IMA-2023

Chania, Crete | September 17-20, 2023

13th International Conference on

INSTRUMENTAL METHODS OF ANALYSIS

Modern Trends and Applications

PROGRAM BOOK

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WELCOME

IMA conferences constitute leading events for analytical chemists and researchers dealing with all applications of instrumental methods of chemical analysis. The series started in 1999 by Laboratory of Inorganic and Analytical Chemistry of the National Technical University of Athens by Professor Maria Ochsenkühn- Petropoulou and it has been biannually organized in Greece, becoming a unique medium for scientists from all over the world to discuss the current developments in the field of Analytical Chemistry, to reflect on new progress and look forward future challenges, as well as to meet, network and forge new scientific interactions.

After the last IMA 2021 which was held as a virtual platform due to the COVID-19 pandemic, IMA conference returns in the traditional fully in-person event. In its 13th part, this cutting-edge international research meeting is hosted on the island of Crete, in Chania, one of the most attractive travel destinations in Greece. IMA 2023 is organized by the Laboratory of Inorganic and Analytical Chemistry, School of Chemical Engineering of the National Technical University of Athens and the Laboratory of Analytical and Environmental Chemistry, School of Mineral Resources Engineering of Technical University of Crete.

The scientific program consists of 11 invited and plenary lectures of leading researchers/ world-renowned experts as well as more than 60 oral presentations and more than 75 poster presentations, covering a wide range of scientific disciplines (environment, food, pharmaceuticals, diagnostics, forensics, archaeometry). In order to encourage scientific exchange and friendship building, we also included a rich social program, including a welcome cocktail, a traditional dinner as well as excursions. The venue of IMA 2023 is one of the well-known five stars hotel, the Minoa Palace Resort Hotel, an excellent host for scientific meetings, conferences, workshops, exhibitions, providing state of the art facilities and the latest audiovisual equipment. Besides the scientific aspects of the scientific program of IMA 2023, you will have a chance to appreciate and explore the exquisite Cretan beaches, to wander around the streets of old town of Chania and its Venetian harbour, to admire well-preserved historical monuments, to cross enchanting gorges, to visit picturesque villages and to taste the so-called Cretan cuisine.

We are very grateful to all members of the organizing committee and International Scientific Advisory Board as well as to “Diazoma Conference and Events” office for all their contributions and hard work for the professional organization of IMA 2023 conference. We are also thankful to our sponsors and exhibitor companies for their support of this meeting.

We strongly believe that you will find IMA 2023 conference a brilliant platform to establish international communications in academic research in Analytical Chemistry as well as to discover and enjoy the treasures of Chania.

Welcome to Chania! Welcome to the IMA 2023 conference!

Assist. Prof. Fotios Tsopelas	**Prof. Maria Ochsenkühn- Petropoulou**	**Prof. Nikolaos Kallithrakas- Kontos**
Laboratory of Inorganic and Analytical Chemistry School of Chemical Engineering National Technical University of Athens	Laboratory of Inorganic and Analytical Chemistry School of Chemical Engineering National Technical University of Athens	Laboratory of Analytical and Environmental Chemistry School of Mineral Resources Engineering Technical University of Crete

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SCIENTIFIC INFORMATION

Topics

Some of the general themes to be covered at IMA-2023 include current trends, developments and applications in:

ANALYTICAL METHODS

- Spectrometric techniques- Mass spectrometry
- Chromatographic and electrophoretic techniques
- Speciation analysis
- Electroanalytical Techniques
- Sensors and Biosensors
- Miniaturized analytical systems (Lab-on-a-Chip)
- Field analysis-Mobile analytical instruments
- Micro- and Nano- fluidics- Paper-based devices
- Thermal analysis
- Sample handling and preparation
- Big analytical data- Chemometrics
- Recent developments on industrial analytical instruments

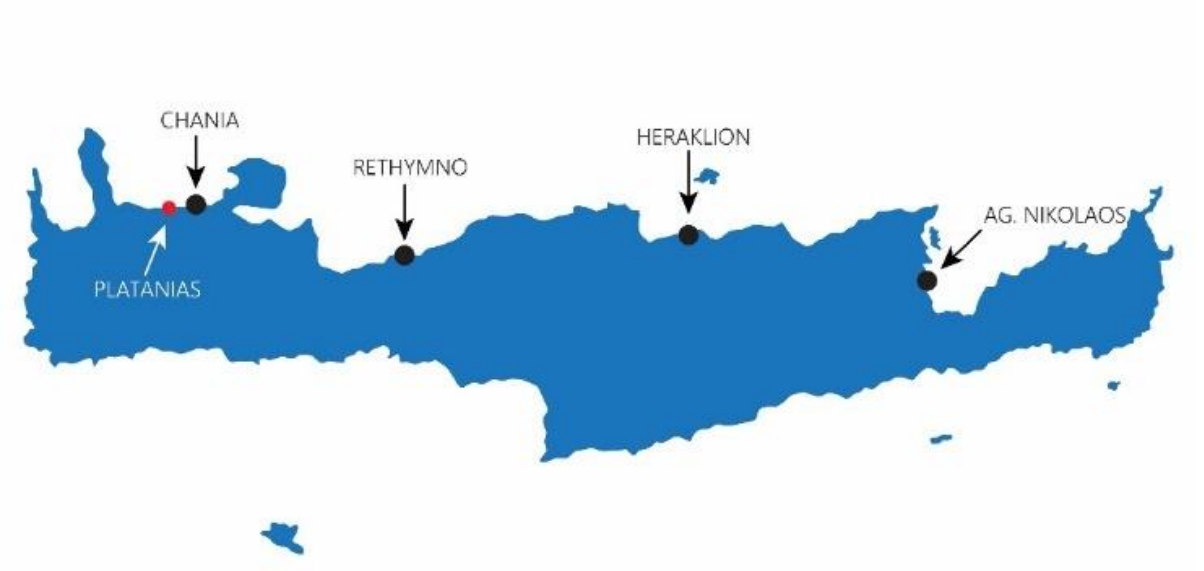
APPLICATIONS

- Environmental Analysis- Ecotoxicology
- Food Analysis
- Pharmaceutical Analysis- Drug Design
- Diagnostics- Point of care systems
- Biomedical and Clinical analysis
- Forensic Science
- Proteomics, Metabolomics, Metallomics
- Archaeometry
- Materials Analysis (e.g. thin layer characterization)
- Quality control-quality assurance in analysis
- Metrology
- Other hot topics (e.g. COVID-19 monitoring)

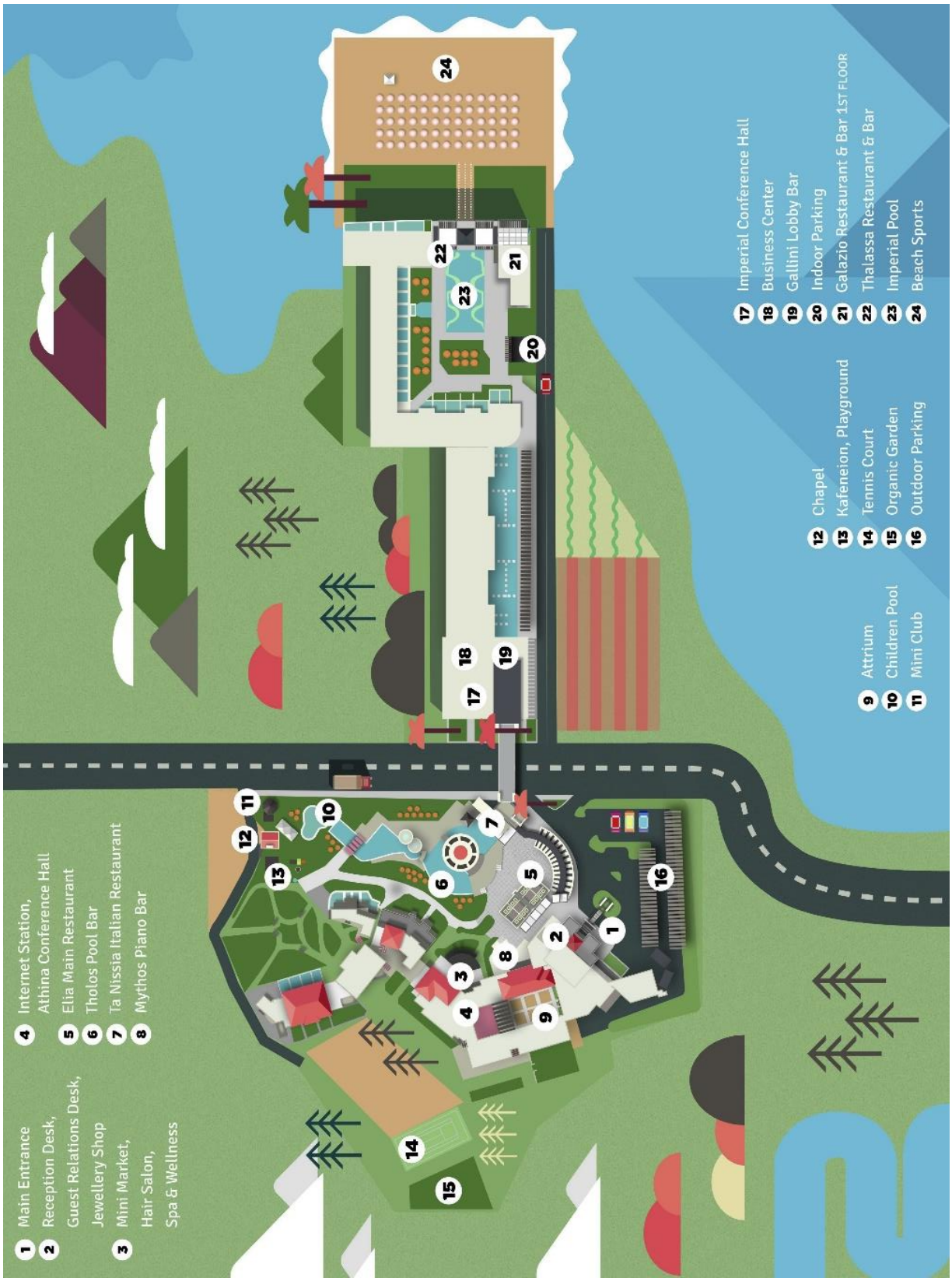
GENERAL INFORMATION

Venue

The conference will be hosted in ***Minoa Palace Resort Hotel***, a luxury 5* beach-side hotel located at the cosmopolitan area of Platanias, 12km west of the picturesque town of Chania and 30min drive from Chania International Airport. Minoa welcomes you to experience the pleasures of indulgence in the most enchanting of settings overlooking the endless azure of the Aegean. The Resort's Congress Hall is a great host for all sorts of corporate events, conferences, workshops & exhibitions, offering flexibility and functionality, as well as state of the art facilities and the latest audiovisual equipment.



