

Evangelos E. Karagiannis

Assistant Professor, Department of Agriculture, University of Western Macedonia

1. PERSONAL INFORMATION



Full name: Evangelos Karagiannis
Email: ekaragiannis@uowm.gr
Scopus/ORCID ID: 35758589100/0000-0002-9312-9692
Scientific Domain: Pomology

2. STUDIES

- 2015 - 2018** **Doctoral Degree (PhD)**
Dissertation Title: Physiological and large-scale molecular analysis of superficial scald in apple fruit (*Malus domestica* Borkh).
Available at: <http://hdl.handle.net/10442/hedi/44316>
Thesis venue: Laboratory of Pomology, Department of Agriculture, Aristotle University of Thessaloniki.
Thesis grade: "Excellent".
- 2012 - 2014** **Master of Science (MSc)**
Dissertation Title: Physiological and molecular analysis of the effect of altitude on quality characteristics of peach fruits.
Thesis venue: Laboratory of Pomology, Department of Agriculture, Aristotle University of Thessaloniki.
Postgraduate Program: "Horticultural Science".
Thesis grade: "Excellent" (8.79).
- 2007 – 2012** **Bachelor's Degree (BSc)**
Faculty of Agriculture, Forestry and Natural Environment, School of Agriculture, Aristotle University of Thessaloniki.
Direction: "Horticulture and Viticulture".
Grade: "Very Good" (7.45).

3. FELLOWSHIPS

International:

- 2017** European internship in the framework of Erasmus+ Placement, March – May 2017 (duration 3 months), in the field of Transcriptomics/Microarray analysis, Institut de Recherché en Horticulture et Semences (IRHS/INRA), Angers, France.
- 2014** International COST Action FA 1104 "Sustainable Production of High-Quality Cherries for the European Market", Short Term Scientific Mission (STSM): Phytochemical analysis in sweet

cherry fruits using high-performance liquid chromatography (HPLC), July 2014, University of Technology, Limassol, Cyprus.

2014 International COST Action FA 1104 “Sustainable Production of High-Quality Cherries for the European Market”, Training School: Sensory evaluation, May 2014, University of Evora, Portugal.

National:

2020 Scholarship from the Operational Program “Human Resources Development, Education & Lifelong Learning 2014-2020” (OP – Young Researchers – Cycle B) for the preparation of Postdoctoral research in the action “Support for researchers with emphasis on young researchers” (duration 15 months).

2017 Scholarship from the Hellenic Foundation of Research and Innovation (H.F.R.I.) for completion of PhD Studies (duration 12 months).

2012 Scholarship from the State Scholarships Foundation (IKY) for completion of MSc Studies (duration 12 months).

2011 Scholarship for excellent performance for the 2009/10 academic year funded by the State Scholarships Foundation (IKY).

2011 Scholarship for excellent performance for the 2009/10 academic year funded by the program of “Contributory Scholarships” of Aristotle University of Thessaloniki, Greece.

4. TEACHING EXPERIENCE

2021 - 2022 **Assistant Professor**, Department of Agriculture, School of Agricultural Sciences, University of Western Macedonia

Courses: “General Pomology”, “Deciduous Fruit Trees”, “Plant Nutrition – Fertilizers”, “Evergreen Fruit Trees”, “Small Fruits and Other Fruit Trees”.

2020 - 2021 **Teaching assistant (Π.Δ.407/80)**, Department of Agriculture, School of Agricultural Sciences, University of Western Macedonia

Courses: “General Pomology”.

2020 - 2021 Program “**Acquisition of academic teaching experience in young scientists holding a doctorate**”, Department of Agriculture, School of Agricultural Sciences, University of Western Macedonia

Courses: “Deciduous Fruit Trees”, “Small Fruits and Other Fruit Trees”.

2019 - 2020 Program “**Acquisition of academic teaching experience in young scientists holding a doctorate**”, Faculty of Agriculture, Forestry and Natural Environment, School of Agriculture, Aristotle University of Thessaloniki

Courses: “Citrus and Tropical Fruit Trees”, και “Small Fruit Trees”.

