

## Daniel Paredes, Ph.D.

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### EDUCATION

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February, 2014. PhD degree in Environmental Sciences. University of Granada, Spain.

*Title: Ecological Infrastructures and Conservation Biological Control in Olive Groves.*

*Grade: Cum Laude, Doctor europeus.*

Supervisor: Prof. Dr. Mercedes Campos and Prof. Dr. Luis Cayuela.

December, 2008. MSc in Agricultural Biology. University of Granada, Spain.

*Title: Bioecological interactions between *Chrysoperla carnea* Stephens (Neuroptera: Chrysopidae) and *Prays oleae* Bernard (Lepidoptera: Yponomeutidae).*

Supervisor: Prof. Dr. Mercedes Campos and Prof. Dr. Arantxa Peña.

September, 2007. Organic Farming Expert Degree. International University of Andalusia, Spain.

*Title: Comparing energy fluxes of conventional versus organic cherry crops.*

Supervisor: Prof. Dr. Gloria Guzmán

June, 2005. BSc in Environmental Sciences. University of Extremadura, Spain.

### POSITIONS

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2019-Current. Postdoctoral researcher. **Karp's Lab**. University of California, Davis (USA).

Main Duties: To generate a predictive model for the control of damaging crop pests by their natural enemies, using public databases from different countries. To investigate the effect of climate change on biocontrol if data provided are useful to achieve this objective. To standardize, clean, and aggregate data into one large database on biocontrol in vineyards. Data Manager of the project.

2018-2019. Postdoctoral researcher. **Sousa's Lab** (16 months). University of Coimbra (Portugal).

Main Duties: To develop an Agent-Based Model with C++ under the platform ALMaSS to simulate the interaction between the olive pest *Prays oleae* and its natural enemy *Chrysoperla carnea*. To build a map with a Geographic Information System in which agricultural management options are included and run the pest-natural enemy model in it. To design and execute field sampling and management information collection to validate the model. These activities are done while mentoring a graduate student.

2016-2017. Postdoctoral researcher. **Campos' Lab** (24 months). Spanish Council of Research (Spain).

Main Duties: To establish the economic value of natural pest control in olive groves. To develop molecular markers for prey detection in predator's gut. To study the combined effect of landscape and vineyard management on wild bees, natural enemies and collembolans. These activities were done while mentoring graduate students.

2017 (Aug-Dec). Visiting Scholar researcher.

*University of Natural History and Life Science (BOKU). Vienna. Austria.*

2017 (Apr-Jul). Visiting Scholar researcher.

*Stanford University. California. EEUU.*

2014-2015. Freelance researcher. During this period, I had no contract with any institutions but I kept researching by myself publishing chapters of my PhD and attending conferences and seminars, thus expanding my professional network.

2009-2013. PhD Student. **Campos' Lab** (60 months). Spanish Council of Research (Spain).

2012 (Sep-Dec). Visiting Scholar Researcher.

*Charles Sturt University. Orange, Australia.*

2009 (Sep-Dec). Visiting Scholar Researcher.

*Institut per la Recerca i Tecnologia Agroalimentàries y Universidad de Barcelona. Barcelona, Spain.*