Venue map



For more information about the Venue please visit the website: minoapalace.gr

Minoa Palace Resort Hotel
Platanias, Chania, Crete, Greece, 73014 Tel. +30 28210 36500
Email: info@minoapalace.gr

The closest to the conference venue airport is *Chania international airport*. (Please note that Heraklion airport, which is the largest airport in Crete, is more than two hours away from the hotel venue and without any direct and easy or cheap connection with the conference venue.)

How to get to the Venue

Arriving by plane

The **conference venue** is located at **Platanias/Chania, Crete**. During September, Chania is directly connected to several European cities by charter/seasonal flights. Information on destinations can be found in the official website of Chania Airport . Additionally, regular flights from/to Athens International Airport exist daily. You are strongly advised to choose a flight to Chania International Airport. Alternatively, one can land to Heraklion International Airport and reach Chania by bus or car. The driving distance between Heraklion and Chania is 142km.

Arriving by ship

The city of Chania is connected to Piraeus (Athens) daily. The port is in Souda, 7km away from the city center and 21 km away from the Conference Venue (about 20 min driving). You may consult the timetables or book your boat tickets here and here. Information regarding the public bus that connects Souda to Chania city center can be found here.

Bus services

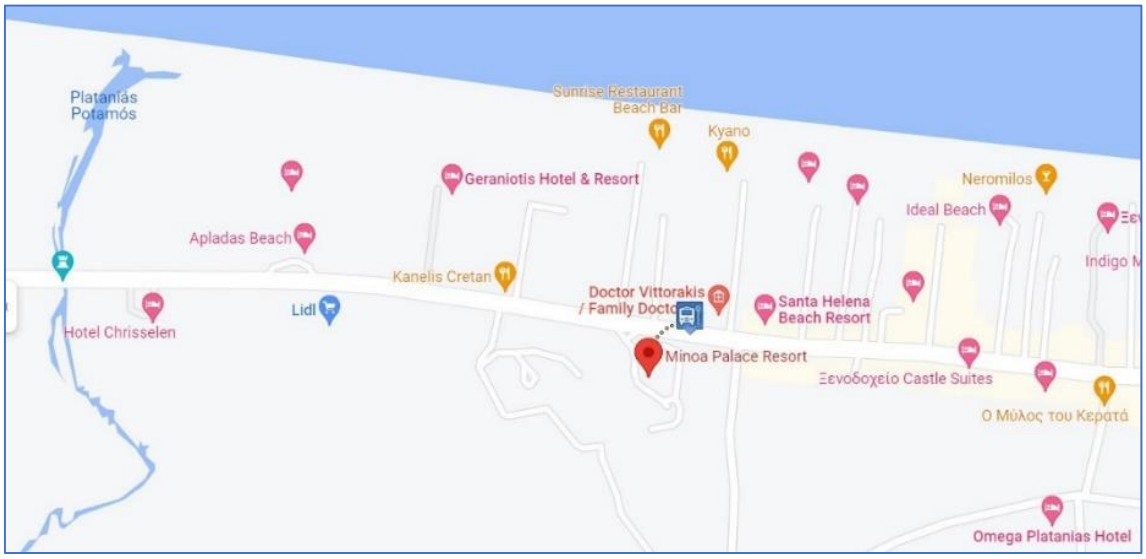
Chania airport → Chania city (Bus station)

Chania airport is located 14km from the city center, and 33.2 km away from the Conference Venue (30-40 min driving). A public bus connects the airport to the city center on a regular basis (line Chania Airport – Chania). The route lasts for 30 minutes approximately, and costs 2.30 €. You may consult the timetables or buy your tickets here

Chania city (Bus station) → Platanias (bus stop MINOA PALACE)

From Chania Bus station there are enough ***routes*** you could get to ***arrive to the Minoa Palace Resort Hotel***. For your convenience we collected here all those routes:

1.**CHANIA-KASTELI**
2.**CHANIA-KOLIMPARI**
3.**CHANIA-PLATANIAS-GERANI**
4.**CHANIA-ZYMVRAGOU**
5.**CHANIA-DELIANA**
6.**CHANIA-RODOPOU**
7.**CHANIA-VOUKOLIES**
8.**CHANIA-PALAIA ROUMATA**
9.**CHANIA-ELAFONISI**
10.**CHANIA-KASTELI-FALASARNA**
11.**CHANIA-PALAIOCHORA**



Taxi services

Moving by taxi is quite common in Crete and prior booking is not required. You may find relevant information and indicative prices in several websites (taxi4crete.gr/taxi-prices-from-chania-airport.html, www.chaniataxi.gr/en/)

The cost of transfer by taxi is approximately the following:

Chania Airport – Chania City Center ~ 25 €

Chania Airport – Conference Venue ~ 48 €

Chania City Center – Conference Venue ~ 20 €

Crete

Crete is the largest island in Greece and the fifth largest in the Mediterranean. It is endowed with an exquisite 1,000-kilometer-long coastline dotted with numerous coves, bays and peninsulas, which afford a multitude of soft, sandy beaches along the infinite blue of the Mediterranean Sea. The island is proud for its longstanding history, spanning from the Minoan civilization (3000 B.C.) until today. Crete welcomes you with its smiling Cretan sun, the sounds of the Cretan lyre, the scents of orange blossom and jasmine, a slice of cool red watermelon and a glass of iced "raki".

Some important archaeological sites of Crete:

The Palace of Knossos

According to tradition, it was the seat of King Minos and the capital of his state. The palace of Knossos is associated with the exciting myths "the Labyrinth and the Minotaur" and "Daedalus and Icarus". References to Knossos, its palace and Minos are made by Homer (the list of ships in Ilias mentions that Crete sent 80 ship under the command of the King of Knossos, Idomeneus, the Odyssey, T 178-9), Thucydides (reference to Minos), Isiodus and Herodotus, Bacchylides and Pindarus, Plutarchus and Diodorus the Sicilian. The city flourished in the Minoan Times (2000 – 1350 B.C.), when it was the most important and populated centre of Crete. It also played an important role and was particularly prosperous in later periods, like the Hellenistic Times. The city of Knossos was constantly populated from the end of the 7th millennium to the Roman Times. In the Neolithic Times there was a stage of technologically developed agricultural life (stone tools and weaving weights). The residents turned from food-collectors into producers (farmers and shepherds) and a there was a trend towards more systematic and permanent settlement. The settlement periods in Knossos succeeded each other and the population of the settlement at the end of the Late Neolithic Period is estimated at 1.000 – 2.000 residents.

The Palace of Phaistos

Phaistos is built on a low hill (altitude of about 100m from sea level), in the south of river Geropotamos (ancient river Lithaios), and dominates the fertile valley of Kato Mesara, which is surrounded by imposing mountains (Psiloritis, Asterousia, Lasithi Mountains). The Libyan Sea extends in the south. Lithaios surrounds the hill of Phaistos in the east and the north and was a source of water supply for the city. The mild and warm climate of the area made the life of its residents comfortable and pleasant. Phaistos was one of the most important centres of the Minoan civilization, and the most wealthy and powerful city of southern Crete. It is mentioned in the texts of ancient writers (Diodorus, Stravon, Pausanius) and Homer. It is one of the three important cities founded in Crete by Minos. According to mythology, the dynasty of Rodamanthus, the son of Zeus and brother of Minos, reigned in it. Homer refers to its participation in the Trojan War and describes it as a "well populated" city. The period of prosperity in Phaistos began with the coming of the Bronze Age in Crete in the middle of the 3rd millennium B.C., when the foundations of the Minoan civilization were laid. Habitation in

Phaistos started in the Neolithic period, as revealed by the foundations of Neolithic houses, tools, statuettes and potsherds discovered under the palace during the excavations. The Neolithic settlement is believed to have covered the top of the hill and its southwestern slope. In the middle of the 3rd millennium B.C. the use of metals began, which favoured the development of the city.

The main cities of Crete

The major cities of Crete (Chania, Rethymno, Heraklion, Agios Nikolaos) were once strategically placed on specific coastal locations of the island to defend against invaders. With a history that starts in prehistoric times and harbours that have always connected the island with other ports of the Mediterranean, the Cretan cities today are modern urban centres that have kept the historical identity of the island alive after countless conquerors have called it their own. In the Middle Ages, the island of Crete passed from the Byzantines to the Arabs, back to the Byzantines and then to Venetians; each one introducing different architectural and cultural elements. Every summer, Crete welcomes thousands of visitors that wish to explore the cities, charming harbours and cultural attractions that seem to be present on every corner.

Chania

In Chania city center one can enjoy the picturesque old harbour, walk around the old town alleys, and enjoy delicious local food in the numerous small restaurants.

