

DR Evangelia Morou- CURRICULUM VITAE

Date of Birth: 15/01/1974

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Dr Evangelia Morou is a postdoctoral research scientist with over twelve years' experience of working in the agricultural field and insecticide resistance mechanisms and more than 5 years experience in managing multiple European projects in the FP7 and Horizon 2020 frame. Adapt at organizing, motivating and leading successful multi-cultural teams in solution focussed environments. Her research interests focus mainly in understanding the biochemical mechanisms by which insects (agricultural pests and mosquitoes) develop resistance to insecticides. She works on enzyme – insecticide interactions assays, expressing of recombinant detoxification enzymes, molecular diagnostics, and biosensor enzyme-based assays for insecticide detection. She has published 26 research articles and organized many conferences and scientific meetings.

Education

B.Sc. degree in Biology, University of Athens, Greece.

Ph. D. Degree in Biochemistry and Molecular Biology, Department of Biology, University of Athens, Greece.

Languages: Greek (native), English (proficient), Spanish (B1), Italian (B1)

Employment history

- 2016- : Research Fellow in Molecular Entomology Lab (Vontas Group), IMBB Forth, Greece
- 2014-2015: Research Fellow in Hellenic Agricultural Organization Demeter
- 2010-2014: Research Fellow, Lab Molecular Biology (Vontas Group), Department of Biology, University of Crete, Greece
- 2011- Consultant for Insecticide Spraying programmes in Africa (Equatorial Guinea, Tanzania, South Africa, Ethiopia, Mozambique)
- 2006-2010: Research Fellow, Vector Group, Liverpool School Tropical Medicine, United Kingdom
- 2007: Research Associate, Laboratory Pesticide Science (Vontas group), Agricultural University of Athens (AUA), Greece.

Fellowships and Awards

- «Action AgroETAK, Research and Technology Development Innovation projects » (2014-2015) of the Operational Program "Education and Lifelong Learning" (Action's Beneficiary: Hellenic Agricultural Organization Demeter), co-financed by the European Social Fund (ESF) and the Greek State.
- «Supporting Postdoctoral Researchers» Grant (2012-2015) of the Operational Program "Education and Lifelong Learning" (Action's Beneficiary: General Secretariat for Research and Technology), co-financed by the European Social Fund (ESF) and the Greek State.
- State Scholarship's Foundation (IKY) fellowship (for postdocs 2011-2012)
- PhD Scholarship (2002-2006) General Secretariat for Research and Technology, co-financed by the Pharmaceutical company ELPEN
- Erasmus Scholarship (1996) Short term visit in Dipartimento di Scienze Animali Vegetali e dell' Ambiente, Campobasso, Italy

Research records

- **26** publications in international peer-reviewed scientific journals, Total impact factor, I.F. > 80, Citations= 631 citations, *h* index: 12.
- **90** publications in proceedings of International and National Scientific Conferences
- Reviewer for Scientific Journals (PLoS One, Journal of Insect Science, Bulletin of Entomological Research, Journal of Pest Science, Genes).

List of Publications:

26. Alemayehu E, Asale A, Eba K, Getahun K, Tushune K, Bryon A, **Morou E**, Vontas J, Van Leeuwen T, Duchateau L, Yewhalaw D. (2017) Mapping insecticide resistance and characterization of resistance mechanisms in *Anopheles arabiensis* (Diptera: Culicidae) in Ethiopia. *Parasit Vector*. 10(1):407. DOI:10.1186/s13071-017-2342-y. PMID: 28865490
25. Roditakis E., Steinbach D., Moritz G., Vasakis E., Stavrakaki M., Ilias A., Vidal L.G., Martínez-Aguirre M.d.R., Bielza P., Iqbal S., **Morou E.**, Silva J.E., Silva W.M, Siqueira H., Troczka B.J., Williamson M., Bass C., Tsagkarakou A., Vontas J., Nauen R. (2017) Ryanodine receptor point mutations confer diamide insecticide resistance in tomato leafminer, *Tuta absoluta* (Lepidoptera: Gelechiidae) *Insect Biochem Mol Biol* 80, 11-20
24. Roditakis E, Mavridis K., Riga M., Vasakis E., **Morou E.**, Rison, J., Vontas J. (2017) Identification and detection of indoxacarb resistance mutations in the para sodium channel of the tomato leafminer, *Tuta absoluta* *Pest Management Science* DOI: 10.1002/ps.4513
23. Riga M., Myridakis A., Tsakireli D., **Morou E.**, Stefanou E.G, Nauen R., Leeuwen T.V., Douris V., Vontas J. (2015) Functional characterization of the *Tetranychus urticae* CYP392A11, a cytochrome P450 that hydroxylates the METI acaricides cyenopyrafen and fenpyroximate. *Insect Biochemistry and Molecular Biology* 65: 91-99.
22. Grigoraki L, Lagnel J, Kioulos I, Kampouraki A, **Morou E**, Labbé P, Weill M, Vontas J. (2015) Transcriptome Profiling and Genetic Study Reveal Amplified Carboxylesterase Genes Implicated in Temephos Resistance, in the Asian Tiger Mosquito *Aedes albopictus*. *PLoS Negl Trop Dis*. 2015 May 22;9(5):e0003771. doi: 10.1371/journal.pntd.0003771. eCollection 2015 May. PMID: 26000638
21. Thawer NG, Ngondi JM, Mugalura FE, Emmanuel I, Mwalimu CD, **Morou E**, Vontas J, Protopopoff N, Rowland M, Mutagahywa J, Lalji S, Molteni F, Ramsan MM, Willilo R, Wright

