
PERSONAL INFORMATION	
Full Name	Charikleia Batsika
Date of Birth	30/09/1995
Address	Mavrokordatou 64, 38221, Volos, Greece
Email Address	cbatsika@uth.gr
LinkedIn	www.linkedin.com/in/chara-batsika-8597891a1
ORCID	https://orcid.org/0000-0003-2709-3641
Google Scholar	https://scholar.google.com/citations?user=Y3HaM4MAAAAJ&hl=en

EDUCATION

09.2020-05.2025

PhD in Organic Chemistry

National and Kapodistrian University of Athens (NKUOA), Department of Chemistry, Laboratory of Organic Chemistry

Thesis Title: "Synthesis of bioactive organic compounds, study of their anticancer activity and determination of fatty acids in foods"

Focused on the development of synthetic methodologies for bioactive organic compounds with potential anticancer activity and the determination of fatty acids in dietary products. Key achievements include the synthesis of a library of FAHFA regioisomers and saturated oxo fatty acids (SOFAs), biological evaluation of SOFAs in human cancer cell lines, and investigation of their effects on gene expression. Developed and applied LC-HRMS methods for the detection of SOFAs in milk, yogurt, and human plasma. Synthesized novel fluoroketone GVIA iPLA₂ inhibitors and studied their role in ferroptosis in colorectal cancer cells. Developed green photochemical protocols for aerobic aldehyde oxidation (sunlight/UVA, no photocatalyst), a cost-efficient 1,4-conjugate (Giese-type) addition via LED irradiation, and a photochemical ATRA reaction using ascorbic acid to generate iodinated boron-containing products. Also introduced a novel radical anti-Markovnikov hydromethylation method for olefins.

10.2018-07.2020

Master of Science in "Organic Synthesis and Applications in the Chemical Industry"

National and Kapodistrian University of Athens (NKUOA), Department of Chemistry, Laboratory of Organic Chemistry
Diploma Grade: Excellent (9.17)

10.2013-02.2018

Bachelor of Science in Chemistry

University of Ioannina (UOI), Department of Chemistry

Diploma Grade: Very Good (6.69)

RESEARCH EXPERIENCE

25.06.2025-28.10.2025

Postdoctoral Researcher

*“National Research Network for Uncovering the Genetic Basis of Neurodegenerative Diseases (Alzheimer’s and Parkinson’s), Biomarker Discovery, and the Development of Innovative Computational Technologies and Therapeutic Strategies in the Context of Precision Medicine”
National and Kapodistrian University of Athens, Department of Chemistry, Laboratory of Organic Chemistry
Supervisor: Prof. George Kokotos
Funded by the National Flagship Action (GSRI – General Secretariat for Research and Innovation, Greece)*

01.2024-07.2024

11.2024-12.2024

Visiting Researcher (PhD research, employed as Laboratory Technician)

*University of Bern (UniBE), Department of Chemistry, Biochemistry and Pharmaceutical Sciences (DCBP), Switzerland
Supervisor: Prof. Philippe Renaud
Jan – Jul 2024 & Nov – Dec 2024*

- Conducted research as part of the SNSF-funded project “Boron Mediated Reactions for the Total Synthesis and the Late Stage Modification of Natural Products” (Grant No. 201092)
- Investigated boron-mediated radical transformations, including hydroalkylation of alkenes and late-stage C–H functionalization using environmentally benign reagents.
- Worked on expanding radical chain reactions from organoboron precursors, particularly air-stable pinacol boronic esters, toward the synthesis of functionalized and polycyclic scaffolds.
- Ongoing experimental work toward a research publication in preparation.

PARTICIPATION IN ACADEMIC RESEARCH PROGRAMS

25.06.2025-30.11.2025

10.09.2025-27.10.2025

National research network for the identification of the genetic basis of the neurodegenerative diseases Alzheimer’s and Parkinson’s, the detection of reliable biomarkers and the development of innovative computational technologies and therapeutic strategies based on precision medicine.

Funding: H.F.R.I. (Hellenic Foundation for Research & Innovation)

*Institution: National and Kapodistrian University of Athens,
Department of Chemistry*

Supervisor: Prof. George Kokotos

Role: Participation as a postdoctoral researcher in the study of bioactive compounds and the development of innovative preclinical therapeutic interventions targeting the early onset of Alzheimer's and Parkinson's neurodegenerative diseases.