Also, there are plenty of option for excursions to Chania region. You could enjoy exotic beaches, like the beach of Balos, which is ranked 35th among the 100 World's best beaches. The Falassarna beach and the Elafonisi peninsula also attract millions of sea-lovers each year.

Less than 1 hour driving from Chania is the famous Samaria gorge, which is the second touristic attraction of Crete (after Knossos Minoan Palace). There are busses every day that can take you from Chania to Samaria gorge.

Discover Crete through the following websites:

incrediblecrete.gr/en/
cretanbeaches.com/en/
youtube.com/watch

SOCIAL EVENTS
(Thursday 21st of September 2023)

Tour to Rethymnon and the Monastery of Arkadi (all day tour)

This tour starts from the Conference Venue Minoa Palace Hotel. At first a visit to the historic Monastery of Arkadi, built in 1587, which is located 23 km east from Rethymno and 80 km east of Chania. Following Arkadi, we will visit the town of Rethymno and enjoy a walk on the picturesque Port, the Venetian Fortress and the narrow winding streets of the old town, which reveal the city's turbulent history. We will be back at the Venue in the evening.

The excursion per person fee of 40.00 euros includes transfers to/from Arkadi Historic Monastery and Rethymno Town with luxury a/c coach, one professional official English-speaking guide per coach and the entrance fee at the monastery and its museum.

Hiking in Imbros Gorge and to Frangokastelo (all day tour)

We depart from the Conference Venue Minoa Palace Hotel. Imbros Gorge is located in the province of Sfakia, south of Chania, and is the third most visited gorge in Crete. It belongs to the E4 European hiking path. The scenery is beautiful, and the low difficulty makes the descent of Imbros ideal for non-experienced hikers. The length of the gorge is 11 km and the course lasts 2-3 hours. After a break to Komitades, the village at the end of the gorge, we will visit Frangokastello, one of the most famous beaches of West Crete, due to the historical Venetian castle on the beautiful beach and the legend of Drosoulites ghosts. It is located 13km east of Hora Sfakion, 80km southeast of Chania, in a small valley south of the White Mountains massif. The main beach of Frangokastelo is truly magnificent, with sand and shallow turquoise waters, ideal for children and families. It is well organized and is quite busy in peak summer months. We will be back at the Venue in the evening.

Light clothing and good walking shoes are important.

The excursion per person fee of 35.00 euros includes transfers to/from Imbros Gorge and Frangokastelo with luxury a/c coach, one professional English-speaking escort per coach and the entrance fee for the gorge.

Visit to the Cave of Agia Sofia and swimming at Elafonissi (all day tour)

We depart from the Conference Venue Minoa Palace Hotel. The Cave is located 47km southwest of Chania, on the western walls of the gorge Topolia, near the main road to Elafonisi. On the left of the cave entrance, there is the small church dedicated to Agia Sophia (Wisdom of God). The entrance of the cave has a width of 25m, while the height reaches 20m in many points, being really huge. The cave has two rooms with different heights, the surface of which is full of stalagmites. The cave was a very important place of worship in the ancient times. In the cave, a clay figurine dating from the 4th century BC has been found. Moreover, Neolithic, Early Minoan, Late Minoan, Classical, Hellenistic and Roman pottery traces have been found. Elafonisi is located 76km west of Chania and 5km south of Chrysoskalitisa Monastery, in the south westernmost tip of Crete. Elafonisi is an oblong peninsula, which often breaks in two parts by water giving the impression of being a separate island. It is a Natura 2000 protected area. The endangered loggerhead sea turtle and several rarer animals and plants find shelter on the island; it is strictly forbidden to remove any plants, animals, shells and sand from the area. The excursion per person fee of 35.00 euros includes transfers with luxury a/c coach and one professional English-speaking escort per coach.

USEFUL CONTACTS

Minoa Palace (VENUE)	0030-2821036500
Chania Bus Station	0030-2821093052
Taxi Chania	0030-2821098700
General Hospital Chania	0030-2821342000
Medical Center- Vittorakis Polyclinic	0030-2821060606
1st Fire Department of Chania	0030-2821079340, 0030-2821063688
Chania Police Station	0030-2821025854

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13th International Conference on Instrumental Methods of Analysis: Modern Trends and Applications

www.ima2023.gr

Chania, Crete, Greece, 17-20/09/2023

PROGRAM TABLE

Sunday 17th of September 2023

16:00-17:30	*Imperial Hall Foyer* **Registration**
17:30-18:30	*Imperial Hall Room 1* **Opening Ceremony** (Chairs: F. Tsopelas, M. Ochsenkuehn, N. Kallithrakas)
18:30-19:10	*Imperial Hall Room 1* **Honorary Speaker – Oral Presentation** **G. Hieftje** *Professor, Indiana University* Advanced Spectroscopic Techniques: Origins and Future (Chairs: F. Tsopelas, M. Ochsenkuehn, N. Kallithrakas)
19:10-19:40	*Imperial Hall Room 1* **Invited Oral Presentation 1** **H. Frank** *Prof. Dr., University Bayreuth* Are per- and polyfluoroalkyl substances (PFAS) eternal? (Chairs: F. Tsopelas, M. Ochsenkuehn, N. Kallithrakas)
19:40-20:10	*Imperial Hall Room 1* **Invited Oral Presentation 2** **N. Thomaidis** *Professor, National and Kapodistrian University of Athens* Wastewater surveillance for public health using advanced analytical approaches (Chairs: F. Tsopelas, M. Ochsenkuehn, N. Kallithrakas)
20:30	*Thalassa Restaurant* **Welcome Reception**

Monday 18th of September 2023

09:00-09:30	*Imperial Hall Room 1* **Invited Oral Presentation 3** **S. Pissadakis** *Dr., Foundation for Research and Technology Hellas* Optical fiber chemosensors for trace detection in the gas and liquid phase (Chair: N. Kallithrakas)
09:30-10:45	*Imperial Hall Room 1* **Sensors and Biosensors** *(Various applications except life sciences)* (Chairs: S. Pissadakis, N. Kallithrakas) **OP 1: Dipstick coated with polystyrene-silica core-shell particles for the detection of microbiological fuel contamination** J. Bell, E. Climent, R. Gotor, C. Tobias, P.M. Martin-Sanchez and K. Rurack *Bundesanstalt für Materialforschung und prüfung (BAM)* **OP 2: Fluorescence detection of perfluoroalkyl carboxylic acids with a miniaturised assay** Y. Sun, V. Pérez-Padilla, V. Valderrey, J. Bell, K. Gawlitza and K. Rurack *Bundesanstalt für Materialforschung und prüfung (BAM)* **OP 3: Fabrication of graphene-based Inkjet printed subzero temperature sensor for cold storage monitoring** S. Soni, P. Sathe and D. Gupta *Department of Metallurgical Engineering and Materials Science, Indian Institute of Technology* **OP 4: A home-made 3D printer-based dispensing system for the construction of lateral flow biosensors** P. M. Kalligosfyri[1], S. S. Tragoulias[1], P. Tsikas[1], E. Lamprou[1], T. K. Christopoulos[1,2] and D. P. Kalogianni[1] *[1] Analytical/Bioanalytical Chemistry & Nanotechnology Group, Department of Chemistry, University of Patras* *[2] Institute of Chemical Engineering Sciences, Foundation for Research and Technology Hellas (FORTH/ICE)* **OP 5: Dipstick-type DNA sensing devices for rapid identification of olive oil cultivar origin** N-M. Christopoulou[1], E. Figgou[2], P. Kalaitzis[2], D. P. Kalogianni[1] and T. K. Christopoulos[1,3] *[1] Analytical/Bioanalytical Chemistry & Nanotechnology Group, Department of Chemistry, University of Patras* *[2] Department of Horticultural Genetics and Biotechnology, Mediterranean Agronomic Institute, Chania* *[3] Institute of Chemical Engineering Sciences, Foundation for Research and Technology Hellas*
10:45-11:15	**Coffee Break**
11:15-11:45	*Imperial Hall Room 1* **Invited Oral Presentation 4** **A. Escarpa** *Professor, University of Alcala* On-the-fly aptassays for neonatal sepsis diagnosis (Chair: M. Prodromidis)

11:45-12:15	*Imperial Hall Room 1* **Invited Oral Presentation 5** **M. Prodromidis** *Professor, University of Ioannina* Wax screen-printed fabric-based colorimetric microfluidic wearable (bio)sensors for the determination of biomarkers in sweat (Chair: A. Escarpa)
12:15-13:15	*Imperial Hall Room 1* **Sensors and Biosensors: Life Sciences/ Point of care systems** (Chairs: M. Prodromidis, A. Escarpa) **OP 6: Atrazine microfluidic biphasic colorimetric sensor based on barbiturate derivatives microcrystals dislocation** H. L. Nguyen[1], Ch. Rémy[1], S. Le Luyer[1], J. P. Lefévre[1,2], C. Allain[1], I. Leray[1] and C. Mongin[1] *[1] Université Paris-Saclay, ENS Paris-Saclay, CNRS, PPSM* *[2] Conservatoire National des Arts et Métiers* **OP 7: Detection of microRNAs in urine samples by a visual lateral flow assay** E. Lamprou[1], M. Sotiriou[1], P. M. Kalligosfyri[1], D. P. Kalogianni[1] and T. K. Christopoulos[1,2] *[1] Analytical/Bioanalytical Chemistry & Nanotechnology Group, Department of Chemistry, University of Patras* *[2] Institute of Chemical Engineering Sciences, Foundation for Research and Technology Hellas (FORTH/ICE)* **OP 8: A molecular rapid test for SARS-CoV-2 quantitative detection** P. Maglaras[1], I. Lilis[2,3], F. Paliogianni[3] , V. Bravou[4] and D. P. Kalogianni[1] *[1] Analytical/Bioanalytical Chemistry & Nanotechnology Group, Department of Chemistry, University of Patras* *[2] Department of Physiology, Faculty of Medicine, University of Patras* *[3] Department of Microbiology, Medical School, University of Patras* *[4] Department of Anatomy-Histology-Embryology, Medical School, University of Patras* **OP 9: Multifold improvement of the detectability of lateral flow immunoassays via macromolecular crowding** N-M. Christopoulou, D. P. Kalogianni and T. K. Christopoulos *Analytical/Bioanalytical Chemistry & Nanotechnology Group, Department of Chemistry, University of Patras*
13:30-14:30	**Lunch**
14:30-15:30	*Imperial Hall Room 3* **Poster Session 1** *(See pages 27-32)*
15:30-16:00	*Imperial Hall Room 1* **Invited Oral Presentation 6** **K. Valko** *Professor, Bio-Mimetic Chromatography Ltd* Biomimetic HPLC Measurements of Physicochemical Properties of Compounds to Predict in vivo Distribution and Toxicity (Chair: F. Tsopelas)

