

Scientific production ensuing from the theses defended on the PhD programme in Plant Biology (RD1393/2007)

Year of viva	Doctorand	Thesis title
2014	Sebastià Martorell Lliteras	Understanding the regulation of leaf and plant gas exchange under water stress with a process-based model of stomatal conductance

Ensuing scientific contributions:

1. **Martorell S**, Diaz-Espejo A, Tomàs M, Pou A, El Aou-ouad H, Escalona JM, Vadell J, Ribas-Carbó M, Flexas J, Medrano H (2015) Differences in water-use-efficiency between two *Vitis vinifera* cultivars (Grenache and Tempranillo) explained by the combined response of stomata to hydraulic and chemical signals during water stress. *Agricultural Water Management* 156, 1-9.

Cited by: 22

Impact index: 2.603

Ranking: Agronomy Q1

2. **Martorell S**, Medrano H, Tomàs M, Escalona JM, Flexas J, Diaz-Espejo A (2015) Plasticity of vulnerability to leaf hydraulic dysfunction during acclimation to drought in grapevines: an osmotic-mediated process. *Physiologia Plantarum* 153, 381-391.

Cited by: 24

Impact index: 3.138

Ranking: Plant Sciences Q1

3. Buckley TN*, **Martorell S***, Diaz-Espejo A, Tomàs M, Medrano H (2014) Is stomatal conductance optimized over both time and space in plant crowns? A field test in grapevine (*Vitis vinifera*). *Plant, Cell & Environment* 37, 2707-2721.

(*These authors contributed equally)

Cited by: 20

Impact index: 6.960

Ranking: Plant Sciences Q1

4. **Martorell S**, Diaz-Espejo A, Medrano H, Ball MC, Choat B (2014) Rapid hydraulic recovery in *Eucalyptus pauciflora* after drought: linkages between stem hydraulics and leaf gas exchange. *Plant, Cell & Environment* 37, 617-626.

Cited by: 67

Impact index: 6.960

Ranking: Plant Sciences Q1

Year of viva	Doctorand	Thesis title
2015	Juan Alejandro Perdomo López	Acclimation of photosynthesis to water deficit and high temperature: physiological and biochemical aspects.

1. **Perdomo JA**, Conesa MÀ, Medrano H, Ribas-Carbó M, Galmés J (2015) Effects of long-term individual and combined water and temperature stress on the growth of rice, wheat and maize: relationship with morphological and physiological acclimation. *Physiologia Plantarum* 155, 149-165.

Cited by: 23

Impact index: 3.000

Ranking: Plant Sciences Q2

2. **Perdomo JA**, Cavanagh A, Kubien DS, Galmés J (2015) Temperature dependence of in vitro Rubisco kinetics in species of *Flaveria* with different photosynthetic mechanisms. *Photosynthesis Research* 124, 67-75.

Cited by: 17

Impact index: 3.060

Ranking: Plant Sciences Q1

3. **Perdomo JA**, Carmo-Silva E, Hermida-Carrera C, Flexas J, Galmés J (2016) Acclimation of biochemical and diffusive components of photosynthesis in rice, wheat and maize to heat and water deficit: implications for modeling photosynthesis. *Frontiers in Plant Science* 7, 1719.

Cited by: 15

Impact index: 4.300

Ranking: Plant Sciences Q1

4. **Perdomo JA**, Bauçà-Capó S, Carmo-Silva E, Galmés J (2017) Rubisco and Rubisco activase play an important role in the biochemical limitations of photosynthesis in rice, wheat and maize under high temperature and water deficit. *Frontiers in Plant Science* 8, 490.

Cited by: 46

Impact index: 4.300

Ranking: Plant Sciences Q1

Year of viva	Doctorand	Thesis title
2015	Maria del Mar Leza Salord	Estado sanitario de las colonias de <i>Apis mellifera</i> (Hymenoptera: Apidae) de las Islas Baleares: impacto del parásito <i>Varroa destructor</i> (Acari: Varroidae) y efecto de los tratamientos aéreos con <i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i>

Ensuing scientific contributions:

1. **Leza MM**, Lladó G, Petro AB, Alemany A (2014) First field assessment of *Bacillus thuringiensis* subsp. *kurstaki* aerial application on the colony performance of *Apis mellifera* L. (Hymenoptera: Apidae). *Spanish Journal of Agricultural Research* 12, 405-408.