5. MEMBER OF SCIENTIFIC SOCIETIES/ORGANIZATIONS

2013 - today Member of the Hellenic Society of Horticultural Science (HSHS).

2013 - today Member of International Plant Proteomics Organization (INPPO).

**6. RESEARCH EXPERIENCE -
SCIENTIFIC COORDINATOR IN FINANCED RESEARCH PROGRAMS/PROJECTS**

Year	Project title	Funding institution, Managing institution
2020 - 2021	Study of the effect of microclimate on the quality and biochemical characteristics on kiwifruit	ZEUS Kiwi S.A. Research Committee (R.C.) AUTH
2020 - 2023	Phenomenal, genomic analysis and metabolic evaluation of indigenous fig varieties (scientific package manager)	EPAnEK 2014-2020 ELGO "DEMETRA"

**7. RESEARCH EXPERIENCE -
PARTICIPATION IN FINANCED SCIENTIFIC PROGRAMS/PROJECTS**

Year	Project title, Funding institution, Managing institution	Participation in the project
2021 - 2022	AgroCycle: Applications in Agriculture (Training in AgroCycle – Training Program for the Strengthening of the Circular Bio-Economy in the Agri-Food Sector) (REGION OF WESTERN MACEDONIA, R.C. UOWM)	Participation as an instructor in the seminar on 'Pomology' – Preparation of educational material and participation in the internship of the trainees
2020 - 2021	Study of the sweet cherries cracking phenomenon with a combined physiological and -omic approach (Crack–omics) (EPEAEK, R.C. AUTH)	Experimentation, treatments, analyzes / sampling from experimental fields, molecular analyzes (proteomic, metabolic, transcriptional) of plant tissues, writing of scientific reports
2019 - 2020	National action "Olive Roads" (GMERA & MRDF, R.C. AUTH)	Experimentation, analysis of the proteome, transcriptome, and metabolome of fruit developmental stages of emblematic olive varieties
2019	Development of innovative nutrition products that help reduce the effects of abiotic stress on fruit trees (AGROLOGY S.A., R.C. AUTH)	Experimentation, realization of physiological and biochemical analyzes of plant tissues and soil, writing of scientific reports

2018 - 2019	Combined approach of ‘-omic’ technologies and bioinformatics for the creation of the atlas of the Greek cherry germ resources (H.F.R.I., R.C. AUTH)	Experimentation, plant tissue sampling, physiological and molecular analyzes (-omics), RNA / DNA / protein extraction, scientific paper
2018	Silicon effect on the sweet cherry cracking phenomenon (AGROLOGY S.A., R.C. AUTH)	Experimentation, treatments, analyzes / sampling from experimental fields, writing scientific reports
2018	Effect of silicon on the nutrition of fruit trees and on the pre- and post-harvest characteristics of its fruits (AGROLOGY S.A., R.C. AUTH)	Experimentation, treatments, analyzes / sampling from experimental fields, writing scientific reports
2018	Analysis of quality characteristics of kiwifruit (ZEUS Kiwi S.A., R.C. AUTH)	Experimentation, treatments, analyzes / sampling from experimental fields, writing scientific reports
2017	Implementation of peach treatment protocols to improve their quality (K&N EFTHYMIADIS, R.C. AUTH)	Experimentation, treatments, analyzes / sampling from experimental fields, writing scientific reports
2016 - 2017	Prototype application of foliar nutrition preparation to improve the consistency, color, and preservation of apples (AGROLOGY S.A., R.C. AUTH)	Experimentation, performing physiological and biochemical analyzes of plant tissues, writing scientific reports
2016 - 2017	Protocol of experimental application of foliar nutritional preparation to improve the preservation of kiwifruit (AGROLOGY S.A., R.C. AUTH)	Experimentation, treatments, plant tissue analysis, writing scientific reports
2016	Protocol of experimental application of natural biostimulator in productive characteristics of kiwifruit (AGROLOGY S.A., R.C. AUTH)	Experimentation, treatments, plant tissue analysis, writing scientific reports
2013 - 2014	The use of ozone as a post-harvest management application for fruits and vegetables (Scientific project “ΘΑΛΗΣ”, R.C. AUTH)	Experimentation, plant tissue sampling, physiological and molecular analyzes (-omics), website creation, scientific writing of works / reports

