

CURRICULUM VITAE

Personal data

Surname: Aranda
Name: Miguel A.
Gender: male
National Identity Number: 50812843-R
Date of birth: 23/02/1965



Professional address

Organization: Consejo Superior de Investigaciones Científicas (CSIC)
Institute: Centro de Edafología y Biología Aplicada del Segura (CEBAS)
Department: Departamento de Biología del Estrés y Patología
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Position: Research Professor; from 05/04/2009

Academic data

University studies: Agricultural Engineering. Universidad Politécnica de Madrid, 1989.
Predoctoral fellow, Universidad Politécnica de Madrid, 1990-1995.
PhD in Plant Pathology, Universidad Politécnica de Madrid, 1995.

Employment

1989 Consultant Agriculturalist, INCOYDESA, Madrid, Spain.
1990 PhD student (MEC fellow), Plant Pathology, UP Madrid, Spain.
1995 Post-doc (MEC fellow), Virology, John Innes Centre, Norwich, UK.
1997 Post-doc (Marie Curie fellow), Virology, John Innes Centre, Norwich, UK.
1999 Tenured Scientist, Virology, EELM-CSIC, Málaga, Spain.
2002 Tenured Scientist, Virology, CEBAS-CSIC, Murcia, Spain.
2006 Research Scientist, Virology, CEBAS-CSIC, Murcia, Spain.
2009 Research Professor, Virology, CEBAS-CSIC, Murcia, Spain.

Research Interests

Plant Virology – Molecular Genetics - Genomics

Teaching and training

Since 1995 Supervisor of 11 PhD students, 2 graduate students and other students.
Since 2009 Teaching in Applied Virology, Master in Plant Biology and Biotechnology (Univ. Murcia, Spain).
Miscellaneous Teaching in various masters, seminars (Univ. Málaga; Univ. Murcia; JIC, UK; Univ. P. Cartagena, etc).

Management

2000-2002 Deputy Director, EELM-CSIC, Málaga, Spain
Since 2007 Founder and shareholder of the company Bioproductin, a spin-off of CSIC, UM and IMIDA (Spain).

Since 2008 Head of Department. Stress Biology and Plant Pathology, CEBAS-CSIC, Murcia, Spain.

Editorial tasks in scientific journals

Molecular Plant Pathology, member of editorial board (2002-2008)

Open Virology Journal, member of editorial board (2008-)

Annals of Applied Biology, member of editorial board (2009-)

Journal of General Virology, member of editorial board (2009-)

Publications in scientific journals (last five years)

KASSEM, M. A., SEMPERE, R. N., JUAREZ, M., ARANDA, M. A., TRUNIGER, V. (2007). Cucurbit aphid-borne yellows virus is prevalent in field-grown cucurbit crops of southeastern Spain. **Plant Disease** 91(3): 232-238.

D. G. IBEAS, J. BLANCA, C. ROIG, M. GONZÁLEZ-TO, B. PICÓ, V. TRUNIGER, P. GÓMEZ, W. DELEU, A. CANO-DELGADO, P. ARÚS, F. NUEZ, J. GARCIA-MAS, P. PUIGDOMÉNECH y M. A. ARANDA (2007) MELOGEN: an EST database for melon functional genomics. **BMC Genomics**, 8, 306.

C. NIETO, F. PIRON, M. DALMAIS, C. F. MARCO, E. MORIONES, M. L. GÓMEZ-GUILLAMÓN, V. TRUNIGER, P. GÓMEZ, J. GARCIA-MAS, M. A. ARANDA y A. BENDAHMANE (2007) EcoTILLING for the identification of allelic variants of melon eIF4E, a factor that controls virus susceptibility. **BMC Plant Biology**, 7, 34.

TRUNIGER, V., NIETO, C., GONZALEZ-IBEAS, D. y ARANDA M.A. (2008). Mechanism of plant eIF4E-mediated resistance against a Carmovirus (*Tombusviridae*): cap-independent translation of a viral RNA controlled *in cis* by an (a)virulence determinant. **Plant Journal**, 56, 716-727.

AMARI, K., GONZALEZ-IBEAS, D., GOMEZ, P., SEMPERE, R.N., SANCHEZ-PINA, M.A., ARANDA, M.A., DIAZ-PENDON, J.A., NAVAS-CASTILLO, J., MORIONES, E., BLANCA, J., HERNANDEZ-GALLARDO, M. D., ANASTASIO, G. (2008). Tomato torrado virus is transmitted by *Bemisia tabaci* and infects pepper and eggplant in addition to tomato. **Plant Disease** 92, 1139-1139.

L. DONAIRE, Y. WANG, D. GONZÁLEZ-IBEAS, K.F. MAYER, M.A. ARANDA, C. LLAVE (2009). Deep-sequencing of plant-viral small RNAs reveals effective and widespread targeting of viral genomes. **Virology**, 392, 203-214.

T. CANTO, M. A. ARANDA y A. FERERES (2009). Climate change effects on physiology and population processes of hosts and vectors that influence the spread of hemipteran-borne plant viruses. **Global Change Biology**, 15, 1884-1894.

