

ACAC
2022

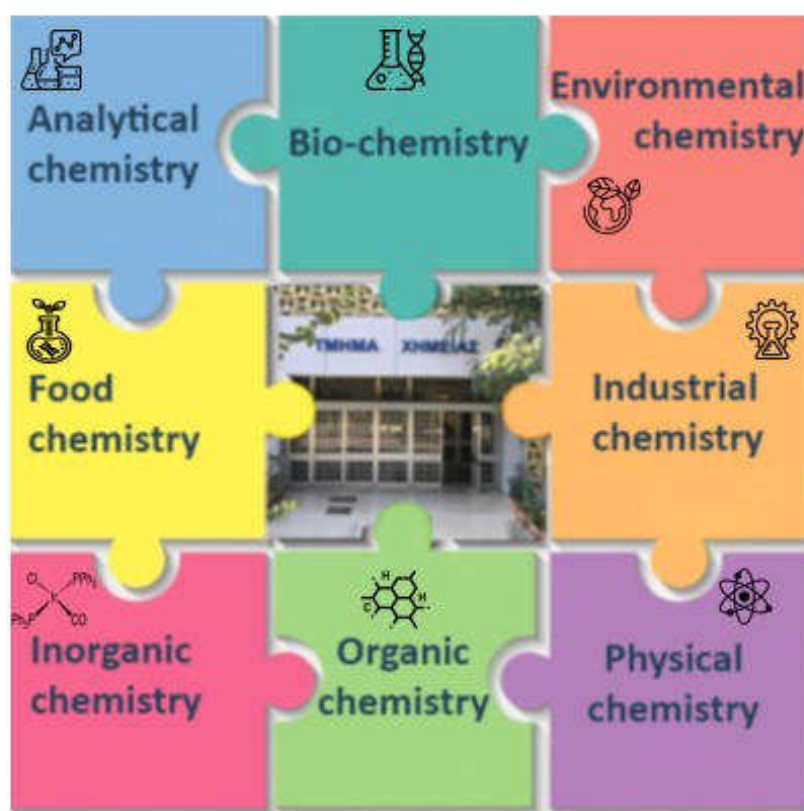
ATHENS CONFERENCE
ON ADVANCES IN CHEMISTRY 2022



HELLENIC REPUBLIC
National and Kapodistrian
University of Athens
EST. 1837
Department of Chemistry

Book of Abstracts

2022
JUNE 26
JULY 1



Organized by
Department of Chemistry

NKUA

Chair
Prof. Christiana Mitsopoulou



ANALYTICAL INSTRUMENTS S.A.
Οδ. Ε.Λ. ΒΑΡΒΑΚΑ - ΕΙΔΕΡΙΣΙΟ ΕΚΠΟΣΕΩΝ



BOUTARI



Dear Colleagues,

On behalf of the scientific and organizing committees, I have the pleasure of inviting you to attend the "Athens Conference on Advances in Chemistry (acac2022)", which will be held during June 26 to July 1, 2022 in Athens, Greece. The conference venue will be the campus of the National and Kapodistrian University of Athens (NKUA).

This conference is the third of a series of International Conferences that were initiated on the occasion of the centennial anniversary of the Department of Chemistry at NKUA since its establishment in 1918.

We hope this conference to be highly active and a forum for exchange of the latest knowledge concerning chemistry and related areas among researchers from all over the world. Chemistry has expanded into many multidisciplinary research areas involving large numbers of chemists, physicists, biologists and medicinal scientists. We know that many chemists, who have studied at our Department, are now in academic or research positions all over the world. It is thus our great pleasure to welcome all of them in Athens among many excellent researchers in all areas of chemistry. We anticipate fruitful discussions on the latest topics during several plenary, keynote, and invited lectures, contributed talks, and poster presentations. In addition, there will be an Early Career Researcher evening event for young researchers. It is our intention to establish an inspiring atmosphere for exchanging innovative ideas and initiating new collaborations.

We think that Athens, one of the world's oldest cities with its recorded history spanning over 3,400 years and its earliest human presence starting somewhere between the 11th and 7th millennium BC, together with the NKUA, the oldest University in modern Greece, is the perfect place for this event to take place.

We are looking forward to welcoming you in Athens.

