

CV Professor Elisa Viñuela Sandoval (5 last years) July 2017



Elisa Viñuela

Personal Information and Education

- PhD in Agricultural engineering (Entomology) (greatest distinction) (School of Agricultural Sciences, Technical university of Madrid, UPM), November 1981
- Agricultural Engineer in Crop Production (great distinction), UPM, February 1978
- ORCID: <http://orcid.org/0000-0002-6283-5236>
- RESEARCH ID: <http://www.researchid.com/rid/k-5540-2017...> publications 92. h-index=21. Citations 1504
- WOS (web of science, January 2017): publications=164; 82 JCR papers. Citations=2447. h-index=28;
- The maximum number of Ministry of Education research "sexenios" at December 13th and teaching "quinquennios".

Affiliations

- 1978-1980: PhD grant FPI (Ministry of Education) doctoral fellowship, Department of Entomology, UPM, Madrid, Spain
- 1979: postdoc INIA fellow, Department of Crop Protection, INIA (Agricultural research national institute), Madrid, Spain
- 1981: CAICYT fellowship, School of Telecommunications, Madrid, Spain
- 1982-1985: Assistant professor (non permanent), School of Agricultural Sciences, UPM, Madrid
- 1985-87: Head of the department of Entomology. School of Agricultural Sciences, UPM, Madrid
- 1985-1999: Permanent Assistant professor, School of Agricultural Sciences, UPM, Madrid
- 1993 (3 months): visiting professor, university of Ghent, Belgium. Professor Deghele.
- 1995 (1.5 months): visiting professor, Institut für Pflanzenschutz im Obstbau (BBA). Dossenheim, Germany. Dr. Vogt.
- > 1999: Full professor (permanent position), School of Agricultural Sciences, UPM, Madrid
- 2001 (6 months): visiting professor, University of Purdue, West Lafayette, USA.

Summary of UPM research group

<http://www.upm.es/observatorio/vi/index.jsp?pageac=grupo.jsp&idGrupo=179>

Dr. E. Viñuela is leading a research group focusing on **Integrated pest management**, embedded in the *Department of Crop Production* of the Technical School of Agronomy, Food and Biosystems engineering of UPM (Madrid, Spain). The group consists of a multidisciplinary team of 6 permanent researchers, three technicians and several PhD and Master students preparing thesis. Moreover, permanent relationships are maintained with researchers of other Universities or Research centers in Spain (ICA, CSIC, Madrid; INIA, Madrid; UJI, Castellón, UAL, Almería, etc.) or abroad (UGhent, Belgium; Purdue, West Lafayette, USA; Instituto de Investigaciones Agropecuarias y Forestales, Universidad Michoacana de San Nicolás de Hidalgo, Morelia-México; etc.).

Since 2009, she (co-)commands with professor A. Ferreres, the **Associated Unit ETSIA (UPM)-CSIC**, Control of insects vector of diseases in sustainable agriculture (IVAS).

The main research field of expertise in the group are:

- 1- biological control, particularly the **study of non-target effects of pesticides on beneficial organisms** in order to preserve them in the crops. The group **has played a pioneer role** since late 80's developing several standardized methods (lab, extended lab, semi-field, field, persistence, bait sprays) to elucidate these effects based on the guidelines of the *IOBC wg Pesticides and beneficial organisms*. Effects of many modern pesticides have been studied in different developmental stages of several parasitoids and predators of interest in Spain. Besides, basic studies has also been performed trying to ascertain the mode of action of novel pesticides

on natural enemies using radiolabeled pesticides or electron microscopy, or trying to improve the mass rearing of some natural enemies.

2- biological control, and its **compatibility with selective barriers** (UV-absorbent and pesticide treated) having performed studies in the lab, semi-field and field.

3- the management of field margins to improve the presence of pollinators in agricultural areas. An optimal flower mixture for Central Spain, the identification and importance of pollinator species visiting the flowers and the influence on the crop productivity and quality have been ascertained.

