Andreas Ioannou

Velissariou 6B, Egkomi, Nicosia, 2416

+357 99448010

andrekjg.ioannou@edu.cut.ac.cy

Education

University of Crete, UOC

BSc, Biological Sciences - Biomolecular Sciences and Biotechnology Department of Biology Second Class Honors (6,39/10) BSc Dissertation title: Bioenergetic strategy of alga Scenedesmus Obliquus for the biodegradation of tyrosol and hydroxyturosol. (9,5/10) 2010-2016

Cyprus University of Technology, CUT

MSc, Agricultural Biotechnology Department of Agricultural Sciences, Biotechnology and Food Science *Second Class Honors (8,219/10)* MSc, Dissertation title: Study the effect of melatonin in root growth and architecture of *Arabidopsis* plants. (9/10) Sep 2018 - Feb 2020.

Cyprus University of Technology, CUT

PhD Candidate, Agricultural Biotechnology Department of Agricultural Sciences, Biotechnology and Food Science PhD, Dissertation title: Seed priming towards improved growth and protection under stress conditions. Feb 2020 -

Research

UOC Department of Biology

Sep 2015 - July 2016/ Supervisor: Dr Kotzabasis

Plant biochemistry and photobiology laboratory

- Investigated how algae *Scenedesmus Obliquus* can biodegrade toxic compounds such as tyrosol and hydroxytyrosol with production of hydrogen.
- Followed experiments about conversion of used cooking and mechanical oil to biofuel.
- Catalogued all data utilizing proprietary statistical software.

CYI The Cyprus Institute (Internship)

June - August/ 2018 Supervisor: Dr Adriana Bruggeman / Mentor: Dr Hakan Djuma *The Energy, Environment and Water Research Center (EEWRC)*

- Gained practical skills to quantify soil loss based on erosion features and soil depth measurements.
- Performed basic in-field and in-lab soil analyses (texture, bulk density, pH etc.)
- Learned how to collect soil samples and quantify organic carbon levels with laboratory analysis.

Cyprus University of Technology, CUT

April 2019 - Current/ Supervisor: Dr. Vasilis Fotopoulos *Plant Stress Physiology Group*

- Investigated melatonin as seed priming compound on *Arabidopsis* plants grown under optimum and salt stress conditions.
- Studied the effect on tomato plants under salt stress conditions.
- Studied the potential of four commercial Biostimulants to be used as priming agent compounds in Agriculture.
- Checked quality attributes of raspberry (*Rubus idaeus L.*) under water stress conditions.

Laboratory Skills

Spectrophotometric analysis/metabolite quantification

- Photosynthetic pigment content (e.g. chlorophylls, anthocyanins)
- Osmomolecules quantification (e.g. Proline content)
- Reactive species quantification (e.g. H2O2)
- Lipid peroxidation index (e.g. MDA content)
- Total antioxidant capacity (e.g. FRAP, DPPH)

Molecular biology techniques

- Genomic DNA, RNA extraction from Arabidopsis plant tissues
- Generation of transgenic lines
- DNA sequencing
- PCR, real-time qPCR
- Agarose and acrylamide gel electrophoresis
- cDNA library construction

Growth culture

- Scenedesmus Obliquus cultures
- In vitro and in vivo plant growth of *Arabidopsis* seedlings and tomato plants

Teaching assistant

Department of Agricultural Sciences, Biotechnology and Food Science, CUT **Teaching assistance in the laboratory practices of undergraduate courses:**

- Plant Physiology (Autumn semester, 2019,2020,2021)
- Plant Morphology and Anatomy (Autumn semester, 2019,2020,2021)
- Systemic Botany (Eastern semester, 2020,2021,2022)

Other skills and languages

- Proficient with Microsoft Word, Excel, Power Point
- Fluent in English (IGCSE) and Greek (native)

Publications

- Papazi A, Ioannou A, Symeonidi M., Doulis A., Kotzabasis K. 2017. Bioenergetic strategy of alga *Scenedesmus Obliquus* for the biodegradation of tyrosol and hydroxyturosol. Z Naturforsch C. 1; 72(5-6):227-236.
- Ioannou, A., Gohari, G., Papaphilippou, P., Panahirad, S., Akbari, A., Dadpour, M. R., Krasia-Christoforou, T., & Fotopoulos, V. (2020). Advanced nanomaterials in agriculture under a changing climate: The way to the future? *Environmental and Experimental Botany*, *176*, 104048. https://doi.org/10.1016/j.envexpbot.2020.104048
- Christou, A., Georgiadou, E. C., Zissimos, A. M., Christoforou, I. C., Christofi, C., Neocleous, D., Dalias, P., Ioannou, A., Fotopoulos, V. (2021). Uptake of hexavalent chromium by tomato (Solanum lycopersicum L.) plants and mediated effects on their physiology and productivity, along with fruit quality and safety. *Environmental and Experimental Botany*, 189, 104564. https://doi.org/10.1016/j.envexpbot.2021.104564
- Spanos, A., Athanasiou, K., Ioannou, A., Fotopoulos, V. and Krasia-Christoforou, T., 2021. Functionalized Magnetic Nanomaterials in Agricultural Applications. Nanomaterials, 11(11), p.3106.
- Christou, A., Stylianou, M., Georgiadou, E., Gedeon, S., Ioannou, A., Michael, C., Papanastasiou, P., Fotopoulos, V. and Fatta-Kassinos, D., 2022. Effects of biochar derived from the pyrolysis of either biosolids, manure or spent coffee grounds on the growth, physiology and quality attributes of field-grown lettuce plants. Environmental Technology & Innovation, 26, p.102263.
- Agathokleous, E., Zhou, B., Xu, J., Ioannou, A., Feng, Z., Saitanis, C., Frei, M., Calabrese, E. and Fotopoulos, V., 2021. Exogenous application of melatonin to plants, algae, and harvested products to sustain agricultural productivity and enhance nutritional and nutraceutical value: A meta-analysis. Environmental Research, 200, p.111746.

Other work experience

- Assistant Storekeeper at Gelco Lifts ► July 2016 December 2017
- Storekeeper at Gelco Lifts ► January 2018 May 2018