Cited by: 5

Impact index: 0.703

Ranking: Agriculture, multidisciplinary Q2

2. **Leza MM**, Lladó G, Miranda-Chueca MA (2015) Comparison of the efficacy of Apiguard (thymol) and Apivar (amitraz) in the control of *Varroa destructor* (Acari: Varroidae). *Spanish Journal of Agricultural Research* 13, e05SC01.

Cited by: 7

Impact index: 0.760

Ranking: Agriculture, multidisciplinary Q2

3. **Leza MM**, Miranda MA, Purse BV (2016) Patterns in *Varroa destructor* depend on bee host abundance, availability of natural resources, and climate in Mediterranean apiaries. *Ecological Entomology* 41, 542-553.

Cited by: 2

Impact index: 1.771

Ranking: Entomology Q1

Year of viva	Doctorand	Thesis title
2015	Cristina Tur Espinosa	Plant-pollinator networks: incorporating individual variation and functional information

Ensuing scientific contributions:

1. **Tur C**, Castro-Urgal R, Traveset A (2013) Linking Plant Specialization to Dependence in Interactions for Seed Set in Pollination Networks. *PLOS ONE* 8(10), e78294.

Cited by: 15
Impact index: 2.740
Ranking: multidisciplinary sciences Q2

2. **Tur C**, Vigalondo B, Trøjelsgaard K, Olesen JM, Taveset A (2014) Downscaling pollen-transport networks to the level of individuals. *Journal of Animal Ecology* 83, 306–317.

Cited by: 28
Impact index: 4.36
Ranking: Zoology Q1

3. **Tur C**, Olesen JM, Traveset A (2015) Increasing modularity when downscaling networks from species to individuals. *Oikos* 124, 581-592.

Cited by: 21
Impact index: 3.468
Ranking: Ecology Q2

4. **Tur C**, Sáez A, Traveset A, Aizen MA (2016) Evaluating the effects of pollinator-mediated interactions using pollen transfer networks: evidence of widespread facilitation in south Andean plant communities. *Ecology Letters* 19, 576-586.

Cited by: 27
Impact index: 8.699
Ranking: Ecology Q1

Year of viva	Doctorand	Thesis title
2015	Rafael Montero Silvestre	Effects of grapevine leafroll associated virus 3 (GLRaV-3) concentration on plant physiology and quality parameters in <i>Vitis vinifera</i> L. white cultivars.

Ensuing scientific contributions:

1. Velasco L, Bota J, **Montero R**, Cretazzo E (2014) Differences of three ampeloviruses multiplication in plant contribute to explain their incidences in vineyards. *Plant Disease* 98, 395-400.

Cited by: 15
Impact index: 2.742
Ranking: Plant Sciences Q2

2. **Montero R**, El aou ouad H, Flexas J, Bota J (2016) Effects of Grapevine Leafroll associated virus 3 (GLRaV-3) on plant carbon balance in *Vitis vinifera* L. cv. Giró Ros. *Theoretical and Experimental Plant Physiology* 28, 1-10.

Cited by: 4

Impact index: 1.045

Ranking: Plant Sciences Q3

3. **Montero R**, Pérez-Bueno ML, Barón M, Florez-Sarasa I, Tohge T, Fernie AR, El Aouad H, Flexas J, Bota J (2016) Alterations in primary and secondary metabolism in *Vitis vinifera* 'Malvasía de Banyalbufar' upon infection with Grapevine Leafroll associated Virus 3 (GLRaV-3). *Physiologia Plantarum* 157, 442-452.

Cited by: 13

Impact index: 3.33

Ranking: Plant Sciences Q1

4. **Montero R**, Mundy D, Albright A, Grose C, Trought MCT, Cohen D, Chooi KM, MacDiarmid R, Flexas J, Bota J (2016) Effects of Grapevine Leafroll associated Virus 3 (GLRaV-3) and duration of infection on fruit composition and wine chemical profile of *Vitis vinifera* L. cv. Sauvignon blanc. *Food Chemistry* 197, .1177-1183

Cited by: 4

Impact index: 4.529

Ranking: Food science and technology Q1

5. **Montero R**, El aou ouad H, Pacifico D, Marzachì C, Castillo N, García E, Del Saz NF, Florez-Sarasa I, Flexas J, Bota J (2017) Effects of Grapevine leafroll-associated virus 3 on the physiology in asymptomatic plants of *Vitis vinifera* L. *Annals of Applied Biology* 171, 155-171.