8. SCIENTIFIC PUBLICATIONS

Publications in Peer – Reviewed Journals Included to SCI* (Science Citation Index, total impact factor: 125,5):

1. **Karagiannis E**, Michailidis M, Skodra C, Stamatakis G, Dasenaki M, Ganopoulos I, Samiotaki M, Thomaidis NS, Molassiotis A, Tanou G. 2021. Proteo-metabolomic journey across olive drupe development and maturation. *Food Chemistry* 363, 130339.
2. **Karagiannis E**, Michailidis M, Skodra C, Molassiotis A, Tanou G. 2021. Silicon influenced ripening metabolism and improved fruit quality traits in apples. *Plant Physiology and Biochemistry* 166, 270-277.
3. Mellidou I, Ainalidou A, Papadopoulou A, Leontidou K, Genitsaris S, **Karagiannis E**, Van de Poel B, Karamanoli K. 2021. Comparative transcriptomics and metabolomics reveal an intricate priming mechanism involved in PGPR-mediated salt tolerance in tomato. *Frontiers in Plant Science* 12, 713984.
4. Michailidis M, Tanou G, Sarrou E, **Karagiannis E**, Ganopoulos I, Martens S, Molassiotis A. 2021. Pre- and Post-harvest Melatonin Application Boosted Phenolic Compounds Accumulation and Altered Respiratory Characters in Sweet Cherry Fruit. *Frontiers in Nutrition* 8, 695061.
5. Michailidis M, Polychroniadou C, Kosmidou MA, Petraki-Katsoulaki D, **Karagiannis E**, Molassiotis A, Tanou G. 2021. An early calcium loading during cherry tree dormancy improves fruit quality features at harvest. *Horticulturae* 7, 135.
6. **Karagiannis E**, Sarrou E, Michailidis M, Tanou G, Ganopoulos I, Bazakos C, Kazantzis K, Martens S, Xanthopoulou A, Molassiotis A. 2021. Fruit quality trait discovery and metabolic profiling in sweet cherry Genebank collection in Greece. *Food Chemistry* 342, 128315.
7. Michailidis M, **Karagiannis E**, Nasiopoulou E, Skodra C, Molassiotis A, Tanou G. 2021. Peach, apple, and pear fruit quality: To peel or not to peel?. *Horticulturae* 7, 85.
8. Manthos I, Rouskas D, **Karagiannis E**, Sotiropoulos T, Molassiotis A, Botu M. 2020. Pomological and phenological characteristics of the main pistachio cultivars in Greece. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca* 48, 2343–2358.
9. Michailidis M, **Karagiannis E**, Tanou G, Samiotaki M, Tsiolas G, Sarrou E, Stamatakis G, Ganopoulos I, Martens S, Argiriou A, Molassiotis A. 2020. Novel insights into the calcium action in cherry fruit development revealed by high-throughput mapping. *Plant Molecular Biology* 1 – 18.
10. **Karagiannis E**, Michailidis M, Tanou G, Scossa F, Sarrou E, Stamatakis G, Samiotaki M, Martens S, Fernie AR, Molassiotis A. 2020. Decoding altitude – activated regulatory mechanisms occurring during apple peel ripening. *Horticulture Research* 7, 1 – 12.
11. Michailidis M, **Karagiannis E**, Tanou G, Sarrou E, Karamanoli K, Lazaridou A, Martens S, Molassiotis A. 2020. Sweet cherry fruit cracking: follow-up testing methods and cultivar-metabolic screening. *Plant Methods* 16, 1 – 14.
12. Xanthopoulou A, Manioudaki M, Bazakos C, Kissoudis C, Farsakoglou AM, **Karagiannis E**,