16:00-17:30 — *Imperial Hall Room 1*

Chromatography: Applications to life sciences and toxicology

(Chairs: K. Valko, F. Tsopelas)

OP 10: UHPLC-FLD/PDA/MS/MS determination of new blood and urinary prognostic biomarkers in hospitalized patients with delta and omicron variant SARS-CoV-2 infection

L. Kujovská Krčmová[1,2], K. Matoušová[1], P. Šmahel[3], M. Skála[4], M. Gančarčíková[1] and B. Melichar[5]

[1] *Department of Clinical Biochemistry and Diagnostics, University Hospital Hradec Králové*
[2] *Department of Analytical Chemistry, Faculty of Pharmacy in Hradec Kralove*
[3] *Department of Infectious Diseases University Hospital Hradec Králové*
[4] *Pulmonary Department, University Hospital Hradec Králové*
[5] *Department of Oncology, Palacký University, Faculty of Medicine and Dentistry*

OP 11: Quantifying 1000 protein groups per minute of gradient using data-independent acquisition (DIA) on a hybrid quadrupole time-of-flight system

G. Eagle[1] , D. Merkel[3] , N. Morrice[1], I. Batruch[2] and P. Pribil[2]

[1] *SCIEX UK*
[2] *SCIEX Canada*
[3] *SCIEX Germany*

OP 12: CE-ICP-MS/MS in a duty of the changes examination of liposomal cisplatin delivery systems

M. Matczuk, A. Wróblewska and J. Samsonowicz-Górski

Chair of Analytical Chemistry, Faculty of Chemistry, Warsaw University of Technology

OP 13: Chiral Discrimination in Capillary Electrophoresis: Explore the Potential of Deep Eutectic Solvents and Amino Acid-Based Ionic Liquids

K. A. Ioannou[1], G. D. Ioannou[1], A. Christou[1], I. J. Stavrou[2], M. G. Schmid[3] and C. P. Kapnissi-Christodoulou[1]

[1] *Department of Chemistry, University of Cyprus*
[2] *Department of Life Sciences, European University Cyprus*
[3] *Department of Pharmaceutical Chemistry, Institute of Pharmaceutical Sciences, University of Graz*

OP 14: Determination of cannabinoids in human cerumen by use of UPLC-MS/MS as a potential biomarker for drug use

M. C. Christodoulou[1], M. S. Constantinou[2] , A. P. Louppis[2] , A. Christou[1] , I. J. Stavrou[3] and C. P. Kapnissi-Christodoulou[1]

[1] *Department of Chemistry, University of Cyprus*
[2] *Analytical Department, MC Analysis Centre LTD*
[3] *Department of Life Sciences, European University Cyprus*

OP 15: Predicting the acute aquatic toxicity of UV-filter compounds used in cosmetic formulations

C. Stergiopoulos[1], K. Valko[2] , F. Tsopelas[1] and M. Ochsenkühn-Petropoulou[1]

[1] *Laboratory of Inorganic and Analytical Chemistry, School of Chemical Engineering, National Technical University of Athens*
[2] *Biomimetic Chromatography Ltd, Stevenage, Hertfordshire*

OP 16: Beyond Conventional Limits: Unlocking Varied Applications with an Innovative LCMS Ionisation Source"

J. Bucek[1], J.-C. Wolf[1], M. Weber[1] and C. Conway[1]

[1] *Plasmion GmbH, Germany*

17:45-18:15	**Coffee Break**
18:15-19:00	*Imperial Hall Room 1* **Electroanalytical techniques** (Chairs: T.K. Christopoulos, D. Kalogianni) **OP 17: From a screen-printed electrode to an industrial sensor for on-site measurement of Co and Ni** C. Parat, E. Ricard, S. Le Faucheur and I. Le Hécho *CNRS / Univ Pau & Pays Adour / E2S UPPA, IPREM, UMR5254* **OP 18: What is the most appropriate electrochemical sensor for on-site pesticide analysis?** E. Ricard, D. Bégué, W. Lafargue-Dit-Hauret and C. Parat *CNRS / Univ Pau & Pays Adour / E2S UPPA, Institut des sciences analytiques pour l'environnement et les matériaux, UMR5254* **OP 19: A highly sensitive sensor for glyphosate detection based on the modification of a screen-printed carbon electrode by gold microstructures coated with a nanometric layer of polypyrrole** Q. Palas, E. Ricard, C. Parat, C. Lartigau-Dagron and L. Ronga *CNRS / Univ Pau & Pays Adour / E2S UPPA, IPREM, UMR5254*
19:00-20:00	*Imperial Hall Room 3* **Poster Session 1** *(See pages 27-32)*

Tuesday 19th of September 2023

09:00-09:30	*Imperial Hall Room 1* **Invited Oral Presentation 7** **R. Lobinski** *Professor, IPREM CNRS* Emerging facets of mass spectrometry for elemental speciation (Chair: M. Ochsenkuehn)
09:30-10:00	*Imperial Hall Room 1* **Speciation Analysis (Part I)** (Chairs: R. Lobinski, M. Ochsenkuehn) **OP 20: Mercury speciation in solid matter using thermal release in combination with electrothermal atomic absorption spectrometry** O. Shuvaeva, I. Bekesha and D. Troitskii *Nikolaev Institute of Inorganic Chemistry, Siberian Branch of Russian Academy of Sciences* **OP 21: Fish tissue multielement metallobiomolecule profiling method and its application to four commercially important fish species** G. Panagou[1], I. Kalantzi[2], M. Tsapakis[2] and S. A. Pergantis[1] *[1] Department of Chemistry, University of Crete* *[2] Institute of Oceanography, Hellenic Centre for Marine Research*
10:00-10:30	**Coffee Break**
10:30-11:30	*Imperial Hall Room 1* **Speciation Analysis (Part II)** (Chairs: R. Lobinski, M. Ochsenkuehn) **OP 22: Development of a dedicated microsystem coupled to ICP-MS/MS for the selective capture and on-line quantification of uranium-target biomolecules** M. Garcia-Cortes[1], C. Vidaud[2], M. Araya-Farias[3], T. Tran[3] and C. Bresson[1] *[1] Université Paris-Saclay, CEA, Service de Physico-Chimie* *[2] Institut de Biosciences et Biotechnologies d'Aix-Marseille, BIAM, CEA-Marcoule* *[3] Université Paris-Saclay, CNRS, Institut Galien Paris Saclay* **OP 23: Detailed Arsenolipid Determination in BCR Reference Material using HPLC with high-resolution mass spectrometry and ICP-MS** M. Kapsi[1], K. Marmatakis[2], I. Kalantzi[1], M. Tsapakis[1] and S. Pergantis[2] *[1] Institute of Oceanography, Hellenic Centre for Marine Research (HCMR* *[2] Environmental Chemical Processes Laboratory, Department of Chemistry, University of Crete* **OP 24: Novel interference removal strategies using Multi-Quadrupole ICP-MS/MS** H. Ernstberger[1], K. A. Jensen[2], E. Pruszkowski[3] and M. Petrich[4] *[1] PerkinElmer Italy* *[2] Faculty of Environmental Sciences and Natural Resource Management, Norwegian University of Life Sciences* *[3] PerkinElmer United States* *[4] PerkinElmer Germany*

	OP 25: 3 ways to improve your daily lab routine with molecular spectroscopy — from QA/QC to advanced microscopy M. Ries *Thermo Scientific*
11:30-14:45	**Excursion to the city of Chania (Light lunch basket)**
14:45-15:45	*Imperial Hall Room 3* **Poster Session 2** *(See pages 32-36)*
15:45-16:30	*Imperial Hall Room 1* **Associations** (Chairs: Les Ebdon/M. Ochsenkuehn) **OP 26: EXSA: the European X-ray Spectrometry Association** D. Eichert[1,2] on behalf of EXSA Executive Committee[2] *[1] ELETTRA – Sincrotrone Trieste* *[2] Konkoly-Thege M.* **OP 27: The role of the European Association of Professors Emeriti (EAPE)** Sir Les Ebdon *University of Bedfordshire* **OP 28: Why a EuChemS Working Party "Ethics in Chemistry"?** H. Frank *University Bayreuth*
16:30-17:00	*Imperial Hall Room 1* **Invited Oral Presentation 8** **B. Beckhoff** *Dr., Physikalisch-Technische Bundesanstalt* Quantitative Characterisation of Nano- and Microscaled Materials by X-ray Spectrometry (Chair: D. Eichert)
17:00-17:30	**Coffee Break**
17:30-18:45	*Imperial Hall Room 1* **Advanced X-Ray techniques** (Chairs: B. Beckhoff, D. Eichert) **OP 29: XRF under grazing incidence investigations of potential calibration samples for the quantification of heavy elements in particulate matter** L. Borgese[1], P. Cirelli[1], T. Hase[2], and D. Eichert[3] *[1] INSTM - Chemistry for Technologies Laboratory, University of Brescia* *[2] University of Warwick, Department of Physics* *[3] ELETTRA – Sincrotrone Trieste* **OP 30: Laboratory scanning-free GEXRF for the investigation of 2D nanostructures** S. Staeck[1], J. Baumann[1], P. Hönicke[2], K. Andrle[2], Y. Kayser[2], V. Soltwisch[2], N. Wauschkuhn[2], D. Grötzsch[1], J. Weser[2], F. Spikermann[1], G. Goetzke[4], A. Jonas[2], F. Förste[1], I. Mantouvalou[3], H. Stiel[5] and B. Kanngießer[1] *[1] Technical University of Berlin* *[2] Physikalisch-Technische Bundesanstalt* *[3] Helmholtz-Zentrum Berlin*

