

Βιογραφικό σημείωμα

ΚΑΡΑΜΠΟΥΡΝΙΩΤΗΣ ΓΕΩΡΓΙΟΣ ΤΟΥ ΑΝΤΩΝΙΟΥ



Καθηγητής, Εργαστήριο Μορφολογίας και Φυσιολογίας Φυτών,
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Σπουδές

1984 PhD στη Φυσιολογία Φυτών, Βιολογικό Τμήμα Παν/μίου Πατρών

1978 BSc Βιολογικό Τμήμα Παν/μίου Πατρών

Ερευνητικά ενδιαφέροντα

Φυσιολογία Καταπονήσεων, Φωτοσύνθεση, ξηροφυτικές
προσαρμογές, οπτικές, χημικές και αμυντικές ιδιότητες επιφανειακών
προστατευτικών δομών

Δημοσιεύσεις

55 δημοσιεύσεις, 7 reviews, 18 ανακοινώσεις σε διεθνή, 62 σε εθνικά
συνέδρια

1. Karabourniotis, G., Manetas, Y., Gavalas, N.A. 1983. Photoregulation of phosphoenolpyruvate carboxylase in *Salsola soda* and other C₄-plants. *Plant Physiology* 73: 735-739.
2. Manetas, Y., Karabourniotis, G., Gavalas, N.A. 1983. Post-translational regulation of C₄ and CAM phosphoenolpyruvate carboxylase. *Plant Physiology and Biochemistry* 21: 911-917.
3. Karabourniotis, G., Manetas, Y., Gavalas, N.A. 1985. Detecting photoactivation of phosphoenolpyruvate carboxylase in C₄-plants: An effect of pH. *Plant Physiology* 77: 300-302.
4. Selinioti, E., Karabourniotis, G., Manetas, Y., Gavalas, N.A. 1985. Modulation of phosphoenolpyruvate carboxylase by 3-phosphoglycerate: probable physiological significance for C₄-photosynthesis. *Journal of Plant Physiology* 121: 353-360.
5. Manetas, Y., Petropoulou, Y., Karabourniotis, G. 1986. Compatible solutes and their effects on phosphoenolpyruvate carboxylase of C₄-halophytes. *Plant, Cell and Environment* 9: 145-151.
6. Karabourniotis, G., Papadopoulos, K., Papamarkou, M., Manetas, Y. 1992. Ultraviolet-B radiation absorbing capacity of leaf hairs. *Physiologia Plantarum* 86: 414-418.
7. Karabourniotis, G., Kyparissis, A., Manetas, Y. 1993. Leaf hairs of *Olea europaea* L protect underlying tissues against ultraviolet-B radiation damage. *Environmental and Experimental Botany* 33: 341-345.

