

**KOKARAKIS EMMANUEL****PERSONAL INFORMATION**

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Full Name: Emmanuel John Kokarakis(he/him)  
 Citizenship: USA  
 Place/Date of birth: San Jose CA, March 14 1994  
 Current Address: Athens, Greece  
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**EDUCATION**

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University of Crete, Heraclion, Crete, Greece 9/2012- 6/2016

- ❖ BS Department of Chemistry.
  - Grade: 8.11/10 Ranked 2<sup>nd</sup> in a Class of 100 students.
  - Four-year program. ECTS Credits: 240
  - Diploma thesis: “**Phenol Bio-degradation from Microalgae Chlamydomonas Reinhardtii**” under Professor D. Ghanotakis
- ❖ MS Department of Chemistry, Specialization in Biochemistry 9/2016-12/2018
  - Grade: 9.17/10. Top 1% of MS
  - MS Thesis:” **Isolation and Characterization of Natural Products from Photosynthetic Microorganisms**” under Professor D. Ghanotakis
- ❖ Joined Michigan State University, Department of Microbiology and Molecular Genetics 07/2020
  - Overall Grade 4.0

**PROFESSIONAL, RESEARCH AND VOLUNTEERING EXPERIENCE**

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- ❖ Lab & Research Assistant, Biochemistry Laboratory, University of Crete 9/2016- 12/2018
  - Contacted research on photosynthetic microorganisms
  - Maintenance & Renewal of cancer and bacteria cell populations
  - Utilization of NMR (Nuclear Magnetic Resonance), HPLC (High Pressure Liquid Chromatography) and GC (Gas Chromatography) to identify & characterize natural products
  - Use of microscopic assessment (SEM, TEM, Optical) to characterize and identify the physiology of cells
- ❖ Teaching Assistant, Biochemistry Laboratory, University of Crete 1/2016- 12/2018
- ❖ Private Tutoring in Biochemistry, Organic and General Chemistry, Microbiology 1/2017- 12/2018
- ❖ Internship at Fuel Laboratory, Inspectorate, Bureau Veritas, Athens, Greece 6/2013- 12/2013
- ❖ Volunteer and member of Organizing Committee, 17th and 18th Conference 3/2017 & 4/2018
- ❖ Joined Michigan State University, under Professor Daniel Ducat laboratory 3/2021

## **LABORATORY SKILLS**

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- Culture methods for bacteria, tumor cells, microalgae and cyanobacteria
- Centrifuging, Fluorescence Spectroscopy and UV-Vis photometry
- Chromatographic techniques (Affinity chromatography, TLC)
- IR spectroscopy
- Polarography, electrophoresis
- Isolation and characterization of natural products from plants, antimicrobial and antioxidant properties of natural products
- Protein electrophoresis techniques (SDS-PAGE, IEF) and DNA
- Techniques for immobilizing microorganisms in polymer matrices
- Cloning: Gibson
- Transformation of Bacteria/Cyanobacteria

## **GENERAL & PERSONAL SKILLS**

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### ❖ Digital competence

- Certification of competency in computer use, Department of Chemistry, University of Crete
- Specialized software: Origin, Chemdraw
- Very proficient in mathematics and statistics

### ❖ Language skills

- Greek fluent
- English fluent, TOEFL iBT Score 99/120

## **PUBLICATIONS**

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- Nazos, T.T., **Kokarakis, E. J.** & Ghanotakis, D. F. (2017) "**Metabolism of xenobiotics by**

**Chlamydomonas Reinhardtii: "Phenol degradation under conditions affecting photosynthesis"**.

Photosynthesis Research, 131, 31-40. doi: 10.1007/s11120-016-0294-2

- **Kokarakis E.J.** et al (2020), "**Characterization of a novel herbicide and antibiotic-resistant Chlorella sp. with an extensive extracellular matrix**", DOI: 10.1007/s11120-020-00710-5
- **Kokarakis E.J.**, Rees Rillema et al (2022), "**Developing cyanobacterial quorum sensing toolkits: towards interspecies coordination in mixed autotroph/heterotroph communities**", In Metabolic Engineering Journal under review
- **Kokarakis E.J.** et al (2022) "**Structural and physicochemical characterization of an aminosugar-rich exopolysaccharide isolated from a Chlorella sp.**" In Algal research Journal (under review)

## **PARTICIPATION IN CONFERENCES**

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- 7th European Bioremediation & 11th International Society of Environmental Biotechnology Joint Conference, Chania, Greece, June 2018. "**Bioenergetics as a tool to monitor environment restoration - Phenol biodegradation by photosynthetic microalgae**". T. Nazos, **E. Kokarakis**, E. Poloniataki, G.T. Mastrokalos, M. Papavasileiou and D. Ghanotakis
- 19th Postgraduates' Conference on Chemistry, Heraklion, Crete, Greece, May 2-4, 2017. "Biodegradation of phenolic compounds by photosynthetic microalgae- From bioenergetics to environment restoration". T. Nazos, **E. Kokarakis**, E. Poloniataki, G.T. Mastrokallos and D. Ghanotakis
- 14th Workshop on Cyanobacteria June 16-19, 2022 East Lansing, Michigan 2022. "**APPLICATION OF QUORUM SENSING SYSTEM IN SYNECHOCOCCUS ELONGATUS PCC 7942 FOR HARVESTING CELL BIOMASS**". **Emmanuel J. Kokarakis**, Rees Rillema, Jonathan K. Sakkos, Daniel C. Ducat