01.02.2024-31.07.2024

01.11.2024-31.12.2024

Boron Mediated Reactions for the Total Synthesis and the Late Stage Modification of Natural Products (Grant No. 201092)

University of Bern (UniBe), Department of Chemistry, Biochemistry and Pharmaceutical Sciences (DCBP), Switzerland

Supervisor: Prof. Philippe Renaud

01.02.2022-31.01.2023

Sunlight Irradiation in the Service of Photoorganocatalysis: Innovative and Green Organic Transformations for the Chemical Industry

*Funded by H.F.R.I. (Hellenic Foundation for Research and Innovation)
National and Kapodistrian University of Athens, Department of Chemistry*

Supervisor: Prof. Christoforos Kokotos

Participated as part of my PhD thesis work in the design and application of sustainable visible-light-driven organic transformations. The project aimed at developing green synthetic methodologies with potential industrial applications.

ΔΙΔΑΚΤΙΚΗ ΕΜΠΕΙΡΙΑ

30.10.2025-06.02.2026

Academic Fellow – General Chemistry for Biosciences and Experimental Teaching (Laboratory Courses)

Department of Biochemistry and Biotechnology, University of Thessaly

Employment as an Academic Fellow (Winter Semester, Academic Year 2025–2026)

Teaching Hours per Week: 8

Research/Clinical Work per Week: 12

- Teaching of the course and tutorial sessions.
- Supervision of students' laboratory practicals.
- Grading of assignments.
- Participation in the conduct of examinations.

26.05.2022-30.09.2022

Teaching Fellow – Organic Chemistry

National and Kapodistrian University of Athens (NKUOA),
Department of Chemistry, Laboratory of Organic Chemistry, Spring
Semester 2021-2022

- Awarded a partial fellowship to support undergraduate teaching (80 hours total)
- Assisted in *Organic Chemistry III* laboratory sessions (6th semester, core course)
- Conducted tutorials for small student groups to reinforce theoretical knowledge
- Supervised practical exercises and supported laboratory activities under faculty guidance
- Graded assignments and participated in exam invigilation

PUBLICATIONS

1. "Hydroxy Stearic Acids Suppress Pancreatic Cancer Stemness by Targeting STAT3 Signaling and Mitochondrial Proteome Regulation" Ching-Feng Chiu, Yuan-Kai Qiu, Wei-Yu Kao, Yen-Hao Su, Wan-Yu Wang, Tung-Wei Hsu, Charupong Saegboonmee, Shao-Wen Hung, Olga G. Mountanea, Charikleia S. Batsika, George Kokotos, Shih-Yi Huang, *Food Biosci.*, **2025**, 107255. <https://doi.org/10.1016/j.fbio.2025.107255>
2. "Specificity mechanism of Group VIA calcium-independent phospholipase A₂ toward truncated-oxidized phospholipids and its application for specific inhibitor design", Daiki Hayashi, Charikleia S. Batsika, Asimina Bourboula, Masakazu Shinohara, Kengo Kanamaru, George Kokotos, Edward A. Dennis, *Biochim. Biophys. Acta Mol. Cell Biol. Lipids*, **2025**, 1870, 159655. <https://doi.org/10.1016/j.bbalip.2025.159655>
3. "Visible light-mediated decarboxylative Giese addition utilizing Thioxanthone or Thioxanthone-TfOH complex as the photocatalyst", Charikleia S. Batsika, Naya A. Stini, Christoforos G. Kokotos, *Chem. Eur. J.*, **2025**, 31, e202404483. <https://doi.org/10.1002/chem.202404483>
4. "Construction of a library of fatty acid esters of hydroxy fatty acids" Olga G. Mountanea, Charikleia S. Batsika, Christiana Mantzourani, Christoforos G. Kokotos, George Kokotos, *Molecules*, **2025**, 30, 286. <https://doi.org/10.3390/molecules30020286>
5. "Photochemical synthesis of lactones, cyclopropanes and ATRA products: Revealing the role of sodium ascorbate", Marie Rrapi, Charikleia S. Batsika, Nikolaos F. Nikitas, Nicholas D. C. Tappin, Ierasia Triandafillidi, Philippe Renaud, Christoforos G. Kokotos, *Chem. Eur. J.*, **2024**, 30, e202400253. <https://doi.org/10.1002/chem.202400253>
6. "Visible-light-promoted reaction of *N*-hydroxyphthalimide esters with vinyl boronic pinacol ester", Petros Gkizis, Ierasia Triandafillidi, Naya A. Stini, Charikleia S. Batsika, Christoforos G. Kokotos, *EurJOC*, **2023**, 26, e202300152. <https://doi.org/10.1002/ejoc.202300152>
7. "Light-promoted oxidation of aldehydes to carboxylic acids under aerobic and photocatalyst-free conditions", Charikleia S. Batsika, Charalampos Koutsilieris, Giorgos S. Koutoulogenis, Maroula G.