8. Karabourniotis, G., Papastergiou, N., Kabanopoulou, E., Fasseas, C. 1994. Foliar sclereids of *Olea europaea* L. may function as optical fibers. *Canadian Journal of Botany* 72 : 330-336.
9. Grammatikopoulos, G., Karabourniotis, G., Kyparissis, A., Petropoulou, Y., Manetas, Y. 1994. Leaf hairs of olive (*Olea europaea* L.) prevent stomatal closure by ultraviolet-B radiation. *Australian Journal of Plant Physiology*: 21: 293-301.
10. Skaltsa, E., Verykokidou, E., Harvala, C., Karabourniotis, G., Manetas, Y. 1994. UV-B protective potential and flavonoid content of leaf hairs of *Quercus ilex*. *Phytochemistry*: 37: 987-990.
11. Karabourniotis, G, Kotsabassidis, D., Manetas, Y. 1995. Trichome density and its protective potential against ultraviolet-B radiation damage during leaf development. *Canadian Journal of Botany* 73: 376-383.
12. Karabourniotis, G., Fasseas, C. 1996. The dense indumentum with its polyphenol content may replace the protective role of the epidermis in some young xeromorphic leaves. *Canadian Journal of Botany* 74: 347-351.
13. Manetas, Y., Petropoulou, Y., Stamatakis, K., Nikolopoulos, D., Levisou, E., Psaras, G., Karabourniotis, G. 1997. Beneficial effects of enhanced Uv-B radiation under field conditions: Improvement of needle water relations and survival capacity of *Pinus pinea* L. seedlings during the dry Mediterranean summer. *Plant Ecology*: 128: 100-108.
14. Liakoura, V., Stefanou, M., Manetas, Y., Cholevas, C. And Karabourniotis, G. 1997. Trichome density and its Uv-B protective potential are affected by shading and leaf position on the canopy. *Environmental and Experimental Botany* 38: 223-229.
15. Drilias, P., Karabourniotis, G., Levizou, E., Nikolopoulos, N., Petropoulou, Y., And Manetas, Y. 1997. The effects of enhanced Uv-B radiation on the Mediterranean evergreen sclerophyll *Nerium oleander* depend on the extent of summer precipitation. *Australian Journal of Plant Physiology*. 24: 301-306.
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18. Karabourniotis, G, Bornman J. F. And Liakoura, V. 1999. Different leaf surface characteristics of three grape cultivars affect leaf optical properties as measured with fibre optics. Possible implication in Stress tolerance. *Australian Journal of Plant Physiology* 26: 47-53.
19. Karabourniotis, G, and Bornman J. F. 1999. Penetration Of Uv-A, Uv-B and blue light through the leaf trichome layers of two xeromorphic plants, olive and oak, measured by optical fibre microprobes. *Physiologia Plantarum* 105: 655-661.
20. Liakoura, V., Stavrianakou, S., Liakopoulos, G., Karabourniotis, G. and Manetas Y. 1999. Uv-B radiation effects on *Olea europaea*: Comparisons between a glasshouse and a field experiment. *Tree Physiology* 19: 905-908.
21. Karabourniotis, G., Bornman, J. F. Nikolopoulos, D. 2000. A possible optical role of the bundle sheath extensions of the heterobaric leaves of *Vitis vinifera* and *Quercus coccifera*. *Plant Cell and Environment* 23: 423-430
22. Liakoura, V. Manetas Y. And Karabourniotis G. 2001. Seasonal fluctuations in the concentration of Uv absorbing compounds in leaves of some Mediterranean plants under field conditions. *Physiologia Plantarum* 111: 491-500.
23. Karabourniotis G., Tzobanoglou D., Nikolopoulos D. And Liakopoulos G. 2001. Epicuticular phenolics over guard cells: Exploitation for *In Situ* stomatal counting by fluorescence microscopy and combined Image analysis. *Annals of Botany* 87: 631-639.

24. Liakopoulos G., Stavrianakou S. and Karabourniotis G. 2001. Analysis of epicuticular phenolics of *Prunus persica* and *Olea europaea* leaves: Evidence on the chemical origin of the leaf surface Uv-Induced blue fluorescence of stomata. *Annals of Botany* 87: 641-648.
25. Nikolopoulos D. Liakopoulos G. Drossopoulos I., and Karabourniotis G. 2002. The relationship between anatomy and photosynthetic performance of heterobaric leaves. *Plant Physiology* 129: 235-243.
26. Liakoura V., Bornman, J.F. and Karabourniotis G. 2003. The ability of abaxial and adaxial epidermis of sun and shade Leaves to attenuate Uv-A and Uv-B radiation. *Physiologia Plantarum* 117: 33-43.
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28. Liakopoulos G., Stavrianakou S., Filippou M., Fasseas K., Tsadilas C., Drossopoulos I. and Karabourniotis G. 2005. Boron remobilization under low boron supply in olive (*Olea europaea* L.) in relation to leaf and phloem mannitol concentrations. *Tree Physiology* 25: 157-165.
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52. Korgiopoulou C, Bresta P, Nikolopoulos D, Karabourniotis G. 2019. Sex-specific leaf structural and functional traits and sun-shade acclimation in the dioecious tree *Pistacia vera* (Anacardiaceae). *Functional Plant Biology* 46: 649-659
53. Giannopoulos A, Nikolopoulos D, Bresta P, Samantas A, Reppa C, Karaboiki K, Dotsika E, Fasseas C, Liakopoulos G, Karabourniotis G. 2019. Cystoliths of *Parietaria judaica* as an internal source of CO₂ for photosynthetic assimilation when stomata are closed. *Journal of Experimental Botany*, 70: 5735-5763