During the past decade, 5 PhD students obtained their PhD degree under my tutorship; 10 obtained the degree of Agricultural engineers and 1 the Master degree of TAPAS (Environmental technology for a sustainable agriculture). Since the start of my career, I've been director of 15 PhD thesis and (co-) author in 1 patent, 80 JCR and 96 peer-reviewed publications, 60 technical papers, 1 book on pollinators (http://www3.syngenta.com/country/es/sp/agricultura_responsable/operacion-polinizador/Paginas/guia-campo-polinizadores-espana.aspx), 9 international and 5 national book chapters, 4 technical and 9 teaching monographs. I've presented >300 contributions to national and international conferences, many as invited platform or keynote speaker.

Research Projects

Since 2002

-PRINCIPAL INVESTIGATOR in 7 research projects sponsored by public funds in Spain (Ministry of Education).

Representative examples:

- Study of the non target effects of pesticides in beneficial organisms
- Evaluation of the efficacy of terpenoids from plants as a pest control tool and selectivity to natural enemies
- Ecologically sounded pest control strategies in olive crops
- Impact of elective nets in beneficial fauna of the horticultural crops
- Compatibility of insects vector of diseases with new selective barriers and modern pesticides
- Integration of physical-chemical and biological methods for the control of pests and insect transmitted viruses in horticultural crops
- Evaluation of floral margins and other strategies that compatible with the presence of pollinators and natural enemies in horticultural crops

-PRINCIPAL INVESTIGATOR in 21 contracts with companies

Representative examples:

- Bait imidacloprid for the control of fruit flies
- Bait spinosad: the best formulation, the selectivity for beneficial fauna; the best droplet size for application
- Enamectin benzoate: possibilities of use in Spain
- **Operation pollinator**: implementation of strategies that support pollination conservation in crops....8 year-studies

-RESEARCHER in 6 contracts with companies

Teaching and training

-Professor Viñuela has teaching duties on different subjects of Agricultural Entomology (undergraduated-Master and PhD programs) : *Biological control- Pests of Crops- Pests control and management-*

-Teaching at EU *Erasmus Mundus* Integrated pest management

-Many students and professor has performed short stays in the lab under my tutorship (20)

-UPM award as co-author of the best teaching book in 1999: Forestry and agricultural entomology.

International committees

-since 1991: member of the IOBC wg Pesticide and beneficial organisms

-1995: EU workshop in Pesticides, Wageningen, The Netherlands

- 1997 to 1999: Spanish representative to ENMARIA workshops, Concerted Action EC (FAIR3) European Network for the Management of Arthropod Resistance against Insecticides and Acaricides:

UK-Spain-Greece

-2008: **Private expert in EU expert group on Pesticides in organic farming**, for the inclusion of pesticides in annex II B, directive EEC 2092/91 y EC 834/2007 on Organic agriculture, EU parliament, Brussels, 2008.

Others

- 1985: **founding partner** of the Spanish Applied entomological society (SEEA), www.seea.es and secretary (1985-1989).
- 2004-2016: Ambassador of the Association of applied biologists (AAB)
- Since 2004: Technical inspector in ENAC (Spanish national agency of Certification)
- 2006-2010: Deputy assistant in the agricultural area (crop protection) of the agency ANEP (Spanish national agency of evaluation and prospective) for the evaluation of research projects, fellowships, etc.
- On a regular basis (average of 3 papers per month) requested for refereeing papers for SCI journals.