- Michailidis M, Polychroniadou C, Zambounis A, Kazantzis K, Tsaftaris A, Madesis P, Aravanopoulos F, Molassiotis A, Ganopoulos I. 2020. Whole genome re-sequencing of sweet cherry (*Prunus avium* L.) yields insights into genomic diversity of a fruit species. *Horticulture Research* 7, 1 – 14.
13. Michailidis M, **Karagiannis E**, Tanou G, Samiotaki M, Sarrou E, Karamanoli K, Lazaridou A, Martens S, Molassiotis A. 2020. Proteomic and metabolic analysis reveals novel sweet cherry fruit development regulatory points influenced by girdling. *Plant Physiology and Biochemistry* 149, 233 – 244.
 14. **Karagiannis E**, Tanou G, Scossa F, Samiotaki M, Manioudaki M, Laurens F, Job D, Fernie AR, Orsel M, Molassiotis A. 2020. Systems-based approaches to unravel networks and individual elements involved in apple superficial scald. *Frontiers in Plant Science* 11, 1 – 14.
 15. Tsaballa A, Sarrou E, Xanthopoulou A, Tsaliki E, Kissoudis C, **Karagiannis E**, Michailidis M, Martens S, Sperdouli E, Hilioti Z, Fotopoulos V, Naniou-Obeidat I, Tsaftaris A, Madesis P, Kalivas A, Ganopoulos I. 2020. Comprehensive approaches reveal key transcripts and metabolites highlighting metabolic diversity among three oriental tobacco varieties. *Industrial Crops and Products* 143, 111933.
 16. Michailidis M, **Karagiannis E**, Tanou G, Sarrou E, Stavridou E, Ganopoulos I, Karamanoli K, Madesis P, Martens S, Molassiotis A. 2019. An integrated metabolomic and gene expression analysis identifies heat and calcium metabolic networks underlying postharvest sweet cherry fruit senescence. *Planta* 250, 2009–2022.
 17. Michailidis M, **Karagiannis E**, Polychroniadou C, Tanou G, Karamanoli K, Molassiotis A. 2019. Metabolic features underlying the response of sweet cherry fruit to postharvest UV-C irradiation. *Plant Physiology and Biochemistry* 144, 49–57.
 18. Minas IS, Tanou G, Krokida A, **Karagiannis E**, Belghazi M, Vasilakakis M, Papadopoulou KK, Molassiotis A. 2018. Ozone-induced inhibition of kiwifruit ripening is amplified by 1-methylcyclopropene and reversed by exogenous ethylene. *BMC Plant Biology* 18, 1–19.
 19. **Karagiannis E**, Michailidis M, Tanou G, Samiotaki M, Karamanoli K, Avramidou E, Ganopoulos I, Madesis P, Molassiotis A. 2018. Ethylene –dependent and –independent superficial scald resistance mechanisms in ‘Granny Smith’ apple fruit. *Scientific Reports* 8, 1–16.
 20. Michailidis M, **Karagiannis E**, Tanou G, Sarrou E, Adamakis ID, Karamanoli K, Martens S, Molassiotis A. 2018. Metabolic mechanisms underpinning vegetative bud dormancy release and shoot development in sweet cherry. *Environmental and Experimental Botany* 155, 1–11.
 21. **Karagiannis E**, Michailidis M, Karamanoli K, Lazaridou A, Minas IS, Molassiotis A. 2018. Postharvest responses of sweet cherry fruit and stem tissues revealed by metabolomic profiling. *Plant Physiology and Biochemistry* 127, 478–484.
 22. Michailidis M, **Karagiannis E**, Tanou G, Karamanoli K, Lazaridou A, Matsi T, Molassiotis A. 2017. Metabolomic and physico-chemical approach unravel dynamic regulation of calcium in sweet cherry fruit physiology. *Plant Physiology and Biochemistry* 116, 68–79.
 23. **Karagiannis E**, Tanou G, Samiotaki M, Michailidis M, Diamantidis G, Minas IS, Molassiotis A. 2016. Comparative physiological and proteomic analysis reveal distinct regulation of peach skin quality traits by altitude. *Frontiers in Plant Science* 7, 1–14.