Cited by: 4

Impact index: 2.046

Ranking: Agriculture, Multidisciplinary Q1

Year of viva	Doctorand	Thesis title
2016	Carmen Hermida Carrera	Exploring Rubisco molecular evolution and kinetics temperature dependency.

Ensuing scientific contributions:

1. Galmés J, **Hermida-Carrera C**, Laanisto L, Niinemets U (2016) A compendium of temperature responses of Rubisco kinetic traits: variability among and within photosynthetic groups and impact on photosynthesis modelling. *Journal of Experimental Botany* 67, 5067-5091.

Cited by: 41

Impact index: 5.830

Ranking: Plants sciences Q1

2. **Hermida-Carrera C**, Kapralov MV, Galmés J (2016) Rubisco catalytic properties and temperature response in crops. *Plant Physiology* 171, 2549–2561.

Cited by: 56

Impact index: 6.456

Ranking: Plants sciences Q1

3. **Hermida-Carrera C**, Fares MA, Fernández A, Gil-Pelegrin E, Kapralov MV, Mir A, Molins A, Peguero-Pina JJ, Rocha J, Sancho-Knapik D, Galmés J (2017) Positively selected amino acid replacements within the RuBisCO enzyme of oak trees are associated with ecological adaptations. *PLOS ONE* 12, e0188984.

Cited by: 0

Impact index: 2.806

Ranking: Multidisciplinary sciences Q2

4. **Hermida-Carrera C**, Fares MA, Font-Carrascosa M, Kapralov MV, Koch MA, Mir A, Molins, A, Ribas-Carbo M, Rocha J, Galmés J (2020) Exploring molecular evolution of Rubisco in C3 and CAM Orchidaceae and Bromeliaceae. *BMC Evolutionary Biology* 20, 11.

Cited by: 0

Impact index: 3.040

Ranking: Evolutionary Biology Q2

Year of viva	Doctorand	Thesis title
2017	Hanan El Aou-Ouad	Interactive effects of grapevine leafroll associated virus-3 (GLRav-3) and water stress on the gas exchange, water use efficiency, plant hydraulics and metabolism in local grapevine cultivars.

Ensuing scientific contributions:

1. **El Aou-Ouad H**, Montero R, Medrano H, Bota J (2016) Interactive effects of grapevine leafroll-associated virus 3 (GKRav-3) and water stress on the physiology of *Vitis vinifera* L. cv. Malvasia de Banyalbufar and Giro-Ros. *Journal of Plant Physiology* 196, 106-115.

Cited by: 3

Impact index: 3.121

Ranking: Plant sciences Q1

2. **El Aou-ouad H**, Pou A, Tomas M, Montero R, Ribas-Carbó M, Medrano H, Bota J (2017) Combined effect of virus infection and water stress on water flow and water economy in grapevines. *Physiologia Plantarum* 160, 171-184.

Cited by: 6

Impact index: 2.58
Ranking: Plant sciences Q2

3. **El Aou-ouad H**, Bota J, Obata T, Montero R, Fernie AR, Medrano H, Pou A, Florez-Sarasa I (2018) Combined drought and virus infection trigger aspects of respiratory metabolism related to grapevine physiological responses. *Journal of Plant Physiology* 231, 19-30.

Cited by: 3
Impact index: 2.825
Ranking: Plant sciences Q1

Year of viva	Doctorand	Thesis title
2017	Néstor Fernández del Saz	In vivo metabolic regulation of plant respiration under salt and nutrient stress. Interaction with mycorrhiza.

Ensuing scientific contributions:

1. **Del-Saz NF**, Florez-Sarasa I, Clemente-Moreno MJ, Mhadhbi H, Flexas J, Fernie A, Ribas-Carbo M (2016) Salinity tolerance is related to cyanide-resistant alternative respiration in *Medicago truncatula* under sudden severe stress. *Plant, Cell and Environment* 39, 2361-2369.