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55. Gómez-Espinoza O, González-Ramírez D, Bresta P, Karabourniotis G, Bravo L. 2020. Decomposition of calcium oxalate crystals in *Colobanthus quitensis* under CO₂ limiting conditions. *Plants*, accepted

Reviews

1. Karabourniotis G. and Liakopoulos G.. 2006. Phenolic compounds in plant cuticles: Physiological and ecological aspects. *Advances in Plant Physiology*, 8: 33-47.
2. Liakopoulos G. Nikolopoulos D. and Karabourniotis G.. 2007. The first step from light to wine: Photosynthetic performance and photoprotection of grapevine (*Vitis Vinifera* L.) leaves. *Functional Plant Science and Biotechnology* 1: 112-119 (Invited Review)
3. Liakopoulos G., Stavrianakou S. and Karabourniotis G. 2008. Cellular boron: So many interactions for such a few roles? *Advances in Plant Physiology*, 10: 319-336.
4. Karabourniotis G, Liakopoulos G, Nikolopoulos D, Bresta P, Stavroulaki V, and Sumbele S. 2014. Carbon gain vs. water saving, growth vs. defence": Two dilemmas with soluble phenolics as a joker. *Plant Science*, 227: 21–27 (Invited Review).
5. Tooulakou G, Giannopoulos A, Nikolopoulosd, Bresta P, Dotsika E, Orkoula MG, Kontoyannis CG, Fasseas C, Liakopoulos G, Klapa I Karabourniotis G. 2016. Reevaluation of the plant “gemstones”: Calcium oxalate crystals sustain photosynthesis under drought conditions. *Plant Signaling and Behavior* DOI: 10.1080/15592324.2016.1215793 (Invited review).
6. Karabourniotis G, Liakopoulos G, Nikolopoulos D and Bresta P. 2019. Protective and defensive roles of non-glandular trichomes against multiple stresses: Structure-function coordination. *Journal of Forestry Research*, 31: 1-12 (Invited review).
7. Karabourniotis G, Horner HT, Bresta P, Nikolopoulos D, Liakopoulos G. 2020. New insights on the functions of carbon-calcium-inclusions in plants. *New Phytologist* accepted (Invited review).

Αναφορές Πάνω από 1850 (Scopus) 2700 (Scholar)

Ειδική αναφορά: “discoveries”, *Wildlife* (BBC) 13(12): 26.