Scientific output

- **book:** AGUADO O., A. FERERES & E. VIÑUELA. 2015 Guía de campo de los polinizadores de España.. Mundiprensa. Madrid. ISBN 978-84-8476-657-5
- **In the last 6 years (2012-2017), 31 JCR papers:**
 - 1-LEGARREA S, DIAZ B.M., PLAZA M., BARRIOS L. , MORALES I. , VIÑUELA E. & FERERES A. 2012. Diminished UV radiation reduces the spread and population density of *Macrosiphum euphorbiae* in lettuce crops. *Horticultural Science* (39): 74-80. SCI 2011: 0,477 (22/31 Horticulture)
 - 2- LEGARREA S., WEINTRAUB P.G., PLAZA M., VIÑUELA E. & A. FERERES, 2012 Dispersal of aphids, whiteflies and their natural enemies under UV-absorbing nets. *BioControl* 57(4): 523-532. SCI 2011: 1,927 (13/85 Entomology=)
 - 3- SÁNTIS E.L., L.A. HERNÁNDEZ, A.M. MARTÍNEZ, J. CAMPOS, J.I. FIGUEROA, P. LOBIT, E. VIÑUELA & S. PINEDA. 2012. Long-term foliar persistence and efficacy of spinosad against beet armyworm, *Spodoptera exigua* (Lep.: Noctuidae) under greenhouse conditions. *Pest Manag Sci.* 68(6): 914-921. SCI 2011: 2,251 (8/85 Entomology=)
 - 4- BENGOCHEA P., O. CHRISTIAENS, AMOR, E. VIÑUELA, P. ROUGÉ, P. MEDINA & G. SMAGGHE. 2012. Ecdysteroid receptor docking suggest that dibenzoylhydrazine-based insecticides are devoid to any deleterious effect on the parasitic wasp *Psytalia concolor*. *Pest Manag. Sci.* 68 (7): 976-985. SCI 2012: 2,594 (5/87 Entomology=)
 - 5-BENGOCHEA P., P. MEDINA, F. AMOR, M.CÁNOVAS, P. VEGA, R. CORREIA, F. GARCÍA, M. GÓMEZ, F. BUDIA, E. VIÑUELA & J. A. LÓPEZ. 2012. Effect of emamectin benzoate under field conditions on two parasitoids used in vegetable greenhouses, *Aphidius colemani* Viereck (Hymenoptera: Aphidiinae) and *Eretmocerus mundus* Mercet (Hymenoptera: Aphelinidae). *Spanish J Agric. Res.* 10(3): 806-814. SCI 2011: 0,615 (24/57 Agriculture Multidisciplinary=)
 - 6- AMOR F., O. CHRISTIAENS, P. BENGOCHEA, P. MEDINA, P. ROUGÉ, E. VIÑUELA & G. SMAGGHE. 2012. Selectivity of diacylhydrazine insecticides to the predatory bug *Orius laevigatus*: *In vivo* and modelling/docking experiments. *Pest Manag. Sci.* 68(12): 1586-1594. SCI 2012: 2,594 (5/87 Entomology=)
 - 7- DÁDER B., A. MORENO, E. VIÑUELA AND A. FERERES. 2012. Spatio-temporal dynamics of viruses are differentially affected by parasitoids depending on the mode of transmission by their insect vectors. *Viruses* 4(11): 3069-3089. SCI 2011: 1,500 (32/32 Virology)
 - 8-BIONDI A., MOMMAERTS V., SMAGGHE G., VIÑUELA E., ZAPPALÀ L. & DESNEUX N. 2012. Non-target impact of spinosyns on beneficial arthropods, a review. *Pest Manag. Sci.* 68(12): 1523-1536. SCI 2012: 2,594 (5/87 Entomology=)
 - 9- BENGOCHEA P., O. CHRISTIAENS, AMOR, E. VIÑUELA, P. ROUGÉ, P. MEDINA & G. SMAGGHE. 2013. Insect growth regulators as potential insecticides to control olive fruit fly (*Bactrocera oleae* Rossi): insect toxicity bioassays and molecular docking approach. *Pest Manag. Sci.* 69(1): 27-34. SCI 2012: 2,594 (5/87 Entomology=)
 - 10- AGUIRRE O.U., A.M. MARTÍNEZ, J. CAMPOS, L.A. HERNÁNDEZ, J.I. FIGUEROA, P. LOBIT, E. VIÑUELA, J.M. CHAVARRIETA, G. SMAGGHE, & S. PINEDA. 2013. Foliar Persistence and Residual Activity of methoxyfenozide Against Beet Armyworm (Lepidoptera: Noctuidae). *Insect Science* 290: 734-742 SCI 2012: 1,786 (24/87=)
 - 11-DÁDER B., S. LEGARREA, A. MORENO, C. M. AMBROS, E. VIÑUELA, A. FERERES, O. SKOVMAND, & R. BOSSELMANN. 2014. Insecticide-treated Nets as a New Approach to Control Vegetable Pests in Protected Crops. *Acta Horticulturae* (ISHS) 1015: 103-111. SCI 2011: 1,500 (32/32 Virology)
 - 12- LEGARREA S., E. VELÁZQUEZ, P. AGUADO, A. FERERES, I. MORALES, D. RODRÍGUEZ, DEL ESTAL P. & E. VIÑUELA. 2014. Effects of a photoselective greenhouse cover the performance and host finding ability of *Aphidius ervi* in a lettuce crop. *BioControl* 59 (3): 265-278. SCI 2014: xxxx (10/87 Entomology)
 - 13-BENGOCHEA P., SAELICES R., AMOR, F., ADAN A., BUDIA F., DEL ESTAL P., VIÑUELA E. & MEDINA P. 2014. Non-target effects of kaolin and coppers applied on olive trees for the predatory lacewing *Chrysoperla carnea*. *Biocontrol Sci. Technol.* 24(6): 625-640. SCI 2012: xxx (55/87 Entomology)
 - 14-BENGOCHEA P., BUDIA F., VIÑUELA E. & MEDINA P. 2014. Are kaolin and copper treatments safe to the olive fruit fly parasitoid *Psytalia concolor*? *J. Pest Science* 87(2): 351-359. SCI 2014: 2,168 (8/92 Entomology)
 - 15-BENGOCHEA P., SANCHEZ-RAMOS I., SAELICES R., AMOR F., DEL ESTAL P., VIÑUELA E., ADAN A., LÓPEZ A.,