24. Minas IS, Tanou G, **Karagiannis E**, Belghazi M, Molassiotis A. 2016. Coupling of physiological and proteomic analysis to understand the ethylene- and chilling-induced kiwifruit ripening syndrome. *Frontiers in Plant Science* 7.
25. Ganopoulos I, Xanthopoulou A, Molassiotis A, **Karagiannis E**, Moysiadis T, Katsaris P, Aravanopoulos F, Tsaftaris A, Kalivas A, Madesis P. 2015. Mediterranean basin *Ficus carica* L.: from genetic diversity and structure to authentication of a Protected Designation of Origin cultivar using microsatellite markers. *Trees Structure and Function* 29, 1959–1971.
26. Tanou G, Minas IS, **Karagiannis E**, Tsikou D, Audebert S, Papadopoulou KK, Molassiotis A. 2015. The impact of sodium nitroprusside and ozone in kiwifruit ripening physiology: A combined gene and protein expression profiling approach. *Annals of Botany* 116, 649–662.

Publications in Book Chapters Included to SCI*
(Science Citation Index):

1. Ziogas V, Michailidis M, **Karagiannis E**, Tanou G, Molassiotis A. 2020. Manipulating fruit quality through foliar nutrition. *Fruit Crops: Diagnosis and Management of Nutrient Constraints*, Chapter 29, 401–417.

Publications in Peer – Reviewed International Conferences*
as Abstracts:

1. Polychroniadou C, Michailidis M, **Karagiannis E**, Ganopoulos I, Bazakos C, Adamakis ID, Tanou G, Molassiotis A. 2021. Physiological and molecular aspect of calcium action in kiwifruit during ripening. Poster presentation. *X International Symposium on Kiwifruit 2021, 27-30 September, Yalova, Turkey*.
2. Polychroniadou C, Michailidis M, **Karagiannis E**, Ganopoulos I, Bazakos C, Tanou G, Molassiotis A. 2021. Characterization of metabolic pathways involved in wounding-induced kiwifruit ripening. Poster presentation. *X International Symposium on Kiwifruit 2021, 27-30 September, Yalova, Turkey*.
3. Polychroniadou C, Michailidis M, **Karagiannis E**, Adamakis ID, Ganopoulos I, Tanou G, Bazakos C, Molassiotis A. 2021. The impact of technical damage in kiwifruit ripening during different cold storage periods. Poster presentation. *X International Symposium on Kiwifruit 2021, 27-30 September, Yalova, Turkey*.
4. **Karagiannis E**, Michailidis M, Skodra C, Stamatakis G, Dasenaki M, Samiotaki M, Ganopoulos I, Molassiotis A, Thomaidis NS, Tanou G. 2021. Proteo-metabolomic study of olive (cv. ‘Chondrolia Chalkidikis’) drupe development and maturation. Poster presentation. *4th INPPO World Congress 2021, 9-11 March, Winnipeg, Canada*.
5. Xanthopoulou A, Moysiadis T, Bazakos C, **Karagiannis E**, Karamichali I, Stamatakis G, Samiotaki M, Manioudaki M, Kissoudis C, Michailidis M, Bosmali I, Madesis P, Ganopoulos I, Molassiotis A, Tanou G. 2021. Proteogenomics atlas in a perennial fruit trees: a sweet cherry case study. Oral