	[4] *Deutsches Elektronen-Synchrotron DESY* [5] *Max Born Institute* **OP 31: Characterization and calibration of a Bruker S4 T-STAR instrument for virtually standard-less quantitative analysis of aerosol depositions** P.Hönicke[1], B. Beckhoff[1], M. Gottschalk[2], Y. Kayser[1] and S. Seeger[2] [1] *Physikalisch-Technische Bundesanstalt* [2] *Bundesanstalt für Materialforschung und -prüfung* **OP 32: Zinc diffusion in dentine: Investigating elemental gradients and chemical changes at the interface with dental restorations** O. Marushchenko[1,2], F. Lizzi[2], L. J. Bauer[3], H. Elfarraj[2], P. Zaslansky[2] and I. Mantouvalou[1] [1] *Helmholtz-Zentrum Berlin for Materials and Energy* [2] *Dept. of Operative, Preventive and Pediatric Dentistry, Charité – Universitätsmedizin* [3] *Institute for Optics and Atomic Physics, Technical University of Berlin* **OP 33: XRD has changed: Advancing Instrumental Methods of Analysis with Groundbreaking XRD Technology** M. Ziagkos *Analytical Instruments SA*
18:45-19:45	*Imperial Hall Room 3* **Poster Session 2** *(See pages 32-36)*
20:45- 23:00	**Gala dinner**

Wednesday 20th of September 2023

09:00-09:30	*Imperial Hall Room 1* **Invited Oral Presentation 9** **G. Theodoridis** *Professor, Aristotle University Thessaloniki* FoodOmicsGR_RI: Greek National Research Infrastructure for the Comprehensive Characterisation of Foods (Chair: N. Thomaidis)
09:30-10:45	**Parallel sessions**
	Imperial Hall Room 1 **Food Analysis (FoodOmics)** (Chairs: G. Theodoridis, N. Thomaidis, D. Hela) **OP 34: Rapid microbore lipidomic profiling method for the analysis of extra virgin olive oils from different Mediterranean countries by RPLC-TOF/MS. Application of cyclic ion mobility for the isolation of lipid isomers** A. Lioupi[1,2], N. Munjoma[3], T. Liapikos[1,2], L. Gethings[3] and G. Theodoridis[1,2] *[1] Laboratory of Analytical Chemistry, School of Chemistry, Aristotle University of Thessaloniki* *[2] FoodOmicsGR Research Infrastructure, AUTh Node, Center for Interdisciplinary Research and Innovation (CIRI-AUTH* *[3] Operations, Waters Corporation UK* **OP 35: Metabolomics solutions in monitoring nutrition and wellness** O. Begou[1,2,3], G. Theodoridis[1,2] and H. Gika[2,4] *[1] Department of Chemistry, Aristotle University of Thessaloniki* *[2] Biomic Auth, Bioanalysis and Omics Lab, Centre for Interdisciplinary Research of Aristotle University of Thessaloniki* *[3] ThetaBiomarkers, Center for Interdisciplinary Research and Innovation (CIRI-AUTH* *[4] Laboratory of Forensic Medicine and Toxicology, Department of Medicine, Aristotle University of Thessaloniki* **OP 36: Elemental metabolomics – Tagging Wheat Sprouts with Rare Earths Elements** L. Papalamprou[1,2], A. Palyvos[1], D.G. Sotirchos[1,2] and C.A. Georgiou[1,2] *[1] Chemistry Laboratory, Department of Food Science and Human Nutrition, Agricultural University of Athens* *[2] FoodOmics.GR Research Infrastructure* **OP 37: Analysis of pyrrolizidine alcaloids in food** G. Miliadis, C. Kroi and G. Siragakis *TUV Austria Food Allergens Labs* **OP 38: Residues of pesticides in the food chain: Are bee products endangered or safe to consumers?** A. Fuente-Ballesteros, J. Bernal and A. M. Ares *Analytical Chemistry Group (TESEA), I. U. CINQUIMA, Faculty of Sciences, University of Valladolid*
	Imperial Hall Room 2 **Materials** (Chairs: I. Gerothanassis, L.A. Tsakanika) **OP 39: Thermal analysis of crystalline diblock copolymers by DSC** S. Bistac, M. Brogly and D. Bindel *Université de Haute Alsace – LPIM*

	OP 40: Development of a hybrid portable instrument for assessing the surface state and degradation of monuments: combining LED-Induced Fluorescence, LIBS and Diffuse Reflectance V. Pinon[1], A. Giakoumaki[1], M. Andrianakis[1], K. Hatzigiannakis[1], K. Melessanaki[1], M. Pavlou[2], S. Korosis[2], P. Pouli[1] and D. Anglos[1,3] *[1] Institute of Electronic Structure and Laser, Foundation for Research and Technology* *[2] Ephorate of Antiquities of the City of Athens* *[3] University of Crete, Department of Chemistry* **OP 41: Exploring the Impact of Storage Temperature on PbO and Pb3O4. Aging Characterization with XRD, ATR - FTIR, SAXS and N2 Porosimetry** A. Papadouli[1], N. Pradakis[2], D. A. Gkika[2,3], J. Fantidis[1], M. Maragakis[1], S. Pantazis[4], A. C. Mitropoulos[2,3] and N. Vordos[1] *[1] Department of Physics, International Hellenic University* *[2] Department of Chemistry, International Hellenic University* *[3] Hephaestus Advanced Laboratory, International Hellenic University* *[4] Sunlight Group* **OP 42: Development of Fe3O4-decorated Sn-hydroxide nanocomposites for advanced Cr(VI) capture in drinking water** K. Kalaitzidou, T. Asimakidou and K. Simeonidis *Analytical Chemistry Laboratory, Department of Chemical Engineering, Aristotle University of Thessaloniki*
10:45-11:15	**Coffee Break**
11:15-11:45	*Imperial Hall Room 1* **Invited Oral Presentation 10** **A. Alexopoulou** *Professor, University of West Attica* Hyperspectral Imaging a modern tool for art conservation diagnostics (Chair: Th. Lymperopoulou)
11:45-13:00	**Parallel sessions**
	Imperial Hall Room 1 **Archaeometry** (Chairs: A. Alexopoulou, Th. Lymperopoulou) **OP 43: Spatially resolved analysis of the red pigment Eosin and its photodegradation products by MALDI-MSI in paint samples** K. Janssens[1,2], A. Alvarez-Martín[1,2] and T. Scovacricchi[1] *[1] AXIS Research Group, NANOLab Centre of Excellence, University of Antwerp* *[2] Conservation and Science Department, Rijksmuseum Amsterdam* **OP 44: HPLC studies on shellfish (royal) purple** I. Karapanagiotis *Department of Chemistry, Aristotle University of Thessaloniki* **OP 45: Investigation of spectral markers appropriate for optimized archaeogenetic analysis of ancient dental remains based on Raman scattering and fluorescence spectroscopy techniques** An. Mamali[1,2], A. Philippidis[1], N. Psonis[3], D. Vassou[3], E. Tabakaki[3], A. Nafplioti[3], N. Poulakakis[3,4,5] and D. Anglos[1,2] *[1] Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas (IESL-FORTH)* *[2] Department of Chemistry, University of Crete*

[3] *Foundation for Research and Technology - Hellas (FORTH), Institute of Molecular Biology and Biotechnology (IMBB), Ancient DNA Lab*
[4] *Natural History Museum of Crete (NHMC), School of Sciences and Engineering, University of Crete*
[5] *Biology Department, School of Sciences and Engineering, University of Crete*

OP 46: Towards a multi-analytical methodology based on molecular spectroscopic techniques for the detection and characterization of organic residues in archaeological findings

M. E. Konstantinou[1,2], E. Ralli[2], I. Misyri[2], M. Roumpou[1], A. Philippidis[1], S. Sotiropoulou[1,3], A. Spyros[2], and D. Anglos[1,2]
[1] *Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas (IESL-FORTH)*
[2] *Department of Chemistry, University of Crete*
[3] *School of Applied Arts and Sustainable Design, Hellenic Open University*

OP 47: Advanced spectroscopic and imaging tools with sophisticated robotics and digital repository systems for the analysis, conservation, and documentation of oversized paintings in the framework of an Open Access Conservation Laboratory

K. Hatzigiannakis[1], A. G. Karydas[2], C. Bekiari[3], D. Angelakis[3], A. Terlixi[4], K. Karakasiliotis[5], C. Stentoumis[6], X. Zabulis[3], D. Anglos[1,7], E. Agathonikou[4] and D. Plexousakis[3,8]
[1] *Institute of Electronic Structure and Laser (IESL), FORTH*
[2] *Institute of Nuclear and Particle Physics, N.C.S.R. "Demokritos"*
[3] *Institute of Computer Science (ICS), FORTH*
[4] *National Gallery – Alexandros Soutzos Museum*
[5] *Printec S.A.*
[6] *up2metric P.C.*
[7] *Department of Chemistry, University of Crete*
[8] *Department of Computer Science, University of Crete*