P. GOMEZ, A.M. RODRIGUEZ, B. MOURY y M.A. ARANDA (2009). Genetic resistance for the sustainable control of plant virus diseases: breeding, mechanisms and durability. **European Journal of Plant Pathology**, 125, 1-22.

W. DELEU, C. ESTERAS, C. ROIG, M. GONZÁLEZ-TO, I. FERNÁNDEZ-SILVA, D. GONZALEZ-IBEAS, J. BLANCA, M. A. ARANDA, P. ARÚS, F. NUEZ, A.J. MONFORTE, M.B. PICÓ, J. GARCIA-MAS (2009) A set of EST-SNPs for map saturation and cultivar identification in melon. **BMC Plant Biology**, 9, 90.

A. MASCARELL-CREUS, J. CAÑIZARES, J. VILARRASA-BLASSI, S. MORA-GARCÍA, J. BLANCA, D. GONZALEZ-IBEAS, M. SALALDIE, C. ROIG, W. DELEU, B. PICO-SILVENT, N. LOPEZ-BIGAS, M. A. ARANDA, J. GARCIA-MAS, F. NUEZ, P. PUIGDOMENECH y A. I. CANO-DELGADO (2009) An oligo-based microarray offers novel transcriptomic approaches for the analysis of pathogen resistance and fruit quality traits in melon (*Cucumis melo* L.). **BMC Genomics**, 10:467.

- P. GOMEZ, R.N. SEMPERE, S.F. ELENA, M.A. ARANDA (2009). Mixed infections of *Pepino mosaic virus* strains modulate the evolutionary dynamics of this emerging virus. **J. Virology**, 83, 12378-12387.
- V. TRUNIGER, M.A. ARANDA (2009). Recessive resistance to plant viruses. **Advances in Virus Research**, 75, 119-159.
- P. GOMEZ, R.N. SEMPERE, K. AMARI, C. GÓMEZ-AIX, M.A. ARANDA (2010). Epidemics of *Tomato torrado virus*, *Pepino mosaic virus* and *Tomato chlorosis virus* in tomato crops: do mixed infections contribute to torrado disease epidemiology? **Annals of Applied Biology**, 156, 401-410.
- V.M. GONZÁLEZ, L. RODRÍGUEZ-MORENO, E. CENTENO, A. BENJAK, J. GARCIA-MAS, P. PUIGDOMÈNECH, M.A. ARANDA (2010). Genome-wide BAC-end sequencing of *Cucumis melo* using two BAC libraries. **BMC Genomics**, 11:618.
- A. MORENO, E. GARZO, G. FERNANDEZ-MATA, M. KASSEM, M.A. ARANDA, A. FERERES (2011). Aphids secrete watery saliva into plant tissues from the onset of stylet penetration. **Entomologia Experimentalis et Applicata**, 139, 145-153.
- C. NIETO, L. RODRÍGUEZ-MORENO, A.M. RODRÍGUEZ-HERNÁNDEZ, M.A. ARANDA, V. TRUNIGER (2011). *Nicotiana benthamiana* resistance to nonadapted Melon necrotic spot virus results from an incompatible interaction between virus RNA and translation initiation factor 4E. **Plant Journal**, 66, 492-501.
- R.N. SEMPERE, P. GÓMEZ, V. TRUNIGER, M.A. ARANDA (2011). Development of expression vectors based on pepino mosaic virus. **Plant Methods**, 7, 6.
- C. CLEPET, T. JOOBEUR, Y. ZHENG, D. JUBLOT, M. HUANG, V. TRUNIGER, A. BOUALEM, M.E. HERNANDEZ-GONZALEZ, A. CAÑO, V. PORTNOY, N. KATZIR, J.J. GIOVANNONI, A. BENDAHMANE, M. A. ARANDA, J. GARCIA-MAS, Z. FEI (2011). Analysis of expressed sequence tags generated from full-length enriched cDNA libraries of melon. **BMC Genomics**, 12:252.
- DANIEL GONZÁLEZ-IBEAS, JOSÉ BLANCA, LIVIA DONAIRE, MONTSERRAT SALADIÉ, ALBERT MASCARELL-CREUS, ANA CANO-DELGADO, JORDI GARCIA-MAS, CESAR LLAVE, MIGUEL A. ARANDA (2011). Analysis of the melon (*Cucumis melo*) small RNAome by high-throughput pyrosequencing. **BMC Genomics**, 12:393.
- LUIS RODRIGUEZ-MORENO, VICTOR M GONZALEZ, ANDREJ BENJAK, M. CARMEN MARTI, PERE PUIGDOMENECH, MIGUEL A. ARANDA, JORDI GARCIA-MAS (2011). Determination of the melon chloroplast and mitochondrial genome sequences reveals that the largest reported mitochondrial genome in plants contains a significant amount of DNA having a nuclear origin. **BMC Genomics**, 12:424
- DANIEL GONZALEZ-IBEAS, JOAQUIN CAÑIZARES and MIGUEL A. ARANDA (2012). Microarray analysis shows that recessive resistance to Watermelon mosaic virus in melon is associated with the induction of defense response genes. **Molecular Plant-Microbe Interactions**, 25:107-118
- A. RODRÍGUEZ-HERNÁNDEZ, B. GOSALVEZ, L. BURGOS, M.A. ARANDA, V. TRUNIGER (2012). Melon RNAi lines silenced for Cm-eIF4E show broad virus resistance. **Molecular Plant Pathology**, 13:755-763
- DANIEL GONZALEZ-IBEAS, JOAQUIN CAÑIZARES, JOSÉ BLANCA, VERÓNICA TRUNIGER, MIGUEL A. ARANDA (2012). A Cost-effective Double-Stranded cDNA Synthesis for Plant Microarrays. **Plant Molecular Biology Reporter**, 30:1276-1282.
- P. GÓMEZ, R.N. SEMPERE, M.A. ARANDA (2012). Pepino Mosaic Virus and Tomato Torrado Virus: Two Emerging Viruses Affecting Tomato Crops in the Mediterranean Basin. **Advances In Virus Research**, 84:505-532.
- J. GARCÍA-MAS et al. (2012). The genome of melon (*Cucumis melo* L.). **Proceedings of the National Academy of Sciences USA**, 109:11872-11877.