- A, Kafuko JM, Ndong I, Reithinger R, Magesa SM. (2015) Use of insecticide quantification kits to investigate the quality of spraying and decay rate of bendiocarb on different wall surfaces in Kagera region, Tanzania. *Parasit Vectors*. 2015 Apr 22;8:242. doi: 10.1186/s13071-015-0859-5. PMID: 25896604
20. Riga M., Tsakireli D., Ilias A., **Morou E.**, Myridakis A., Stefanou E.G., Nauen R., Dermauw W., Leeuwen T.V., Paine M., Vontas J. (2014) Abamectin is metabolized by CYP392A16, a cytochrome P450 associated with high levels of acaricide resistance in *Tetranychus urticae*. *Insect Biochemistry and Molecular Biology* 46: 43-53.
 19. Kioulos E., Kambouraki A., **Morou E.**, Skavdis G., and Vontas J. (2014) Insecticide resistance status in the major WNV vector *Culex pipiens* from Greece *Pest Manag Sci*. 2014 Apr;70(4):623-7. doi: 10.1002/ps.3595. Epub 2013 Jul 30
 18. Papadakis G., Tsortos A., Kordas A., Tiniakou I., **Morou E.**, Vontas J., Kardassis D., Gizeli E. (2013) Acoustic detection of DNA conformation in genetic assays combined with PCR. *Scientific Reports* 3.
 17. Mironidis GK, Kapantaidaki D, Bentila M, **Morou E**, Savopoulou-Soultani M, Vontas J. (2013) Resurgence of the cotton bollworm *Helicoverpa armigera* in northern Greece associated with insecticide resistance. *Insect Sci*. 2013 Aug;20(4):505-12. doi: 10.1111/j.1744-7917.2012.01528.x. Epub 2012 Aug 8. PMID: 23955946
 16. **Morou E.**, Lirakis M., Pavlidi N., Zotti M., Nakagawa Y., Smagghe G., Vontas J., Swevers L. (2012) A New Dibenzoylhydrazine with Insecticidal Activity against *Anopheles* Mosquito Larvae *Pest Management Science (wileyonlinelibrary.com) DOI 10.1002/ps.3441*
 15. Vontas J., Kioulos E., Pavlidi N., **Morou E.**, della Torre A., Ranson H. (2012) Insecticide resistance in the major dengue vectors *Aedes albopictus* and *Aedes aegypti* *Pestic Biochem Physiol*.104, 126-131.
 14. **Morou E.**, Dowd A., Rajatileka S., Hemingway J., Ranson H., Paine M. and Vontas J. (2010) A simple colorimetric assay for specific detection of glutathione-S-transferase activity associated with DDT resistance in mosquitoes *PLOS Neglected Tropical Diseases*, 2010, 4, e808 (<http://www.ncbi.nlm.nih.gov/pubmed/20824165>)
 13. Dowd AJ, **Morou E**, Steven A, Ismail HM, Labrou N, Hemingway J, Paine MJI, Vontas J. (2010) Development of a colourimetric pH assay for the quantification of pyrethroids based on glutathione-S-transferase. *International Journal of environmental analytical chemistry*, 90, 922-933
 12. Karunker I*, **Morou E.***, Nikou D, Nauen R, Sertchook R, Stevenson BJ, Paine MJ, Morin S, Vontas J. (2009) Structural model and functional characterization of the *Bemisia tabaci* CYP6CM1vQ, a cytochrome P450 associated with high levels of imidacloprid resistance. *Insect Biochem Mol Biol*. 39, 697-706. *equal contribution (<http://www.ncbi.nlm.nih.gov/pubmed/19716416>)
 11. Roditakis E., **Morou E.**, Tsagkarakou A., Riga M., Nauen R., Paine M., Morin S., Vontas J. (2010) Assessment of the *Bemisia tabaci* CYP6CM1vQ transcript and protein levels in laboratory and field-derived imidacloprid resistant insects, and cross-metabolism potential of the recombinant enzyme *Insect Science* 18 (1), 23-29
 10. Vassiliou V., Emmanouilidou M., Perrakis A., **Morou E.**, Vontas J., Tsagkarakou A., Roditakis E. (2010) Insecticide resistance in *Bemisia tabaci* from Cyprus *Insect Science* 18 (1), 30-39
 9. Khajehali J, Van Leeuwen T, Grispou M, **Morou E**, Alout H, Weill M, Tirry L, Vontas J, Tsagkarakou A. (2010) Acetylcholinesterase point mutations in European strains of *Tetranychus urticae* (Acari: Tetranychidae) resistant to organophosphates. *Pest Manag Sci.*, 66, 220-228 (<http://www.ncbi.nlm.nih.gov/pubmed/19894225>)
 8. Dowd AJ, Steven A , **Morou E**, Hemingway J, Vontas J, Paine MJI (2009) A simple glutathione transferase-based colorimetric endpoint assay for insecticide detection. *Enzyme and Microbial Technology*, 45, 164–168