Imperial Hall Room 2

Spectrometry

(Chairs: G. Hieftje, E. Chatzitheodoridis)

OP 48: Towards real-time, on-site monitoring of trace metals in the environment using micro-plasma emission spectroscopy

S. Das[1], K. B. von der Geest[2], A. Mäkinen[2], A. Roost[2], E. Ikonen[1 3] and T. Laurila[2]
[1] *Metrology Research Institute, Aalto University*
[2] *Sensmet Ltd*

OP 49: Utilizing multivariate analysis for the discrimination of athletes' salivary profile using ATR-FTIR spectroscopy

C. Chrimatopoulos[1], E. Pavlou[2], N. Kourkoumelis[2] and V. Sakkas[1]
[1] *Department of Chemistry, School of Sciences, University of Ioannina*
[2] *Department of Medical Physics, Faculty of Medicine, School of Health Sciences, University of Ioannina*

OP 50: PM-IRRAS Surface advanced IR spectrometry: a powerful technique for the characterization of organic and polymer coatings

M. Brogly and S. Bistac
Université de Haute Alsace – LPIM

OP 51: NMR Analytical Perspectives in Natural Products: From Biotransformation Product Dereplication to Protein-Ligand ex-Situ and in-Cell Applications

I. P. Gerothanassis
Section of Organic Chemistry and Biochemistry, Department of Chemistry, University of Ioannina

13:00-14:00	**Lunch**
14:00-15:30	**Parallel sessions**

Imperial Hall Room 1

Environmental

(Chairs: H. Frank, A. Gondikas)

OP 52: Temporal evolution of particulate PAH and Particulate matter concentrations for 6 months in Strasbourg (France)

J. Vaz-Ramos[1,2], A. Becker[1], F. R. Nursanto[1], O. Delhomme[1], M. Millet[1], S. Bégin-Colin[2] and S. Le Calvé[1]

[1] ICPEES – CNRS/University of Strasbourg

[2] IPCMS, UMR-7504 CNRS-Université de Strasbourg

OP 53: Continuous Monitoring of ppb-levels of Formaldehyde: Comparison of Analytical Systems and Development of a Portable Calibration Generator

A. Grandjean[1,2], A. Becker[1], M. Wolf[1], C. Sutter[1], F. Amiet[2], D. Bazin[2] and S. Le Calvé[1]

[1] ICPEES – CNRS/University of Strasbourg

[2] Chromatotec

OP 54: Microfluidic devices for cation detection based on calixarene

I. Leray , A. Depauw, M.H. Ha-Thi, N. Kumar, Q. Pham, C. Remy, J.P. Lefevre and C. Mongin

ENS Paris Saclay PPSM, CNRS

OP 55: Socioeconomic status and public health in Australia: A wastewater-based study

N. Rousis[1,2], Z. Li[3], R. Bade[1], M.S. McLachlan[3], J.F. Mueller[1], J.W. O'Brien[1], B.J. Tscharke[1], N.S. Thomaidis[2] and K.V. Thomas[1]

[1] Queensland Alliance for Environmental Health Sciences (QAEHS), The University of Queensland

[2] Laboratory of Analytical Chemistry, Department of Chemistry, National and Kapodistrian University of Athens

[3] Department of Environmental Science, Stockholm University

OP 56: OxR: A microfluidic instrument to detect reactive oxygen species on terrestrial and planetary environments

C. D. Georgiou[1], E. Chatzitheodoridis[2], E. Kalaitzopoulou[1], P. Papadea[1], M. Skipitari[1], A. Varemmenou[1], H.-A. Stavrakakis[2], I. Markopoulos[4], A. Alexandrou[4] and M. Holynska[5]

[1] Department of Biology, School of Natural Sciences, University of Patras

[2] Department of Geological Sciences, School of Mining and Metallurgical Engineering, National Technical University of Athens

[4] ZEROONE LTD

[5] Materials' Physics & Chemistry Section (TEC-QEE), Technical Reliability and Quality Division (TEC-QE), ESTEC, ESA

OP 57: Shipping pollution in the marine environment: a particulate challenge

A. Gondikas[1,2,3], M. Hassellöv[3], K. Mattsson[3], S. Chen[4] and I.-M. Hassellöv[5]

[1] Creative nano, PC

[2] Department of Geology and Geoenvironment, National and Kapodistrian University of Athens

[3] Department of Marine Sciences, University of Gothenburg

[4] State Environmental Protection Key Laboratory of Environmental Risk Assessment and Control on Chemical Process, School of Resources and Environmental Engineering, East China University of Science and Technology

[5] Department of Mechanics and Maritime Science, Chalmers University of Technology

	Imperial Hall Room 2 **Sample handling** (Chairs: P. Solich, Th. Tsiaka) **OP 58: The use of deep eutectic solvents as sustainable and recyclable solvents for extraction of phenolic compounds from aloe vera rind by-product: Extraction optimization and green metrics** G.I. Ioannou[1], K.A. Ioannou[1], A. Christou[1], I.J. Stavrou[2] and C.P. Kapnissi-Christodoulou[1] *[1] Department of Chemistry, University of Cyprus* *[2] Department of Life Sciences, European University Cyprus* **OP 59: Monitoring of PFAs levels in water using a Solid Phase Extraction coupled with LC/MS-MS analytical method** N. Xanthopoulou, C. Gkementzoglou, D. Alexiadou and G. Seretoudi *EYATH S.A., Thessaloniki Water Supply & Sewerage Company, Thessaloniki Water Treatment Plant Laboratory Department* **OP 60: Sample pretreatment using flow methods** P. Solich, B. Horstkotte, P. Chocholouš, H. Sklenářová and D. Šatínský *Charles University, Faculty of Pharmacy, Dept. of Analytical Chemistry, Hradec Králové* **OP 61: Analyzing ante-mortem and post-mortem biological materials** R. Wietecha-Posłuszny *Laboratory for Forensic Chemistry, Department of Analytical Chemistry, Faculty of Chemistry, Jagiellonian University in Kraków* **OP 62: Qualitative dried blood spots (qDBS) and dried urine spots (DUS): Applications for the accurate determination of biomarkers and illicit drugs** T. Meikopoulos[1,2], O. Begou[1,2,3], Stelios Papazoglou[1,2], H. Gika[2,4] and G. Theodoridis[1,2] *[1] Department of Chemistry, Aristotle University of Thessaloniki* *[2] Biomic AUTH, Bioanalysis and Omics Lab, Centre for Interdisciplinary Research of Aristotle University of Thessaloniki* *[3] ThetaBiomarkers, Center for Interdisciplinary Research and Innovation (CIRI-AUTH)* *[4] Laboratory of Forensic Medicine and Toxicology, School of Medicine, Aristotle University of Thessaloniki* **OP 63: Key aspects during the development of analytical sample preparation methods: application to the study of selected pesticides in bee products** Ad. Fuente-Ballesteros, J. Bernal and A. M. Ares *Analytical Chemistry Group (TESEA), I. U. CINQUIMA, Faculty of Sciences, University of Valladolid*
15:30-16:30	*Imperial Hall Room 1* **Closing Ceremony- Awards**

Poster Session 1

Monday 18th of September 2023

Imperial Hall Room 3

Sensors and Biosensors – Point of Care Systems – Chromatographic Techniques and Mass Spectrometry – Sample Preparation

1. Sensors and Biosensors

A. Other applications

P. 1: Screening method for discrimination of olive oil from other vegetable oils with a DNA biosensor
N-M Christopoulou[1], V. Mamoulaki[1], A. Mitsiakou[1], E. Samolada[1], D. P. Kalogianni[1], and T. K. Christopoulos[1,2]
[1] Analytical/Bioanalytical Chemistry & Nanotechnology Group, Department of Chemistry, University of Patras
[2] Institute of Chemical Engineering Sciences, Foundation for Research and Technology Hellas (FORTH/ICE)

P. 2: Molecular rapid test for detection of tuna fish adulteration
I. P. Gkini[1], P. Christopoulos[1], D. P. Kalogianni[1], T. K. Christopoulos[1,2] and A. Conides[3]
[1] Analytical/Bioanalytical Chemistry & Nanotechnology Group, Department of Chemistry, University of Patras
[2] Institute of Chemical Engineering Sciences / Foundation for Research and Technology Hellas (FORTH/ICE)
[3] Hellenic Centre for Marine Research, Institute for Marine Biological Resources

P. 3: Development of a molecular rapid test for the visual authentication of the fish Sardina pilchardus
M. Kakarelidou[1], P. Christopoulos[1], D. P. Kalogianni[1], T. K. Christopoulos[1 2] and Al. J. Conides[3]
[1] Analytical/Bioanalytical Chemistry & Nanotechnology Group, Department of Chemistry, University of Patras
[2] Institute of Chemical Engineering Sciences, Foundation for Research and Technology Hellas (FORTH/ICE)
[3] Hellenic Centre for Marine Research, Institute for Marine Biological Resources

B. Life Sciences

P. 4: A sensitive and selective sensor for cancerous exosomes using fluorescent magnetic nanocomposites with graphene oxide-based fluorescence quenching
S. W. Park[1] and Y. K. Jung[1,2]
[1] Department of Nanoscience and Engineering
[2] School of Biomedical Engineering, Inje University