Total number of papers included in the Science Citation Index: 57
Average citations per paper: 25
Average Impact Factor: 3.8
H index: 22

Main research projects (last five years)

-Title: Co-ordination of research on genetic resistance to control plant pathogenic viruses and their vectors in European crops (RESISTVIR)

Financial source: Unión Europea (6º Programa Marco) (ref. FOOD-CT-2004-514048)

Budget: 2.280.700 Euros

Years: 2005-2009

Coordinatdor: Carole Caranta

Main researcher at CEBAS-CSIC: M.A. Aranda

-Title: Dianas para la mejora de las resistencias del melón a virus de importancia agronómica (RESMELOVIR).

Financial source: Ministerio de Educación y Ciencia (ref. AGL2006-08069/AGR)

Budget: 174.482 Euros

Years: 2006-2009

Main researcher: M.A. Aranda

-Title: Resistencia Genetica al Virus del amarilleo de las venas del pepino (Cucumber vein yellowing virus, CVYV) en pepino (*Cucumis sativus* L.) (SUE-AGR 07/04-0008).

Financial source: Consejería de Educación, Ciencia e Investigación de la Región de Murcia.

Budget: 79.002 Euros

Years: 2008-2009

Main researcher: M.A. Aranda.

-Title: Development of genomic tools in cucurbits, including the sequencing of the melon genome, and their application for breeding these crop species.

Financial source: FUNDACIÓN GENOMA ESPAÑA.

Budget: 537.400 Euros

Years: 2009-2011

Coordinator: P. Puigdomenech Rosell

Main researcher at CEBAS-CSIC: Miguel A. Aranda

-Title: Traducción de RNAs de virus de plantas independiente de cap: análisis del modelo experimental MNSV/melón y aplicaciones biotecnológicas (TRADUVIR).

Financial source: Ministerio de Ciencia e Innovación (ref. AGL2009-07552/AGR)

Budget: 264.000 Euros

Years: 2010-2012

Main researcher: M.A. Aranda

- Title: Identification of new plant susceptibility factors whose modification would confer virus resistance (VIRECROP).

Financial source: Plant-KBBE 2009. Ministerio de Ciencia e Innovación (ref. EUI2009-04009)

Budget: 520.000 Euros

Years: 2010-2012

Main researcher: Miguel A. Aranda

Title: Epidemiología y dinámica evolutiva del Virus del amarilleo de las cucurbitáceas transmitido por pulgones (*Cucurbit aphid-borne yellows virus*, CABYV).

Financial source: Fundación Séneca de la Región de Murcia (Ref. 11934/PI/09)

Budget: 60.116 Euros
Years: 2010-2012
Main researcher: P. Gómez López

Patents

Inventors: M.A. Aranda & C.F. Marco

Title: Procedimiento para la detección del Virus del amarilleo de las venas del pepino (CVYV)

No. of application: 200102784.

Date of priority: 14/12/2001

Inventors: M. Franco, J.M. Aguilar, C.F. Marco, J.A. Díaz, E. Rodríguez-Cerezo y M.A. Aranda

Title: Método para generar resistencia frente al Virus del amarilleo y enanismo de las cucurbitáceas (CYSDV) en plantas, construcciones genéticas usadas y plantas resistentes a CYSDV obtenidas mediante dicho método

No. of application: 200201437.

Date of priority: 21/06/2002

Inventors: Martínez-García, B., Marco, C.F., Aranda, M.A., López-Abella, D., Serra-Yoldi, M.T., López-Moya, J.J.

Title: Procedimiento de obtención de la proteína recombinante de la cápsida CP del virus del amarilleo de las venas del pepino, cucumber vein yellowing virus (CVYV) y sus aplicaciones.

No. of application: 200202875.

Date of priority: 13/12/2002

Inventors: Sempere, R.N., Gómez, P., Truniger, V., Aranda, M.A.

Title: Secuencia viral implicada en la regulación de la expresión génica, vector de expresión, célula y planta que la comprende

N. of application: P200930391

Date of priority: 30/06/2009