- BUDIA F. & MEDINA P. 2014. Is emamectin benzoate effective against the different stages of *Spodoptera exigua*? *Irish Journal of Agricultural and Food Research* 53: 37-49. SCI 2014: 0,400 (40/56 Agriculture multidisciplinary) Q1
- 16- VÁZQUEZ, Y.M., A.M. MARTÍNEZ, J.M. VALDEZ, J.I. FIGUEROA, J.M. CHAVARRIETA, A. REBOLLAR, J.A. SÁNCHEZ, E. VIÑUELA & S.PINEDA. 2014 Life history, diagnosis, and parasitoids of *Zale phaeographa* (Lepidoptera: Erebidiae). *Annals ESA* 107(1): 170-177. SCI 2014: 1,190 (35/92 Entomology) Q2
- 17-GARZÓN A., BUDIA F., MEDINA P., MORALES I., FERERES A. & VIÑUELA E. 2015. The effect of *Chrysoperla carnea* and *Adalia bipunctata* on the spread of cucumber mosaic virus (CMV) by *Aphis gossypii* Bull. Entomol. Res. 105(1): 1-10. SCI 2014: 1,910 (15/92 Entomology) Q1
- 18-GARZON, MEDINA, AMOR, VIÑUELA, BUDIA. 2015. Lethal and sublethal effects of six insecticides to larvae and adults of the biocontrol agents *Chrysoperla carnea* (Stephens) (Neuroptera: Chrysopidae) and *Adalia bipunctata* (L.) (Coleoptera: Coccinellidae). *Chemosphere* 132: 87-93. SCI 2014: 3,340 (39/221 Environmental Sciences) Q1
- 19-MARTINEZ A.M., CHAVARRIETA J.M., MORALES S. I., CAUDILLO K. B., FIGUEROA J. I., DIAZ O., BUJANOS R., GOMEZ B., VIÑUELA E., & PINEDA. S. 2015. Behavior of *Tamarixia triozae* females (Hym: Eulophidae) attacking *Bactericera cockerelli* (Hemip: Trizidae) and effects of pesticides on this parasitoid. *Environ. Entomol.* 44 (1): 3-11. SCI 2014: 1,605 (33/92 Entomology) Q2
- 20-FERNANDEZ M.M., MEDINA P., FERERES A., SMAGGHE G. & VIÑUELA E. 2015. Are mummies and adults of *Eretmocerus mundus*, a parasitoid of the whitefly *Bemisia tabaco* compatible with modern pesticides?. *J. Econ. Entomol* 108(5): 2268-2277. SCI 2013: 1,910 (22/90 Entomology) Q1
- 21-DADER B., LEGARREA S., MORENO A., PLAZA M., CAR,O-SOUZA M., AMOR F., E. VIÑUELA & A. FERERES. 2015. Control of insect vectors and plant viruses in protected crops by novel pyrethroid-treated nets. *Pest Management Science* 71(10): 1397-1406. SCI 2014: 2,694 (7/92 Entomology) Q1
- 22- GARZON A; F. BUDIA, I MORALES, A. FERERES, E.VIÑUELA & M MEDINA. 2016. Do *Chrysoperla carnea* and *Adalia bipunctata* influence the spread of Cucurbit aphid-borne yellows virus and its vector *Aphis gossypii*?" *Annals of Applied Biology*. 169(1): 106–115. SCI 2014: 2,000 (4/56 Agriculture multidisciplinary) Q1