## PUBLICATIONS

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### Peer reviewed articles

2019. Judt C, Guzmán G, Gómez JA, Cabezas JM, Entrenas JA, Winter S, Zaller JG, **Paredes D**. Diverging effects of landscape factors and inter-row management on the abundance of beneficial and herbivorous arthropods in Andalusian vineyards (Spain). *Insects* 10(10): 320.
2019. **Paredes D**, Karp D, Chaplin-Kramer R, Benítez E, Campos M. Natural habitat increases olive biocontrol: economic implications. *Journal of Pest Science* 92: 1111-1121.
2019. Pfingstmann A, **Paredes D**, Buchholz J, Querner P, Bauer T, Strauss P, Kratschmer S, Winter S, Zaller J. Contrasting effects of tillage and landscape structure on spiders and springtails in vineyards. *Sustainability* 11(7): 2095.
2019. Kratschmer S, Pachinger B, **Paredes D**, Schwantzer M, Guzmán G, Gómez J, Entrenas J, Guernion M, Burel F, Nicolai A, Fertil A, Popescu D, Macavei L, Hoble A, Bunea C, Kriechbaum M, Zaller JG, Winter S. Response of wild bee diversity, abundance and functional traits to vineyard inter-row management intensity and landscape diversity across Europe. *Ecology and Evolution* 9: 4103-4115.
2018. Karp DS, Chaplin-Kramer R, Meehan TD, Martin EA, DeClerck F, Grab H, Gratton C, Hunt L, Larsen A, Martinez-Salinas A, O'Rourke M, Rusch A, Poveda K, Zhang W, Jonsson M, Rosenheim JA, Schellhorn N, Tschamtké T, Wratten S...**Paredes D** (89) up to 154 authors. Crop pests and predators exhibit inconsistent responses to surrounding landscape composition. *Proceedings of the National Academy of Science* 115(33): E7863-E7870.
2018. Kratschmer S, Pachinger B, Schwantzer M, **Paredes D**, Guernion M, Burel F, Nicolai A, Strauß P, Bauer T, Zaller JG, Winter S. Management intensity or landscape structure: What matters most for wild bee diversity in wine-growing areas? *Agriculture Ecosystem and Environment* 266: 142-152.
2018. Winter S, Bauer T, Strauss P, Kratschmer S, **Paredes D**, Popescu D, Landa B, Guzmán G, Gómez J, Guernion M, Zaller JG, Batary P. Effects of management intensity on biodiversity and ecosystem services in vineyards: a meta-analysis. *Journal of Applied Ecology*.
2018. Rodríguez E, González M, **Paredes D**, Campos M, Benítez E. Selecting native plants for ecological intensification in Mediterranean intensive protected horticulture. *Bulletin of Entomological Research*, published online.
2017. Buchholz J, Querner P, **Paredes D**, Bauer T, Strauss P, Guernion M, Scimia J, Cluzeau D, Burel F, Kratschmer S, Winter S, Potthoff M, Zaller JG. Soil biota in vineyards are more influenced by plants than by tillage intensity, site parameters or the surrounding landscape. *Scientific Reports* 7: 17445.
2017. Benítez E, **Paredes D**, Rodríguez E, Aldana D, González M, Nogales R, Campos M, Moreno B. Bottom-up effects on herbivore-induced plant defences: a case study based on compositional patterns of rhizosphere microbial communities. *Scientific Reports* 7: 6251.
2015. **Paredes D**, Cayuela L, Gurr GM, Campos M. Is ground cover vegetation an effective biological control enhancement strategy against olive pests? *Plos One* 10(2): e0117265.
2015. **Paredes D**, Cayuela L, Gurr GM, Campos M. Single best species or natural enemy assemblages? A correlational approach to investigating ecosystem function. *Biocontrol* 60: 37-45.
2013. **Paredes D**, Cayuela L, Campos M. Synergistic effects of ground cover and adjacent vegetation on natural enemies of insect olive pests. *Agriculture, Ecosystems and Environment* 173: 72-80.
2013. **Paredes D**, Cayuela L, Gurr GM, Campos M. Effect of different types of non-crop vegetation on the conservation biological control of pests in olive groves. *PeerJ* 1: e116.
2013. **Paredes D**, Cayuela L, Campos M. El control biológico por conservación de plagas de artrópodos: técnicas y estado del arte. *Ecosistemas* 22: 56-61.

### Books

2017. **Paredes D**, Cayuela L, Campos M. Potential of Ecological Infrastructures to Restore Conservation Biological Control: Case Study in Spanish Olive Groves. In: Natural Enemies: Identification, Protection Strategies and Ecological Impacts. Editor: Sónia A.P. Santos. Nova Science Publisher. United States. ISBN: 978-1-63485-944-8
2012. Muñoz Dorado J, Pérez J, Campos M, Batuecas I, **Paredes D**, Campos MJ, Ruiz C, Aranda E, Sampedro I, García Romera I, Castro López AJ, Zienkiewicz A, Zienkiewicz K, Alché Ramírez D, Martínez-Abarca F. High School Students for Agricultural Science Research. Proceedings of the I Congress PIISA. Editor: CSIC - Estación Experimental del Zaidín (EEZ). Spain. ISBN: 978-84-615-8735-3
2011. Paredes-Gómez D, **Paredes-Llanes D**, Castro F. Participación ciudadana en la mejora de la calidad del paisaje y beneficios psicológicos. Editor: ADENEX. Spain. ISBN: 978-84-614-8855-1