7. Roditakis E, Grispou M, **Morou E**, Kristoffersen JB, Roditakis N, Nauen R, Vontas J, Tsagkarakou A. (2009) Current status of insecticide resistance in Q biotype Bemisia tabaci populations from Crete. Pest Manag Sci., 65, 313-22.
6. **Morou E**, Ismail HM, Dowd AJ, Hemingway J, Labrou N, Paine M, Vontas J. (2008) A dehydrochlorinase-based pH change assay for determination of DDT in sprayed surfaces. Anal Biochem. 378, 60-64. (<http://www.ncbi.nlm.nih.gov/pubmed/18423389>)
5. Margaritopoulos JT, Skavdis G, Kalogiannis N, Nikou D, **Morou E**, Skouras PJ, Tsitsipis JA, Vontas J. (2008) Efficacy of the pyrethroid alpha-cypermethrin against Bactrocera oleae populations from Greece, and improved diagnostic for an iAChE mutation. Pest Manag Sci. 64, 900-908. (<http://www.ncbi.nlm.nih.gov/pubmed/18381673>)
4. Swevers L.*, **Morou E.***, Balatsos N., Iatrou K. and Georgoussi Z. (2005) Functional expression of the mouse δ -opioid receptor in insect cells: development of a cell-based high throughput screening system for detection of opioid receptor ligand mimetics. Cell Mol. Life Sciences, 62, 919-930 (<http://www.ncbi.nlm.nih.gov/pubmed/15868413>)
3. **Morou, E** and Georgoussi Z. (2005) Expression of the third intracellular loop of the delta opioid receptor inhibits signalling by opioid receptors and other G protein coupled receptors J Pharmacol Exp Ther 315, 1368-1379 (<http://www.ncbi.nlm.nih.gov/pubmed/16160084>)
2. Swevers, L., Farrell, P.J., Kravariti, L., Xenou-Kokoletsi, M., Sdralia, K., Lioupis, A., **Morou, E.**, Balatsos, N., Douris, V. Georgoussi, Z., Mazomenos, V., and Iatrou, K. (2003) Transformed insect cells as screening tools for the discovery of new bioactive compounds. Comm. Agr. Appl. Biol. Sci. 68, 333-341
1. **Morou E.**, and Georgoussi Z. (2002) Expression of the third intracellular loop of the Δ -opioid receptor alters opioid receptors' signaling Review of Clinical Pharmacology and Pharmacokinetics, International Edition 16(1), pp. 12-14