Ειδική αναφορά: <https://www.botany.one/2016/12/alarming-role-druse-crystals/>

https://en.wikipedia.org/wiki/Alarm_photosynthesis

Ερευνητικά προγράμματα

Ερευνητικός υπεύθυνος σε 6 και συνεργάτης σε άλλα 5 ερευνητικά προγράμματα

Βιβλία	1. «Φυσιολογία Καταπονήσεων των Φυτών». Εκδόσεις Έμβρυο. 2003. σελ. 274. Διανομή στους φοιτητές 7ου εξαμήνου του Τμήματος Γεωπονικής Βιοτεχνολογίας έως το 2012. 2. «Φυσιολογία Φυτών. Από το Μόριο στο Περιβάλλον». Πανεπιστημιακές Εκδόσεις Κρήτης. 2003. Συλλογική προσπάθεια. Επιμελήτρια έκδοσης Π. Ρουμπελάκη–Αγγελάκη. Συνέγραψα τα κεφάλαια 10, 11, 17. 3. «Γενική Βοτανική. Η Μορφολογία, Ανατομία και Φυσιολογία των ανώτερων φυτών». Εκδόσεις Έμβρυο. 2005. Σε συνεργασία με τους Κ. Φασσέα και Γ. Αϊβαλάκι. Επιμελητής έκδοσης Γ. Καραμπουρνιώτης. Συνέγραψα τα κεφάλαια 5, 9, 10, 11, 12. 4. «Φυσιολογία Καταπονήσεων των Φυτών». Εκδόσεις Έμβρυο. 2012. Σε συνεργασία με τους Γ. Λιακόπουλο και Δ. Νικολόπουλο. Επιμελητής έκδοσης Γ. Καραμπουρνιώτης. 5. «Φυσιολογία Φυτών». Μέλος της μεταφραστικής ομάδας του βιβλίου των Taiz and Zeiger. 2011. 6. «Λειτουργική Ανατομία Φυτών». Εκδόσεις Έμβρυο. 2014. Σε συνεργασία με τους Κ. Φασσέα, Γ. Λιακόπουλο και Γ. Αϊβαλάκι. Επιμελητής έκδοσης Γ. Καραμπουρνιώτης. Συνέγραψα τα κεφάλαια 1, 6, 7. «Φυσιολογία Φυτών». Εκδόσεις Έμβρυο. 2016. Σε συνεργασία με τους Γ. Λιακόπουλο και Γ. Αϊβαλάκι. Επιμελητής έκδοσης Γ. Καραμπουρνιώτης.
Διδακτική εμπειρία-επίβλεψη	Επιβλέπων σε διδακτορικές διατριβές: 8 (ολοκληρωμένες), Επιβλέπων σε μεταπτυχιακές διατριβές: 13 (ολοκληρωμένες) Επιβλέπων σε πτυχιακές μελέτες: 26 (ολοκληρωμένες), Διδασκαλία προπτυχιακών μαθημάτων: Φυσιολογία ανάπτυξης και διαφοροποίησης Φυτών, Φυσιολογία Φυτών, Αρωματικά Φυτά-Δευτερογενείς Μεταβολίτες, Φυσιολογία Καταπονήσεων των Φυτών, Γενική Βοτανική, Βιοποικιλότητα και Οικοφυσιολογία Μεσογειακών Οικοσυστημάτων, Εφαρμοσμένη Φυσιολογία. Διδασκαλία μεταπτυχιακών μαθημάτων: Φυσιολογία Φυτών, Φυσιολογία, Καταπονήσεων, Βιοτεχνολογία Φυτικών Μεταβολιτών, Οικοφυσιολογία Φυτών, Φυσιολογία Διαφοροποίησης, Ειδικά Θέματα Κυτταρολογίας, Αλληλεπιδράσεις φυτών-παθογόνων, δευτερογενείς μεταβολίτες
Διοικητικό έργο	1999-2000 Εκπρόσωπος του Τμήματος Γεωπονικής Βιοτεχνολογίας στο γραφείο διασύνδεσης σταδιοδρομίας του Γ. Π. Α. 2000-2001, 2003-2004 Εκπρόσωπος του Τμήματος Γεωπονικής Βιοτεχνολογίας στη Σύγκλητο του Γ.Π.Α. 2003, 2004, εξεταστής ΙΚΥ στο μάθημα Φυσιολογίας Φυτών 2002, 2003, 2005 Εισηγητής σε εξετάσεις του ΚΕΕΜΕ Ιδρυματικός Υπεύθυνος για τη δράση «Πυθαγόρας II–Περιβάλλον» (με απόφαση της Συγκλήτου του Γ.Π.Α.) Ιδρυματικός Υπεύθυνος για τη δράση «Ηράκλειτος» (με απόφαση της Συγκλήτου του Γ.Π.Α.) Επιστημονικός Υπεύθυνος του προγράμματος εξοπλισμών μέσω του ΕΣΠΑ του Τμήματος Γεωπονικής Βιοτεχνολογίας 2005- Διευθυντής Εργαστηρίου Φυσιολογίας και Μορφολογίας Φυτών 2009-2013 Διευθυντής Τομέα Βιολογίας Φυτών Τμήμα Γεωπονικής Βιοτεχνολογίας 2014-2018 Διευθυντής Τομέα Βοτανικής και Μικροβιολογίας, Τμήμα Επιστήμης Φυτικής Παραγωγής

Last update: 2020