- 23- MAIA J.B., CARVALHO G.A., MEDINA P., GARZÓN A., CONTIJO P.C. & VIÑUELA E. 2016. Lethal and sublethal effects on *Chrysoperla carnea* larva and the influence of rainfall on the pesticide degradation pattern over time. *Ecotoxicology* 25: 845-855. SCI 2014: 2,706 (60/221 Environmental Sciences) Q1
- 24- WANUMEN A., CARVALHO G. A., MEDINA P, VIÑUELA E & ADÁN A. 2016. Residual acute toxicity of some modern insecticides toward two mirid predators of tomato pests. *J. Econ. Entomol.* 109 (3): 1079-1085. SCI 2016: 1,847 (7/92 Entomology) Q1
- 25-BARRETO O., MARTINEZ A.M., VIÑUELA E., FIGUEROA J.I., REBOLLAR A., CHAVARRIETA J.M., VALDEZ J.M., LOBIT P. & PINEDA S. 2016. Biological parameters of the leaf roller *Argyrotaenia montezumae* (Lep. Tortricidae) and influence of the oviposition substrate color on fecundity. *Annals ESA*. 109 (5): 671-677. SCI 2016: 1,224 (26/94 Entomology) Q2
- 26-WANUMEN A., SANCHEZ-RAMOS I., VIÑUELA E & ADÁN A. 2016. Impact of feeding on contaminated prey on the life parameters of *Nesidocoris tenuis* adults. *J. Insect Science*. 16(1): 103; 1–7. SCI 2016: 1,041 (64/94 Entomology) Q1
- 27- FERNANDEZ M.M., COLOMER I., MEDINA M.P., FERERES A., DEL ESTAL P. & VIÑUELA E.. 2016. Compatibility of a Long Lasting bifenthrin-treated net with the predatory mite *Amblyseius swirskii* and the parasitic wasp *Eretmocerus mundus*. Laboratory, semi-field and field studies. *Pest Manag Sci Science* Doi 10.1002/ps.4515. SCI 2016: 2.94 (7/92 Entomology) Q1
- 28- FERNANDEZ, WANUMEN, MEDINA, DEL ESTAL, SMAGGHE & VIÑUELA. 2017. Compatibility of sulfoxaflor and other modern pesticides with adults of the predatory mite *Amblyseius swirskii* Athias-Henroit (Acari: Phytoseiidae), an essential natural enemy in many horticultural crops. *BioControl* Doi: 10.1007/s10526-017-9784-1. SCI 2016: 1.94 (10/87 Entomology) Q1
- 29- MARTÍNEZ ANA M., ALDO J. AGUADO-PEDRAZA, ELISA VIÑUELA, JOSÉ I. FIGUEROA, CHRISTIAN L. RODRÍGUEZ-ENRÍQUEZ, PHILIPPE LOBIT, BENJAMÍN GÓMEZ & SAMUEL PINEDA. 2017. Effects of ethanolic extracts of *Argemone ochroleuca* Sweet on the food consumption and development of *Spodoptera frugiperda* (J. E. Smith) (Lepidoptera: Noctuidae). *Florida entomologist* (in press). SCI 2016: 1,052. (xx entomology)
- 30-FERNANDEZ M.M., MEEUS I., BILLIET A., VAN NIEUWERBURGH F., DEFORCE D., VANDAMME P. VIÑUELA E. & SMAGGHE G. 2017. Deep sequencing of the bacterial community in parasitic wasps and its impact on exposure to abamectin insecticide. *J. Insect Science*. SCI 2014: 23,234 (78/56 Multidisciplinary sciences) Q1 in press