Prof. Christiana Mitsopoulou
Chair, ACAC-2022
Laboratory of Inorganic Chemistry, Department of Chemistry
National and Kapodistrian University of Athens

Co-Chairs

Assoc. Prof. Margarita Chatzichristidi
Laboratory of Industrial Chemistry, Department of Chemistry
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Assoc. Prof. Thanos Tsekouras
Laboratory of Physical Chemistry, Department of Chemistry
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Prof. Emmanuel A. Theodorakis (University of California San Diego, USA)

Chair

Prof. Christiana Mitsopoulou

Co-chairs

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Assoc. Prof. Victoria Magrioti
Assoc. Prof. Patrina Paraskevopoulou
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Ass. Prof. Evangelia Emmanouilidou
Ass. Prof. Sotirios Karavoltzos
Ass. Prof. Athina Markou

Conference Program Overview

26/6/2022 Sunday	Time	27/6/2022 Monday	time	28/6/2022 Tuesday	time	29/6/2022 Wednesday	time	30/6/2022 Thursday	1/7/2022 Friday
	8.30-9.30	REGISTRATION							
	9.30-9.45	OPENING CEREMONY							
	Session 1a		Session 2a		Session 3a		Session 4a		
	9.45-10.30	G. CHRISTOU	9.30-10.15	A.J.M. MARTINEZ	9.30-10.15	A. RIPAMONTI	9.30-10.15	D.S. ARGYROPOULOS	
REGISTRATION OPENS	10.30-10.45	S.P. PERLEPES	10.15-10.30	M. DASENAKI	10.15-10.30	C. KANAKAKI	10.15-10.30	S. KIKIONIS	Round table of O.C. and M.C.
	10.45-11.00	N. TSOUREAS	10.30-10.45	C. SANTOS SILVA	10.30-10.45	E. KOUKOUVITI	10.30-10.45	I. BARLA	
	11.00-11.15	N. PANAGIOTOU	10.45-11.00	A. LIAPIS	10.45-11.00	I. TEMPONERAS	10.45-11.00	K. MAVRONASOU	
	11.15-11.45	COFFEE BREAK	11.00-11.30	COFFEE BREAK	11.00-11.30	COFFEE BREAK	11.00-11.30	COFFEE BREAK	
	Session 1b		Session 2b		Session 3b		Session 4b		
	11.45-12.00	P. KYRITSIS	11.30-11.45	E. STRATIKOS	11.30-11.45	A. MPAKALI	11.30-11.45	D. TZELI	CLOSING CEREMONY
	12.00-12.15	M. DROSOU	11.45-12.00	A. CHRONI	11.45-12.00	C.P. PASSOS	11.45-12.00	T. DEPASTAS	
	12.15-12.30	M. CHRYSINA	12.00-12.15	P. VELISSARI	12.00-12.15	V. VAKALI	12.00-12.15	E. KAINOYRGIAKIS	
	12.30-12.45	G. ZAHARIOU	12.15-12.30	S. KARAVOLTSOS	12.15-12.30	C. KANAKAKI	12.15-12.30	S. KIRIAKIDI	
	12.45-13.00	B. MAVROIDI	12.30-12.45	T. PARAMANA	12.30-12.45	A. MESSINIS	12.30-12.45	P. KROKIDAS	
13.00-13.15	M. THEODOSIOU	12.45-13.00	G. KATSOURAS	12.45-13.00	W. DUAN	12.45-13.00	E. CHONTZOPOULOU		
	13.15-13.30	S. SERIAH							
Welcome reception	13.30-15.00	LUNCH	13.00-14.30	LUNCH	13.15-14.30	LUNCH	13.15-14.30	LUNCH	
	Session 1c		Session 2c		Session 3c		Session 4c		
	15.00-15.45	P. FALARAS	14.30- 16.00	Flash Presentations	14.30-15.15	S. DURDAGI	14.30-14.45	M. CHATZICHRISTIDI	
	15.45-16.00	V. PSYCHARIS			15.15-15.30	D. GEORGIADIS	14.45-15.00	M. FILIPPIDOU	
	16.00-16.15	A.K. PLESSAS			15:30-15.45	C. KOKOTOS	15.00-15.15	K. TSOUGENI	
	16.15-16.30	C.P. RAPTOPOULOU			15.45-16.00	S. VASSILIOU	15.15-15.30	D. KOURTI	
	16.30-16.45	K.N. PANTELIS	-----		16.00-16.15	V. MAGRIOTI	15.30-15.45	D. KEFALLINO	
	16.45-17.00	A. MAGIAKOS			16.15-16.30	K. PASCHALIDOU	15.45-16.30	Round Table of Young Researchers	
	17.00-17.15	A. ARMENIS							
	17.15-18.30	POSTER SESSION Odd numbers	16:00-16.30	Questions	16.30-18.00	POSTER SESSION Even numbers	16.30-16.45	FLASH AND POSTER AWARDS	
					20.30-	CONFERENCE DINNER			