### Outreach articles

2017. Campos M, Alche JD, Porcel M, **Paredes D**, Alcalá R, Fernández ML. Comunidad de abejas asociadas a la cubierta del olivar. *Fruticultura* 56: 25-32
2016. Villalaín P, Benítez E, **Paredes D**, Campos M, González M, Rodríguez E. Seleccionando especies para el control biológico por conservación en invernaderos de Almería: tomillo de invierno (*Thymus hyemalis*) y el parasitoide de minadores *Cirrospilus* sp. *Phytoma* 280: 48-52.
2015. **Paredes D**, Moreno-Chocano J, Cano A, Ruano F, Campos M. Estudio de fecundidad y ciclo de vida de *Anthocoris nemoralis* (Heteroptera: Anthocoridae) en el olivar. *Fruticultura* 44: 18-25.
2014. **Paredes D**, Batuecas I, Cayuela L, Campos M. *Anthocoris nemoralis*: un nuevo aliado en el control biológico por conservación de la generación autófaga de la plaga del olivo *Prays oleae*. *Agroecología* 9 (1y2): 79-84.
2014. **Paredes D**, Campos M. La vegetación nativa y el control de plagas en el olivar. *Fruticultura* 34: 2-7.
2014. Campos M, Cayuela L, **Paredes D**. Impacto de la vegetación en el control biológico por conservación de plagas en olivares ecológicos. *Revista Valor Ecológico* 58: 26-27.
2013. **Paredes D**, Campos M. Importancia de la biodiversidad para el manejo integrado de plagas en el olivar. *Vida Rural* 363: 30-34.

### Articles in conference proceedings

2019. Moreno B, **Paredes D**, Vílchez A, Moreno-Chocano J, Benítez M, Campos M. Detección de *Euhpyllura olivina* en depredadores mediante técnicas moleculares. Comunicaciones científicas XX Simposium Expoliva. Jaén (Spain).
2017. Manjón-Cabezas J, Paredes D, Campos M. Influencia del paisaje en control biológico de las plagas del olivo. Comunicaciones científicas XVIII Simposium Expoliva. Jaén (Spain).
2012. **Paredes D**, Cotes B, Castillo-Llanque F, Gómez JA, Campos M. Manejo de hábitat para incrementar la abundancia de enemigos naturales en el olivar. Actas del X Congreso de la Sociedad Española de Agricultura Ecológica (SEAE). Albacete (Spain).
2012. Sainz N, Castillo B, García C, Sanchez F, Lirola A, Gugliere E, Campos M, Batuecas I, **Paredes D**. Determination of individualized breeding methods of *Anthocoris nemoralis* neonates nymphs. Proceedings of the I Conference of PIISA project- High Scholl Student for Agricultural Science Research. Granada (Spain).
2009. **Paredes D**, Franco S, Castro J, Campos M. Influence of cover crops management on soil predators arthropods of olive orchards. *Ezzaitouna*, en prensa.
2008. **Paredes D**, Guzmán G. Productividad física y energética del cerezo ecológico y convencional en el norte de Extremadura (Spain). Actas del VIII Congreso de la Sociedad Española de Agricultura Ecológica (SEAE). Bullas (Spain).

### Conferences (most relevant)

2019. **Paredes D**, Portero A, Benitez E, Karp D, Schwarz N, Willemen L, Yang C, Entling M, Reiff JM, Kolb S, Rusch A, Tolle P, Dascalu D, Sandor M, Popescu D, Bergmann H, Rascher S, Plaas E, Hoffmann C, Möth S, Zaller JG, Winter S. (2019) SECBIVIT Scenarios for providing multiple ecosystem services and biodiversity in viticultural landscapes. I Congreso Internacional sobre los vinos. Madrid (Spain).
2019. Winter, S, Redl, M, Walzer, A, Hage-Ahmed, K, Benítez, E, Rusch, A, Hoffmann, C, Entling, M, Sandor, M, Popescu, D, Karp, D, Bergmann, H, Plaas, E, Schwarz, N, Zaller, J, **Paredes, D**. Participatory modelling the effects of global change on biodiversity and multiple ecosystem services in viticultural landscapes across Europe. European Geoscience Union Conference. Vienna (Austria).
2017. *Poster*. Hervé M, Kratschmer S, Gregorich C, Winter S, Montembault D, Zaller JG, **Paredes D**, et al (9). Can vineyard biodiversity be beneficial for viticulture and tourism? European Geoscience Union Conference. Vienna (Austria).
2016. *Oral*. **Paredes D**, Cebey L, García-Checa F, Campos M. Potential of ground cover to restore functional biodiversity for biological control in olive groves. I Congreso Ibérico de Olivicultura. Badajoz (Spain).
2016. *Poster*. Zaller J, Buchholz J, Querner P, Kratschmer S, Pachinger B, Winter S, Straudd P, Bauer T, Stiper K, **Paredes D**, et al (6). Effects of vineyard interrow soil cultivation on soil biota appear to be altered by the surrounding landscape. 46th Annual Meeting of the Ecological Society of Germany, Austria and Switzerland. Marburg (Germany).