- presentation. *4th INPPO World Congress 2021, 9-11 March, Winnipeg, Canada.*
6. **Karagiannis E**, Tanou G, Michailides M, Molassiotis A. 2018. Multi-omics approach to improve the understanding of superficial scald mechanisms in apple fruit. Oral presentation. *3rd INPPO World Congress 2018, 9-12 September, Padova, Italy.*
 7. **Karagiannis E**, Michailides M, Molassiotis A. 2016. Current challenges in postharvest biology of apple fruit ripening. Oral presentation. *2nd Students Conference "Students for Agriculture", 20-22 April, Moscow, Russia.*
 8. **Karagiannis E**, Minas IS, Lazaridou A, Molassiotis A. 2016. The impact of modified atmosphere and 1-MCP in the quality traits of sweet cherry. Oral presentation. *COST FA1104 Final Conference "Sustainable production of high-quality cherries for the European market", 4-8 April, Naoussa, Greece.*
 9. Michailides M, **Karagiannis E**, Rodovitis I, Savvidis S, Lazaridou A, Molassiotis A. 2016. The effect of preharvest and postharvest CaCl₂ application on sweet cherry quality. Poster presentation. *COST FA1104 Final Conference "Sustainable production of high-quality cherries for the European market", 4-8 April, Naoussa, Greece.*
 10. **Karagiannis E**, Molassiotis A. 2016. Towards understanding the superficial scald development in "Granny Smith" apples: a physiological and molecular approach. Oral presentation. *1st Students Conference "Students for Agriculture", 29 January, Thessaloniki, Greece.*
 11. Testempasis S, Tanou G, **Karagiannis E**, Minas IS, Molassiotis A, Karaoglanidis GS. 2015. Exploring the effects of gaseous ozone and 1-methylcyclopropene treatments on gray mold of apple fruit at proteomic level. Poster presentation. *3rd International Symposium on Postharvest Pathology, 7-11 June, Bari, Italy.*
 12. Tanou G, Minas IS, **Karagiannis E**, Belghazi M, Tsikou D, Papadopoulou KK, Molassiotis A. 2014. The interaction between nitric oxide with ozone regulate kiwifruit postharvest physiology. Poster presentation. *International Postharvest Unlimited Conference, 10-13 June, Limassol, Cyprus.*

**Publications in Peer – Reviewed National Conferences*
with Full Texts/Abstracts:**

- 34 publications in National Conferences Proceedings (*in Greek, not presented**).

Publications in National Journals*:

- 4 publications in National Journals (*in Greek, not presented**).

*Scientific publications/announcements available at (Google Drive):
<https://drive.google.com/open?id=1dx6IOSrSgZ1MFB3gTzBVitGkTze4XL1M>

9. RECOGNITION OF SCIENTIFIC CONTRIBUTION

Citations to the published work from 09/2015 to 09/2021

Scopus database: total number of citations **299** (Scopus ID: 35758589100)

Google Scholar database: total number of citations **352**.

h-index = 10 and 11 (Scopus and Google Scholar databases, respectively).

Total Impact Factor of Scientific Publications (SCI) = **125,5**:

- **26** publications in peer – reviewed journals included to SCI.
- **1** publication in book chapter included to SCI.

Invited Reviewer in the following international journals included in the SCI (*in brackets the number of articles reviewed per journal*):

Journal of Plant Biochemistry & Physiology (6), Food Chemistry (3), Scientific Reports (2), Plant Physiology & Biochemistry (2), Journal of Horticultural Science & Biotechnology (2), Plants (2), Journal of the Science of Food and Agriculture (1), Frontiers in Plant Science (1), PLOS One (1), Metabolites (1), Biochemical Genetics (1), Vegetos (1), Cells (1), International Journal of Molecular Sciences (1).

Participation in the Editorial board of scientific journals (SCI):

Member of the Editorial board as Topical Advisory Panel Member of *Plants* (IF: 3,935)

(https://www.mdpi.com/journal/plants/topic_editors).

10. OTHER QUALIFICATIONS

Languages

English	Certificate of English Language Proficiency, Michigan State University
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Computer Programs

ECDL	Windows, Internet, Word, Excel, PowerPoint.
Proteomic analysis	1D and 2D Quantity One and PDQuest gel analysis and statistical processing software. Proteome Discoverer and Perseus-MaxQuant software programs for analysis and processing of proteomics results (gel-free proteomics).
Metabolomic analysis	Chromatogram analysis and metabolomic data statistical processing software (Gas Chromatography - Mass Spectrometer, TurboMass).
Other	Statistical data processing programs (SPSS, GraphPad Prism).