales A., Yin X., Harbinson J., Driever S.M., Molenaar J., Kramer D.M. & Struik P. (2018) *In silico* analysis of the regulation of the photosynthetic electron transport chain in C3 plants. *Plant Physiology,* 176, 1247-1261.

Morales A., Kaiser E., Yin X., Harbinson J., Molenaar J., Driever S.M. & Struik P.C. (2018) Dynamic modelling of limitations on improving leaf CO_2 assimilation under fluctuating irradiance. *Plant, Cell & Environment*, 41, 589-604.

Kaiser E., **Morales A.** & Harbinson J. (2018) Fluctuating light takes crop photosynthesis on a rollercoaster ride. *Plant Physiology*, 176, 977-989.

López-Bernal Á., **Morales A**., García-Tejera O., Testi L., Orgaz F., De Melo-Abreu J.P. & Villalobos F.J. (2018) OliveCan: A Process-Based Model of Development, Growth and Yield of Olive Orchards. *Frontiers in Plant Science*, 9.

Kaiser E., Zhou D., Heuvelink E., Harbinson J., **Morales A.** & Marcelis L.F.M. (2017) Elevated CO_2 increases photosynthesis in fluctuating irradiance regardless of photosynthetic induction state. *Journal of Experimental Botany*, 68(20), 5629-5640..

Kaiser E., **Morales A.,** Harbinson J., Heuvelink E., Prinzenberg A. E., Marcelis L. F. M. (2016) Metabolic and diffusional limitations of photosynthesis in fluctuating irradiance in *Arabidopsis thaliana*. *Scientific Reports* 6, 31252.

Morales A., Leffelaar P.A., Testi L., Orgaz F. & Villalobos F.J. (2016) A dynamic model of potential growth of olive (Olea europaea L.) orchards. *European Journal of Agronomy*, 74, 93-102.

Kaiser E., **Morales A.**, Harbinson J., Kromdijk J., Heuvelink E. & Marcelis L.F.M. (2015) Dynamic photosynthesis in different environmental conditions. *Journal of Experimental Botany*, 66, 2415-2426.

Weraduwage S.M., Chen J., Anozie F.C., **Morales A.**, Weise S.E. & Sharkey T.D. (2015) The relationship between leaf area growth and biomass accumulation in Arabidopsis thaliana. *Frontiers in Plant Science*, 6, 1-21.

Zarco-Tejada P.J., **Morales A.**, Testi L. & Villalobos F.J. (2013) Spatio-temporal patterns of chlorophyll fluorescence and physiological and structural indices acquired from hyperspectral imagery as compared with carbon fluxes measured with eddy covariance. *Remote Sensing of Environment*, 133, 102-115.

Villalobos, F. J., Perez-Priego, O., Testi, L., **Morales, A.,** Orgaz, F. (2012) Effects of water supply on carbon and water exchange of olive trees. *European Journal of Agronomy*, 40, 1-7.

3. Awards & Scholarships

Outstanding Graduate Award for best Academic Results in Forestry Engineering awarded by the University of Cordoba (Spain)	*2012*
Postgraduate research scholarship at Wageningen University awarded by Caja Madrid Foundation	*2011-2012*
Outstanding Graduate Award for best Academic Results in Agricultural Engineering awarded by the University of Cordoba (Spain)	*2011*
Undergraduate research scholarship awarded by Ministry of Education of Spain.	*2010*
Undergraduate research scholarship awarded by Spanish National Research Council (CSIC)	*2009*

4. Other publications (theses)

Dynamic photosynthesis under a fluctuating environment: a modelling-based analysis. PhD Thesis at Wageningen University, The Netherlands.

A model of productivity for olive orchards. MSc Thesis at Wageningen University, The Netherlands.

Measuring and modelling canopy photosynthesis of olive orchards. MSc Thesis at Wageningen University, The Netherlands.

Modelling of CO_2 balance in olive orchards. MEng Thesis at University of Cordoba, Spain.

Modelling of CO_2 balance in holm oak reforestations of agricultural land. MEng Thesis at University of Cordoba, Spain.

5. Research experience

Measurement of stead-state and dynamic leaf photosynthesis using leaf-level gas exchange systems and fluorometers

Micrometeorological techniques for measuring gas exchange of canopies (chambers, eddy covariance)

Modelling of photosynthesis at cellular, leaf and canopy levels, using models to compute 3D light interception (MAESPA, GroIMP)

Modelling plant growth and development

Dynamical modelling (differential equations)

Scientific programming (R, Fortran, C++, Julia)

Writing scientific proposals (NWO, PE & RC)

6. Other professional experience

Internship in Instituto de Agricultura Sostenible, Consejo Superior de Investigaciones Científicas (*Spanish National Research Council*). I aid in field measurements of carbon and water balances in olive and peach orchards and collaborated in computer modelling of carbon balance in olive orchards.	*Summer 2008*
Internship in CEDEFO Madroñalejos, Plan INFOCA (Wildfire Programme of the Autonomy Region of Andalusia in Spain) Technical support in wildfire suppression, planning of wildfire prevention and theoretical training of forest firefighters.	*Summer 2007*

Conference presentations

Dynamic C3 Photosynthesis from Leaf to Canopy. 17th International Congress on Photosynthesis Research (2016).

Modelling dynamic leaf photosynthesis. Dutch Bioinformatics & Systems Biology Conference (BioSB, 2016)

Research proposals

Contributed to writing the proposals:

Rice physiology, architecture and canopy microclimate under elevated CO_2 and temperature. NWO-ALW Open Program (2014).

Sensor-assisted Optimisation of greenhouse crop Light use by Adjustment of Realised Induction State. NWO – TTW Open Technology Program (2018)

Temporary stays abroad

August 2014 – November 2014: Stay at Michigan State University (U.S.A.) as guest of Prof. David M. Kramer.

May 2011 – September 2011: Stay at Institute for Sustainable Agriculture (Spain) as guest of Prof. Francisco Villalobos.