2016. *Poster*. Winter S, Zaller JG, Bauer T, Kratschmer S, Popescu D, Strauss P, **Paredes D**, et al (6). Effects of vineyard management intensity on – insights from a meta-analysis. 46th Annual Meeting of the Ecological Society of Germany, Austria and Switzerland. Marburg (Germany).
2016. *Poster*. Kratschmer S, Pachinger B, Schwantzer M, **Paredes D**, et al (7). Management intensity or landscape diversity: What matters most for wild bee diversity in wine-growing areas? 46th Annual Meeting of the Ecological Society of Germany, Austria and Switzerland. Marburg (Germany).
2015. *Oral*. **Paredes D**, Cayuela L, Campos M. *Anthocoris nemoralis* (Heteroptera: Anthocoridae): a new ally against olive pests. Which ecological infrastructures can display its potential? 4<sup>th</sup> International Entomophagous Insects Conference. Torre del Mar (Spain).
2012. *Poster*. **Paredes D**, Cayuela L, Gurr G, Campos M. Influence of habitat management on spider population in Spanish olive groves. 43<sup>RD</sup> AGM & Scientific Conference of the Australian Entomological Society. Tasmania (Australia).

## GRANTS AND AWARDS

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2013. XV Prize “Núñez de Prado” in Organic Farming Research.  
*Asociación Valor Ecológico*. 6,000€
2012. I Prize for scientific outreach. Project PIIISA: High Scholl Student for Agricultural Science Research.  
*Science in Action Program (CSIC, CNIO, ICMAT, UNED, RSEF, SGE)*.
2009. PhD Grant. University Professor Training Program (FPU).  
*Estación Experimental del Zaidín. Granada. Spain.*  
*Ministry of Education. Spanish Government*. 64,000€

## INVITED TALKS

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2017. Is habitat management a good biological control strategy in olive groves? Progress and advance  
*Plant Protection Dialog Seminar. University of Natural Resources and Life Science. Vienna. Austria.*  
*Invited by: Dr. Silvia Winter*
2017. Is habitat management a good biological control strategy in olive groves?  
*Zoological-ecological Ecology Seminar. University of Natural Resources and Life Science. Vienna. Austria.*  
*Invited by: Dr. Johann Zaller*
2017. Use of ground cover for conservation biological control in olive groves.  
*Annual Meeting of the Native Seed Science, Technology and Conservation Initial Training Network (NASSTEC). Córdoba. Spain*  
*Invited by: Cándido Méndez (Network Manager)*
2015. Avances y perspectivas en el control biológico en olivares.  
*Jornada de Nuevos Retos en el Control Integrado de la Mosca del Olivo. Mengíbar. Spain.*  
*Invited by: Olive integrated pest management technical association of Andalusia.*
2014. Is habitat management a good biological control strategy in olive groves?  
*Ecology Department Seminar. Georg-August University. Göttingen. Germany.*  
*Invited by: Prof. Teja Tscharntke*
2012. Control biológico de plagas en olivares.  
*Congreso de Agricultura Ecológica y Productos alternativos. Cuevas del Campo. Spain.*  
*Invited by: Diputación de Granada*

## MENTORING EXPERIENCE

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2018. Postgraduate student. Alexandra Pflingstmann.  
*University of Natural Resources and Life Science, Vienna. Austria.*
2018. Postgraduate student. Alexandra Asper.  
*University of Natural Resources and Life Science, Vienna. Austria.*
2017. Postgraduate student. Ángel Plata, MSc.  
*Spanish Council of Research and University of Granada. Spain.*
2016. Postgraduate student. José Majón-Cabezas, MSc.  
*Spanish Council of Research and University of Granada. Spain.*
2012. Postgraduate student. Ivan Batuecas, MSc. Spanish Council of Research, Granada. Spain.  
*Spanish Council of Research and University of Granada. Spain.*
2010. Postgraduate student. Lino Cebey, MSc. Spanish Council of Research, Granada. Spain.  
*Spanish Council of Research and University of Granada. Spain.*

## **TEACHING**

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2013. Teaching Assistant. Conservation Biology.

*BSc in Environmental Sciences. King Juan Carlos University, Madrid. Spain.*

2013. Teaching Assistant. Bioinformatics.

*BSc in Biology. King Juan Carlos University. Spain*

## **DISSEMINATION AND COMMUNICATION ORGANITATION EVENTS**

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2012. I Conference of PIISA project- High Scholl Student for Agricultural Science Research. Granada (Spain).

2007. XIV Jornadas Técnicas de la Sociedad Española de Agricultura Ecológica. Plasencia (Spain).

2006. VII Congreso Nacional de Medio Ambiente. Madrid (Spain).

## **REVIEWER FOR**

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Journal of Applied Ecology, Agriculture, Ecosystem and Environment, Annals of the New York Academy of Science, Ecosistemas, Biological Control, Plos One, Bulletin of Entomological Research, Agricultural and Forest Entomology, Spanish Journal of Agricultural Research, Sustainability, Pest Management Science