P. 5: Whole-genome sequencing of SARS-CoV-2: automation in the process of detecting variant evolution of the virus
M. Gancarcikova[1,2], H. Parova[1], M. Berankova[1], L. Rysava[1], L. Krcmova Kujovska[1,3], L. Pavlikova[1], V. Palicka[1] and R. Hyspler[1]
[1] Department of Clinical Biochemistry and Diagnostics, Charles University, Faculty of Medicine in Hradec Kralove and University Hospital Hradec Kralove
[2] University of Pardubice, Faculty of Chemical Technology
[3] Charles University, Faculty of Pharmacy in Hradec Kralove

P. 6: Synthesis and Characterization of Inclusion Complexes of β-Cyclodextrins and Essential Oils of Greek Origin
I. Pitterou[1], E. Kavetsou[1], A. Kalospyros[1], I. Kostopoulou[1], C. Derzekou[1], E. Kontogeorgou[1], T. Armeni[1], D. Daferera[2], P.A. Tarantilis[2], S. Dervisoglou[3], D. Perdikis[3] and A. Detsi[1]
[1] Laboratory of Organic Chemistry, School of Chemical Engineering, National Technical University of Athens
[2] Laboratory of General Chemistry, Department of Food Science & Human Nutrition, School of Food & Nutrition Sciences, Agricultural University of Athens
[3] Laboratory of Agricultural Zoology and Entomology, Department of Crop Science, School of Plant Sciences, Agricultural University of Athens

P. 7: Development of a novel green extraction methodology of nettle using Natural Deep Eutectic Solvents
M. A. Karadendrou[1], E. Nourry[1], A. Tzani[1], T. Lymperopoulou[2], and A. Detsi[1]
[1] Laboratory of Organic Chemistry, School of Chemical Engineering, National Technical University of Athens, Zografou Campus
[2] Processes and Products Quality Control Horizontal Laboratory, Zografou Campus, School of Chemical Engineering, National Technical University of Athens

P. 8: Gas Ion Distillation (GID) and Sequential Ion Processing (SIPRO) as novel techniques in chemical detection: The role of Augmented Reality (AR) in enhancing their applications
F. Tsopelas[1], M. Statheropoulos[1], S. Yli-Kauhaluoma[1], D. Ruiz Lopez[3], G. Eiceman[2] and P. Vaninen[2]
[1] School of Chemical Engineering, National Technical University of Athens
[2] University of Helsinki
[3] ATOS

2. Other clinical (and pharmaceutical) applications

P. 9: The finest smuggler – maximizing the platinum drug loading in liposome nanocarrier
J. Zajda, Z. Wakuła, A. Wróblewska and M. Matczuk
Chair of Analytical Chemistry, Faculty of Chemistry, Warsaw University of Technology

P. 10: Assessment of different methodologies for processing fecal samples in 1H NMR metabolic profiling
K. Tsiantas[1,2], P. Christodoulou[2], M. Matzapetakis[2], M. Zervou[2] and P. Zoumpoulakis[1,2]
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P. 11: Rapid amplification-free detection of microRNAs based on a tailing reaction and a lateral flow strip test
El. Lamprou , P. M. Kalligosfyri[1] and D. P. Kalogianni
Analytical/Bioanalytical Chemistry & Nanotechnology Group, Department of Chemistry, University of Patras

3. Chromatography (± Mass spectrometry)

P. 12: The potential of Biomimetic Chromatography to predict dermal absorption
A. Georgopoulos, C. Agathokleous, K. Vasileiou, E. Leventaki, B.A. Tsantili- Kakoulidou and F. Tsopelas
Laboratory of Inorganic and Analytical Chemistry, School of Chemical Engineering, National Technical

P. 13: Quantitative determination of aloins A and B in aloe latex and aloe vera-based products - Chemometric classification of aloe vera plants (Aloe Barbadensis Miller) under different conditions
G.I. Ioannou[1], A. Christou[1], I.J. Stavrou[2], C.P. Kapnissi-Christodoulou[1]
[1] Department of Chemistry, University of Cyprus
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P. 14: Fecal fatty acid profile of exclusively breast-fed or formula-fed infants
K. Tsiantas[1,2], P. Christodoulou[1], Th. Tsiaka[1], Th. Boutsikou[2], N. Iacovidou[2], V. J. Sinanoglou[1] and P. Zoumpoulakis[1]
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P. 15: UHPLC-MS analysis of salivary bile acids in non-invasive diagnostics of Barrett's esophagus
V. Dosedělová[1], M. Laštovičková[1], J. Dolina[2], Š. Konečný[2] and P. Kubáň[1]
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P. 16: HPLC-ESI-MS/MS for the determination of Arsenolipids in fish: A new form of arsenic for improved risk assessment
C. M. Drakonaki[1], M. Kapsi[2], I. Kalantzi[2], M. Tsapakis[2] and S. A. Pergantis[1]

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P. 17: Development and validation of targeted UPLC-MS/MS methods to ensure food safety: determination of biogenic amines in tuna fish and coumarin in bakery products

Ar. Lioupi[1,2], Ar. Papaioannou[3], Ch. Virgiliou[2,3], Ach. Iakovakis[4], I. Kaidatzis[4] and G. Theodoridis[1,2]
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P. 18: Development and validation of an LC-ESI-MS/MS method for the trace analysis of Zearalenone in weaned pig bile samples using an IAC-based extraction procedure

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P. 19: Development and validation of a UHPLC-MS/MS method for the quantification of the tryptophan pathway-related compounds

M. Kubát[1,2], O. An. Begou[1,3,4], H. Gika[1,5], P. Česla[2] and G. Theodoridis[1,3]
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P. 20: Metabolic fingerprinting of Muscat of Alexandria of Limnos grape musts during alcoholic fermentation

M. Marinaki[1,2,3], P. Arapitsas[4,5], C. Virgiliou[2,3,6] and G. Theodoridis[1,2,3]
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P. 21: Identification of transformation products of emerging pollutants formed in photolytic and photocatalytic processes by LC-HR-Orbitrap MS

I. Konstantinou[1,2], V. Boti[1,2], D. Hela[1,2] and T. Albanis[1,2]
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P. 22: Determination of perfluorinated compounds in natural waters and wastewaters by solid phase extraction and LC-LTQ/Orbitrap MS

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P. 23: Solid-phase extraction and LC-MS determination of metabolites from biological fluids using magnetic nanoparticles

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P. 24: Development and validation of an LC-MS/MS method for the quantitative analysis of 9 steroid hormones in human serum

A. Antoniadou[1,2], T. Meikopoulos[1,2], O. Begou[1,2,3], H. Gika[2,4] and G. Theodoridis[1,2]
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P. 25: Improving 4D screening of bile acids in biological samples by Liquid Chromatography – Ion Mobility – High Resolution Mass Spectrometry

C. Virgiliou[1,2], D. Diamantidou[2,3], H. Gika[2,4]and G. Theodoridis[2,3]
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P. 26: Mass spectrometry metabolite library for 4D Metabolomics. Application to biological samples

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P. 27: Development and validation of a HILIC-MS/MS method for the quantitative analysis of 14 amino acids in dried urine spots (DUS)

T. Meikopoulos[1,2], O. Begou[1,2,3], H. Gika[2,4] and G. Theodoridis[1,2]
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P. 28: Scandium selective recovery from sulphuric acid leaching solutions by an ion exchange 2-stage procedure using an industrial resin

L.A. Tsakanika, N. Loukas and M. Ochsenkuehn – Petropoulou
Laboratory of Inorganic and Analytical Chemistry, School of Chemical Engineering, NTUA

P. 29: Cyclodextrin- and Cyclofructan-based Chiral Selectors: Evaluation of their Chiral Discrimination Ability in Capillary Electrophoresis for the Enantioseparation of Psychoactive Substances

K. A. Ioannou[1], A. Christou[1], I. J. Stavrou[2], M. G. Schmid[3] and C. P. Kapnissi-Christodoulou[1]
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P. 30: Method validation – different approach to pharmaceutical and bioanalytical analysis

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P. 31: The possibility of using a dry urine spot to diagnose cerebral creatine deficiency syndromes by tandem mass spectrometry method

H. Jurdáková[1], T. Večereková[1], A. Šalingová[2] and R. Górová[1]

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P.32: HPLC-MS/MS analysis of DINCH plasticizer metabolites in breast milk
R. Górová, A. Oravcová and H. Jurdáková
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P.33: Micellar liquid chromatography in early drug discovery: A Comparative study of the different surfactants
P. Danias[1], A. Pappa[1], A. Tsantili- Kakoulidou[2] and F. Tsopelas[1]
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P. 34: High-Performance PTR-ToF-MS for Detection of ambient Volatile Organic Compounds
O. Zografou[1], C. Kaltsonoudis[2], M. Gini[1], E. Panagiotopoulos[3], A. Lekkas[3], D. Papanastasiou[3], S. Pandis[2,4] and K. Eleftheriadis[1]
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4. MS

P. 35: Longitudinal plant health monitoring via HRMS screening workflows
A. Panara, E. Gikas, A. Koupa and N.S. Thomaidis
Laboratory of Analytical Chemistry, Department of Chemistry, National and Kapodistrian University of Athens

P. 36: Pesticide residues tracing control in green leafy vegetables using HRMS technologies
D. Gkountouras[1], V. Botia[2,3] and T. Albanis[1,2,3]
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5. Sample Handling