Cited by: 21
Impact index: 6.173
Ranking: Plant sciences Q1

2. **Del-Saz NF**, Romero-Munar A, Alonso D, Aroca R, Baraza E, Flexas J, Ribas-Carbo M (2017) Respiratory ATP cost and benefit of arbuscular mycorrhizal symbiosis with *Nicotiana tabacum* at different growth stages and under salinity. *Journal of Plant Physiology* 218, 243-248.

Cited by: 7
Impact index: 2.833
Ranking: Plant sciences Q1

3. **Del-Saz NF**, Ribas-Carbo M, McDonald A, Lambers H, Fernie A, Florez-Sarasa I (2017) An In Vivo Perspective of the Role(s) of the Alternative Oxidase Pathway. *Trends in Plant Science* 23, 206-219.

Cited by: 47
Impact index: 12.149
Ranking: Plant sciences Q1

4. **Del-Saz NF**, Ribas-Carbo M, Martorell G, Fernie Alisdair, Florez-Sarasa I (2017) Measurements of Electron Partitioning Between Cytochrome and Alternative Oxidase Pathways in Plant Tissues. In *Methods in Molecular Biology* (Edited by: John M. Walker), pp. 203-217. Publisher: Humana Press. ISSN: 1064-3745 (print); 1940-6029 (web).

Cited by: 47

Impact index: none (book)

5. **Del-Saz NF**, Romero-Munar A, Cawthray G, Aroca R, Baraza E, Flexas J, Lambers H, Ribas-Carbo M (2017) Arbuscular mycorrhizal fungus colonization in *Nicotiana tabacum* decreases the rate of both carboxylate exudation and root respiration and increases plant growth under phosphorus limitation. *Plant and Soil* 416, 97-106.

Cited by: 14

Impact index: 3.306

Ranking: Plant sciences Q1

6. **Del-Saz NF**, Romero-Munar A, Cawthray G, Palma F, Aroca R, Baraza E, Florez-Sarasa I, Lambers H, Ribas-Carbo M (2018) *Plant, Cell and Environment* 43, 865-875.

Cited by: 43

Impact index: 5.415

Ranking: Plant sciences Q1

Year of viva	Doctorand	Thesis title
2017	Esther Hernández Montes	Respiratory processes and carbon balance in grapevines: environmental and genotype effects

Ensuing scientific contributions:

1. **Hernández-Montes E**, Escalona JM, Tomás M, Medrano H (2017) Influence of water availability and grapevine phenological stage on the spatial variation in soil respiration. *Australian Journal of Grape and Wine Research* 23, 273-279.

Cited by: 7

Impact index: 3.000

Ranking: Horticulture Q1

2. **Hernández-Montes E**, Tomás M, Escalona JM, Bota J, Medrano H (2018) Leaf growth rate and nitrogen content determine respiratory costs during leaf expansion in grapevines. *Physiologia Plantarum* 165, 746-754.

Cited by: 1

Impact index: 3.000

Ranking: Plant sciences Q1

3. **Hernández-Montes E**, Escalona JM, Tomàs M, Medrano H (2020) Plant Water Status and Genotype Affect Fruit Respiration in Grapevines. *Physiologia Plantarum*, DOI: 10.1111/ppl.13093.

Cited by: 0

Impact index: 4.148

Ranking: Plant sciences Q1

Year of viva	Doctorand	Thesis title
2017	Veriozka Andrea Azeñas Mallea	Evaluation of native Mediterranean plant species for extensive vegetated roofs and environmental performance

Ensuing scientific contributions:

1. **Azeñas V**, Janner I, Medrano H, Gulías J (2018) Performance evaluation of five Mediterranean species to optimize ecosystem services of green roofs under water-limited conditions. *Journal of Environmental Management* 212, 236-247.

Cited by: 6

Impact index: 4.865

Ranking: environmental sciences Q1

2. **Azeñas V**, Cuxart J, Picos R, Medrano H, Simó G, López-Grifol A, Gulías J (2018) Thermal regulation capacity of a green roof system in the Mediterranean region: The effects of vegetation and irrigation level. *Energy and Buildings* 164, 226-238.