Kokotou, Christoforos G. Kokotos, George Kokotos, *Green Chemistry*, **2022**, 24, 6224-6231.
<https://doi.org/10.1039/D2GC02074B>

8. "Free fatty acid profiling of Greek yogurt by liquid chromatography-high resolution mass spectrometry (LC-HRMS) analysis", Christiana Mantzourani, Charikleia S. Batsika, Maroula G. Kokotou, George Kokotos, *Food Res. Int.*, **2022**, 160, 111751.
<https://doi.org/10.1016/j.foodres.2022.111751>
9. "Lipidomics Analysis of Free Fatty Acids in Human Plasma of Healthy and Diabetic Subjects by Liquid Chromatography-High Resolution Mass Spectrometry (LC-HRMS)", Maroula G. Kokotou, Christiana Mantzourani, Charikleia S. Batsika, Olga G. Mountanea, Ioanna Eleftheriadou, Ourania Kosta, Nikolaos Tentolouris, George Kokotos, *Biomedicines*, **2022**, 10, 1189.
<https://doi.org/10.3390/biomedicines10051189>
10. "A Unified Mechanism for the PhCOCOOH-mediated Photochemical Reactions: Revisiting its Action and Comparison to Known Photoinitiators", Nikoleta Spiliopoulou, Petros L. Gkizis, Ierasia Triandafillidi, Nikolaos F. Nikitas, Charikleia S. Batsika, Aikaterini Bisticha, Christoforos G. Kokotos, *Chem. Eur. J.*, **2022**, 28, e202200023. <https://doi.org/10.1002/chem.202200023>
11. "Saturated oxo fatty acids (SOFAs): A previously unrecognized class of endogenous bioactive lipids exhibiting a cell growth inhibitory activity", Charikleia S. Batsika, Christiana Mantzourani, Dimitrios Gkikas, Maroula G. Kokotou, Olga G. Mountanea, Christoforos G. Kokotos, Panagiotis K. Politis, George Kokotos, *J. Med. Chem.*, **2021**, 64, 5654-5666.
<https://doi.org/10.1021/acs.jmedchem.0c02058>
12. "Free saturated oxo fatty acids (SOFAs) and ricinoleic acid in milk determined by a liquid chromatography-high-resolution mass spectrometry (LC-HRMS) method", Maroula G. Kokotou, Charikleia S. Batsika, Christiana Mantzourani, George Kokotos, *Metabolites*, **2021**, 11, 46.
<https://doi.org/10.3390/metabo11010046>
13. "The design and discovery of phospholipase A2 inhibitors for the treatment of inflammatory diseases", Charikleia S. Batsika, Anna-Dimitra D. Gerogiannopoulou, Christiana Mantzourani, Sofia Vasilakaki, George Kokotos, *Expert Opin. Drug Discov.*, **2021**, 16, 1287-1305.
<https://doi.org/10.1080/17460441.2021.1942835>

CONFERENCES - ORAL PRESENTATIONS

1. "Photochemical iodine atom transfer radical addition & cyclization for the synthesis of lactones, organoboron derivatives, cyclopropanes and cyclopentanes", Charikleia S. Batsika, Marie Rrapi, Gaetano Geraci, Philippe Renaud, Christoforos Kokotos, 23rdPCC. 23rd Panhellenic Chemistry Conference, 25-28 September 2024, National and Kapodistrian University of Athens Central Building, Athens, Greece.
2. "Green, aerobic, photochemical oxidation of aldehydes to the corresponding carboxylic acids without the use of any photocatalyst", Charikleia S. Batsika, Charalampos Koutsilieris, Giorgos S. Koutouligenis, Maroula G. Kokotou, Christoforos G. Kokotos, George Kokotos, 2nd Conference on Climate Crisis, 10-11 April 2023, Athens, Greece.
3. "Novel photochemical synthetic routes to saturated oxo fatty acids and study of their antiproliferative activity", Charikleia S. Batsika, Christiana Mantzourani, Dimitrios Gkikas, Ierasia

Triandafillidi, Christoforos G. Kokotos, Panagiotis K. Politis, George Kokotos, 19th Hellenic Symposium on Medicinal Chemistry, 9-11 March 2023, Conference and Cultural Center of the University of Patras.

4. *"Aerobic and Photocatalyst-free Oxidation of Aldehydes to Carboxylic Acids Promoted by Light"* Charikleia S. Batsika, Charalampos Koutsilieris, Giorgos S. Koutoulogenis, Maroula G. Kokotou, Christoforos G. Kokotos, George Kokotos, 2nd Athens Summer School on Organic Synthesis 2022, 7-9 July 2022, Athens, Greece.