P. 37: Microsampling and modern sample preparation techniques in bioanalysis for clinical research
L. Kujovská Krčmová[1,2], Ch. Suwanvecho[1,2], D. Turoňová[1,2], K. Matoušová[1], M. Matysová[2] and F. Švec[2]
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P. 38: Synthesis, characterization and comparison of four FPSE media for the extraction of antidepressant drugs in aquatic samples
C. Chrimatopoulos, N. Stroutzou, E. Iliadis and V. Sakkas
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P. 39: Optimization of ultrasound-assisted extraction (UAE) for the recovery of phenolic compounds from basil and lemon balm byproducts and identification of their phytochemical profile by IR and LC-MS/MS
T. Tsiaka[1], D. Giannis[1], G. Koletsou[1], S. Theofilatos[1], D. Zotos[1], N. Stavropoulou[1], P. Zoumpoulakis[1], I.F. Strati[1], V.J. Sinanoglou[1] and M. Giannakourou[1,2]
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P. 40: Towards the valorization of distillation byproducts from Mediterranean herbs by implementing ultrasound-assisted extraction (UAE) and experimental design (DOE) models
T. Tsiaka[1], A. Kanioura[1], S. Pilatos[1], I. Roussos[1], G. Vountzouklis[1], N. Stavropoulou[1], E. Gogou[2], P. Zoumpoulakis[1], I.F. Strati[1] , V.J. Sinanoglou[1] and M. Giannakourou[1,2]

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P. 41: Edible oil-based dispersive liquid–liquid microextraction prior to HPLC-UV for the determination of naproxen in milk and dairy products

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Poster Session 2

Tuesday 19th of September 2023
Imperial Hall Room 3

Environmental Analysis – Food Analysis – Materials Characterization – Archaeometry – Advanced Spectrometric Techniques

1. Environmental Applications

P. 42: Comparison of two Portable and Modular Gas Generators of ppb-levels of Formaldehyde for calibration of analysers and sensors
A. Becker[1], A. Granjean[1,2], C. Sutter[1], M. Wolf[1], F. Amiet[2], D. Bazin[2] and S. Le Calvé[1]
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P. 43: Targeted analysis and information data acquisition evaluation for organic contaminants determination
L. Haroune[1], S. Saibi[1] and H. Cabana[2]
[1] Sherbrooke Pharmacology Institute, Sherbrooke University
[2] Sherbrooke University Water Research Group, Department of Civil and Building Engineering

P. 44: Bioleaching of scandium from bauxite residue using different microorganisms
K. Kiskira[1], Th. Lymperopoulou[2], L.A. Tsakanika[1], Ch. Pavlopoulos[3], K. Papadopoulou[3], El. Chatzitheodoridis[4], K.M. Ochsenkühn[1], G. Lyberatos[3] and M. Ochsenkühn-Petropoulou[1]
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[2] Products and Operations Quality Control Laboratory
[3] Laboratory of Organic Chemical Technology, School of Chemical Engineering
[4] Laboratory of Mineralogy, Petrology and Economic Geology, School of Mining and Metallurgical Engineering, National Technical University of Athens

P. 45: Spectroscopic and chemical methods for monitoring humification during composting of vineyard and winery wastes
P. Manoli[1], Il. Rapti[1], Chr. Tzakou[1], G. Patakioutas[2], D. Hela[1, 3]
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2. Food Analysis

P. 46: Assessment of enriched oils thermal stability after frying using Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy
A.-G. Ioannou, T. Tsiaka, P. Zoumpoulakis and V. J. Sinanoglou
Laboratory of Chemistry, Analysis & Design of Food Processes, Department of Food Science and Technology, University of West Attica

P. 47: Novel Natural Compounds as Putative Antimicrobials: A Computational Approach
E. Kritsi[1,2], I. Nikolaou[1], M. Markou[1], S. J. Konteles[1], P. Zoumpoulakis[1] and V. J. Sinanoglou[1]
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P. 48: Assessment of banana quality and shelf-life during ripening by generating prediction models
K. Aouant[1], E. Mouka[1], G. Ladika[1], V. J. Sinanoglou[1] and D. Cavouras[2]
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P. 49: Comparative evaluation of strawberries fruits and leaves using Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy
G. Ladika[1], I. Stephanaki[1], A.-G. Ioannou[1], I. F. Strati[1], V. J. Sinanoglou[1] and D. Cavouras[2]
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P. 50: Determination of Heavy Metal in Food using an accredited ICP-MS method
E. Christoforou, D. Stefani, D. Kafouris and E. Christou
State General Laboratory, Ministry of Health

P. 51: Classification of Greek honeys according to their botanical origin using physicochemical properties and macro-elements profile
M.-A. Priakou[1], N. Maragou[2], E. G. Custodio Da Silva[3], M. Kostakis[2], L. Gialouris[1], M. Karvouni[2], A. Kostaki[1], M.-Ch. Serdari[1], E. Nastou[2], E. Kritikou[2], C. Santos Silva[4,5], M. F. Pimentel Avelar[3], N. Thomaidis[2] and M. Dasenaki[1]
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P. 52: Extraction of phenolic compounds from Crocus sativus L. by-products using Box- Behnken experimental design
E. Lykoudi, M. Chatzikonstantinou, T. Tsiaka and I.F. Strati
Department of Food Science and Technology, University of West Attica

P. 53: Study of goat milk adulteration with cow's milk using molecular and physicochemical methods
Th. Georgaraki, D. Houhoula, Ef. Tsakali, M. Chatzikonstantinou, N. Stavropoulou, D. Vougiouklaki and V. J. Sinanoglou
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P. 54: Study of experimental yogurt desserts with mountain tea, and a mixture of saffron, mastic and mountain tea
A. Siozou and I.G. Roussis
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P. 55: Antioxidant and bio- activities of Debina white wine
S. Balaktsi and I.G. Roussis
Laboratory of Food Chemistry, Department of Chemistry, University of Ioannina

P. 56: Quality characteristics of various Greek strained yogurts
S. Chli and I.G. Roussis
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P. 57: Study of enriched white wines with mountain tea and a mixture of saffron and mastic
A. Siozou and I.G. Roussis
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P. 58: Antioxidant and bio- activities of Cabernet Sauvignon and Vlahiko red wines
S. Balaktsi, M. Basalekou and I.G. Roussis
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P. 59: Comparative analysis of edible fixed (carrier) oils with chromatographic techniques
E. Papakostopoulou, A. Psouni, K. Tsiantas, M. Katsanevaki, A. Venieri, V.J. Sinanoglou and I.F. Strati

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P. 60: Assessment of quality characteristics and oxidative stability of Origanum majorana infused Extra Virgin Olive Oil

M. Katsanevaki, A. Venieri, A. Psouni, E. Papakostopoulou, P.K. Revelou and I.F. Strati
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P. 61: Exploring the quality and safety of extra virgin olive oil using optical spectroscopy

E. Orfanakis[1,2], R. Kontzedaki[1,3], A. Philippidis[1], E. Charitoudi[1,4] and M. Velegrakis[1]
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P. 62: The isotopic approach to the authenticity of Cypriot Potatoes for strengthening their identity: Preliminary results

E. Ioannou Papayianni, E. Tzioni, C. Savvidou, C. Louka, C.Damaskinos, M.Tarapoulouzi and R. Kokkinofta
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3. Archaeometry

P. 63: Characterization and consolidation of limestone using calcium hydroxide/carbonate nanoparticles: a case study in the archaeological site of Pella

K. Marnellou[1], V. Tsiridis[2], M. Stefanidou[2], A. Konstantinidis[2], E. Pavlidou[3], T.D. Karapantsios[1], P.K. Spathis[1] and I. Karapanagiotis[1]
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P. 64: A fully automated micro-LIBS system for 2D elemental imaging of marine shells for archaeological research

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4. Spectrometry

P. 65: Remote LIBS for real time evaluation of the operational condition of polymeric insulators on high voltage power transmission lines

O. Kokkinaki[1], P. Siozos[1], I. Liontos[1], K. Hatzigiannakis[1], M. Andrianakis[1], V. Piñon[1], S. Dellis[2], T. Anagnos[2], N. Mavrikakis[3], K. Siderakis[3], K. Mouratis[4], E. Koudoumas[4], G. Kantemiris[5], S. Couris[5] and D. Anglos[1,6]
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P. 66: Non-destructive spectroscopy combined with chemometrics as a tool for Green Chemical Analysis of lignocellulose

M. Kulp, M. Kuhtinskaja, Ol.-St. Salm, E. Solomina and T. Lukk
Tallinn University of Technology, Dpt. of Chemistry and Biotechnology

P. 67: Optical spectroscopy & chemometrics as an analytical tool in fuel adulteration detection
N. Fragkoulis[1,2], E. Koliou[1,3] and P. Samartzis[1]
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P. 68: Analysis of Platinum Group Elements in Water Samples by Energy Dispersive X-Ray Fluorescence
G. Vlamaki and N. Kallithrakas-Kontos
Analytical and Environmental Chemistry Laboratory, School of Mineral Resources Engineering, Technical University of Crete

P. 69: Occurrence of pharmaceuticals residues in surface waters using high resolution mass spectrometry-environmental risk assessment
I. Stavropoulou[1], Ch. Tsoutsi [1,2], and T. Albanis [1,2]
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P. 70: Risk assessment approach of elemental impurities in in Oral contraceptives pills
Haya S. Al Zeer[1], Monerah A. Altamimy[1], Ahmed I. Al-Ghusn[1], Yahya M. Al Shehry[1], Fahad S. Al Dawsari[1]
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1. Materials

P. 71: Hydration study of Portland-limestone cements containing aluminum -containing admixtures with a combination of isothermal calorimetry and FTIR spectroscopy
K. Sotiriadis[1], L. Zárybnická[1], P. Mácová[1], A.S. Mazur[2] and P.M. Tolstoy[2]
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P. 72: Influence of limestone as main constituent in Portland cement on the chloride ingress in pastes exposed to sulfate-chloride solution assessed by Raman and NMR spectroscopy
P. Mácová[1], K. Sotiriadis[1], A.S. Mazur[2] and P.M. Tolstoy[2]
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P. 73: Optical properties of carbon dots derived from *Posidonia oceanica*
S. Katsantonis[1] and K. V. Kordatos[1]
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