Cited by: 12

Impact index: 4.495

Ranking: Engineering, civil Q1

3. **Azeñas V**, Janner I, Medrano H, Gulías J (2019) Evaluating the establishment performance of six native perennial Mediterranean species for use in extensive green roofs under water-limiting conditions. *Urban Forestry and Urban Greening* 41, 158-169.

Cited by: 1

Impact index: 4.021

Ranking: Forestry Q1

Year of viva	Doctorand	Thesis title
2017	Jaime Seguí Colomar	Responses and vulnerability of the genus <i>Viola</i> to elevational gradients and alien invasive species in mountain systems

Ensuing scientific contributions:

1. **Seguí J**, López-Darias M, Pérez AJ, Nogales M, Traveset A (2017) Species-environment interactions changed by introduced herbivores in an oceanic high-mountain ecosystem. *AOB Plants* 9, plw091.

Cited by: 3

Impact index: 2.182

Ranking: Plant sciences Q1

2. **Seguí J**, Lázaro A, Traveset A, Salgado-Luarte C, Gianoli E (2018) Phenotypic and reproductive responses of an Andean violet to environmental variation across an elevational gradient. *Alpine Botany* 128, 59–69.

Cited by: 5

Impact index: 2.719

Ranking: Plant sciences Q1

3. Carlos Lara-Romero C, **Seguí J**, Pérez-Delgado A, Nogales M, Traveset A (2019) Beta diversity and specialization in plant–pollinator networks along an elevational gradient. *Journal of Biogeography* 46, 1598-1610.

Cited by: 1

Impact index: 3.884

Ranking: Ecology Q1

Year of viva	Doctorand	Thesis title
2017	Antònia Romero Munar	Ecophysiological effects of Arbuscular Mycorrhizal inoculation on <i>Arundo donax</i> under Mediterranean conditions

Ensuing scientific contributions:

1. **Romero-Munar A**, Baraza E, Cifre J, Achir C, Gulías J (2017) Leaf plasticity and stomatal regulation determines the ability of *Arundo donax* plantlets to cope with water stress. *Photosynthetica* 56, 698–706.

Cited by: 5

Impact index: 2.365

Ranking: Plant sciences Q2

2. **Romero-Munar A**, Del-Saz NF, Ribas-Carbó M, Flexas J, Baraza E, Florez-Sarasa I, Fernie AR, Gulías J (2017) Arbuscular Mycorrhizal Symbiosis with *Arundo donax* Decreases Root Respiration and Increases Both Photosynthesis and Plant Biomass Accumulation. *Plant, Cell and Environment* 40, 1115-1126.

Cited by: 20

Impact index: 6.173
Ranking: Plants sciences Q1

3. **Romero-Munar A**, Tauler M, Gulías J, Baraza E (2018) Nursery preconditioning of *Arundo donax* L. plantlets determines biomass harvest in the first two years. *Industrial Crops and Products* 119, 33-40.

Cited by: 2

Impact index: 4.191

Ranking: Agronomy Q1

4. **Romero-Munar A**, Baraza E, Gulías J, Cabot C (2019) Arbuscular Mycorrhizal Fungi Confer Salt Tolerance in Giant Reed (*Arundo donax* L.) Plants Grown Under Low Phosphorus by Reducing Leaf Na⁺ Concentration and Improving Phosphorus Use Efficiency. *Frontiers in Plant Science* 10, 843.

Cited by: 2

Impact index: 4.106

Ranking: Agronomy Q1

Scientific production ensuing from the theses defended on the PhD programme in Mediterranean Plant Biology (RD778/1998)

Year of viva	Doctorand	Thesis title
2013	Claudia A. Bedoya Salazar	Estudios de diversidad genética en poblaciones de maíz (<i>Zea mays</i> L.) evaluadas con microsatélites.

Ensuing scientific contributions:

1. **Bedoya CA**, Dreisigacker S, Hearne S, Franco J, Mir C, Prasama BM, Taba S, Charcosset A, Warbunton ML (2017) Genetic diversity and population structure of native maize populations in Latin America and the Caribbean. *PLOS ONE* 12, e0173488.

Cited by: 15

Impact index: 2.740

Ranking: Multidisciplinary sciences Q2