CONFERENCES - POSTER PRESENTATIONS

1. *"Photochemical synthesis of bioactive lipids: saturated oxo fatty acids (SOFAs) and fatty acid esters of hydroxy fatty acids (FAHFAs)"*, Charikleia S. Batsika, O. G. Mountanea, C. Mantzourani, C. G. Kokotos, George Kokotos, HSMC-20. 20th anniversary Symposium on Medicinal Chemistry, 3-5 April 2025, University of Ioannina, Karolos Papoulias Conference Center, Ioannina, Greece.
2. *"Polyfluoromethyl-ketones as potent inhibitors against GVIA iPLA₂: synthesis & biological activity"*, Charikleia S. Batsika, Asimina Bourboula, Daiki Hayashi, Edward A. Dennis, George Kokotos, 23rdPCC. 23rd Panhellenic Chemistry Conference, 25-28 September 2024, National and Kapodistrian University of Athens Central Building, Athens, Greece.
3. *"A "Green" Photo-induced Aerobic Oxidation of Aldehydes"*, Charikleia S. Batsika, Maroula G. Kokotou, Christoforos G. Kokotos and George Kokotos, ECC9. 9th EuChemS Chemistry Congress, 7-11 July 2024, The Convention Centre Dublin, Dublin, Ireland.
4. *"Photochemical Iodine Atom Transfer Radical Addition & Cyclization for the Synthesis of Organoboron Derivatives, Cyclopropanes and Cyclopentanes"*, Charikleia S. Batsika, Gaetano Geraci, Fabrice Dénès, Christoforos G. Kokotos, Philippe Renaud, Bern-SRC-1. 1st Bern Symposium on Radical Chemistry, 27-28 June 2024, Department of Chemistry, Biochemistry and Pharmaceutical Sciences of the University of Bern., Bern, Switzerland.
5. *"Photochemical Synthesis of Lactones: Revealing the Role of Sodium Ascorbate"*, Charikleia S. Batsika, Marie Rrapi, Ierasia Triandafillidi, Christoforos G. Kokotos, ACC2023. 1st Aristotle Conference on Chemistry, 12-15 November 2023, Aristotle University's Research Dissemination Center (KEDEA), Thessaloniki, Greece.
6. *"Photochemical routes for the synthesis of 4-oxo-alcohols-1 and 4-oxo-amines-1"*, Charikleia S. Batsika, Eugenia M. Papadopoulou, Danai Psathopoulou, Christiana Mantzourani, George Kokotos, 2nd Symposium of Postgraduate Students of the Chemistry Department of the National and Kapodistrian University of Athens, 8-9 June 2023, Athens, Greece.
7. *"Sunlight or UVA-light-induced oxidation of aldehydes to carboxylic acids under aerobic conditions without the use of external photocatalyst"*, Charikleia S. Batsika, Charalampos Koutsilieris, Giorgos S. Koutoulogenis, Maroula G. Kokotou, Christoforos G. Kokotos, George Kokotos, 28th Croatian Meeting of Chemists and Chemical Engineers, 28-31 March 2023, Hotel Lone, Rovinj, Croatia.
8. *"Photochemical synthesis of 1,4-diols and lipidic analogs of busulfan and study of their antiproliferative activity"*, Charikleia S. Batsika, Danai Psathopoulou, Christiana Mantzourani, Dimitrios Gkikas, Ierasia Triandafillidi, Christoforos G. Kokotos, Panagiotis K. Politis, George Kokotos, 19th Hellenic Symposium on Medicinal Chemistry, 9-11 March 2023, Patras, Greece.
9. *"Aerobic and Catalyst-free Oxidation of Aldehydes to Acids Promoted by Sunlight or UVA-light"*, Charikleia S. Batsika, Charalampos Koutsilieris, Giorgos S. Koutoulogenis, Maroula G. Kokotou,

Christoforos G. Kokotos, George Kokotos, 9th IUPAC International Conference on Green Chemistry, 5-9 September 2022, Athens, Greece.

10. *“Thioesters as Type I Photoinitiators: Photophysical, Photochemical and Theoretical Study”*, Aristeia Pavlou, Charikleia Batsika, Michael G. Siskos, Antonios K. Zarkadis, Athens Conference on Advances in Chemistry (ACAC), 30 October-2 November 2018, Athens, Greece.

TRAINING SCHOOLS & SEMINARS

1. GRETEC-“Green Techno School” 6.2.2023-10.2.2023, Graz University of Technology, Austria. This course is based upon work from COST Action, Green Chemical Engineering Network towards upscaling sustainable processes-CA18224-GREENERING, supported by COST (European Cooperation in Science and Technology).
2. Pharmaceutical Chemistry-Research Horizons and Dynamics in Greece, Association of Greek Chemists, 19 March 2022, Patras, Greece, Online.
3. Athens Summer School on Organic Synthesis ASSOS2021 and International Young Investigator Workshop, 25-27 August 2021, Athens, Greece, Online.

LANGUAGES

Greek: Native

English:

- Certificate of Competency in English (ECCE), University of Michigan
- LRN Level 3 Certificate in ESOL International (CEF C2)

French: Sorbonne C1, Université Paris-Sorbonne (Paris IV)