Flash Presentations			
14.30-14.35	G. P. BAKALI	15:15-15:20	S. LLAMAS-RIZO
14.35-14.40	C. CHAIKALI	15:20-15:25	G. GEORGAKI
14.40-14.45	N. EFTHYMIADIS	15:25-15:30	D. POURDALAS
14.45-14.50	M.-S. NIKOPASCHOU	15:30-15:35	E. SIGALA
14.50-14.55	N. GEORGIU	15:35-15:40	L.THEOFYLAKTOS
14.55-15.00	A. GOMATOS	15:40:15:45	S. A. VALENTE
15.00-15.05	M. ILIOPOULOU	15:45-15:50	L.P. ZORBA
15.05-15.10	E. KAPLANAI	15:50-15:55	N. ZOUPANO
15.10-15.15	I. LIGIELLI	15:55-16:00	D.GIANNOPOULOS

	Plenary lecture, 45 min, including discussion
	Oral, 15min, including discussion
	Flash presentations, 5 min, questions and discussion at the end of all presentations
	Poster Session

**Session 4c is co-organized with Micro - Nano Scientific Society*

Unmanned Surface Vehicles as a complement tool for water quality monitoring of EYDAP's Reservoirs

Georgios Katsouras, Nikolaos Defteraios, Phani Miskaki, Anastasia Kagiara, Eugenia Gialia, Marina Despotidou, Nikos Tsalas, Alekos Dosis, Stylianos Samios, Efthymios Lytras and Giorgos Sachinis

Athens Water and Sewerage Company S.A (E.Y.D.A.P.) – Oropou 156, 11146, Galatsi, Athens, Greece, e-mail: gekats@eydap.gr

Athens Water Supply and Sewerage Company S.A. (EYDAP S.A.) carries out water quality monitoring of four Reservoirs (Yliki, Marathon, Mornos and Evinos), other than the provisions of the Water Framework Directive. In addition to the current monitoring strategy, since 2020, an innovative one is contacted for the first time in Greece; An Unmanned Surface Vehicle (USV) equipped with sensors for chl-a, dissolved oxygen, conductivity, pH, temperature, total nitrogen and phosphorus, operated seasonal (May to September) in all four Reservoirs collected approximately 10,000 data/hour, covering their perimeter for potential sources and pathways of pollution (Katsouras *et al.*, 2021). The data evaluated in real time in the field (via tablet, mobile), through appropriate applications and provided EYDAP with the opportunity to have a more comprehensive picture of the quality of the catchment in real time and take immediate countermeasures if necessary. This study presents a comparison of historical traditional spot sampling data (HD) versus those obtained by using the USV (eg. Lake Yliki; Table 1), proving that their use could support a more thorough monitoring campaign both in space and time considering specific physicochemical parameters.

Table 1: Comparative historical data (HD) of Lake Yliki's physicochemical parameters from the current monitoring Program versus the innovative strategy by Unmanned Surface Vehicle (USV)

Sampling Point	Monitoring Strategy	Chl-a $\mu\text{g/l}$	EC $\mu\text{S/cm}$	pH	o-(PO ₄) mg/l	TN mg/l
9501 Voiotikos Kifisos	HD (2020 - 2021)	0.006 - 0.064	373 - 600	7.8 - 8.7	0 - 0.072	0.5 - 2.6
	USV (2020 - 2021)	2.5 - 5.0	400 - 480	7.6 - 8.3	0 - 0.30	< 1.0
9502 Centre Lake Yliki	HD (2020 - 2021)	0.006 - 0.063	358 - 460	8.0 - 8.8	0 - 0.025	0.5 - 0.9
	USV (2020 - 2021)	2.5 - 7.0	450 - 520	8.0 - 8.5	0 - 0.030	0 - 0.09
9504 Pumping station Mouriki	HD (2020 - 2021)	0.007 - 0.063	392 - 475	7.5 - 8.2	0 - 0.024	0.5 - 1.1
	USV (2020 - 2021)	2.3 - 5.0	350 - 500	7.9 - 8.4	0 - 0.030	0 - 0.09

References:

1. G. Katsouras, M. Chalaris, N. Tsalas, Al. Dosis, St. Samios, Efth. Lytras, K. Papadopoulos and Ant. Synodinou, In Proceedings of the 5th International Conference 'Water Resources and Wetlands', ISSN: 2285-7923, pp. 202-210, (2021)