

NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS (NKUA)

Department of Chemistry

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Laboratory of Environmental Chemistry (LEC)

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UNESCO Chair & Network

**on Management and Education
for Sustainable Development in the Mediterranean**

Contact info:

***National and Kapodistrian University of Athens, Department of Chemistry
Laboratory of Environmental Chemistry, Panepistimiopolis, Zografou
157 84, Athens, Greece***

Tel: +30 210 7274 269 (Prof. M. Dassenakis, edasenak@chem.uoa.gr)

Fax: +30 210 7274 945

**LABORATORY OF ENVIRONMENTAL CHEMISTRY,
DEPARTMENT OF CHEMISTRY
NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS
(LEC-NKUA)**

INTRODUCTION

The research group of Environmental Chemistry of the National and Kapodistrian University of Athens was created by Michael Scoullos in the mid 1970s and has constituted part of the Inorganic and Environmental Chemistry and Technology Division of the Chemistry Department since 1982. Michael Scoullos was also a founding member of the first Greek post-graduate course on Ocean Studies established in the University of Athens in 1974. The independent Laboratory of Environmental Chemistry was founded in 2003. In 2011 the UNESCO Chair and Network on Management and Education for Sustainable Development in the Mediterranean was situated in the Laboratory of Environmental Chemistry.

The staff of LEC comprises of:

- Dr. Manos Dassenakis (Prof. - Director)
- Dr. Michael J. Scoullos (Em. Prof.)
- Dr. Dimitrios Nikolelis (Prof., retired)
- Dr. Fotini Botsou (Researcher)
- Dr. Sotirios Karavoltzos (Researcher)
- Dr. Vassiliki Paraskevopoulou (Researcher)
- Dr. Aikaterini Sakellari (Researcher)
- Dr. Eleni Stathopoulou (Researcher)
- Ms. Vassiliki Mantzara (M.Sc., Researcher)

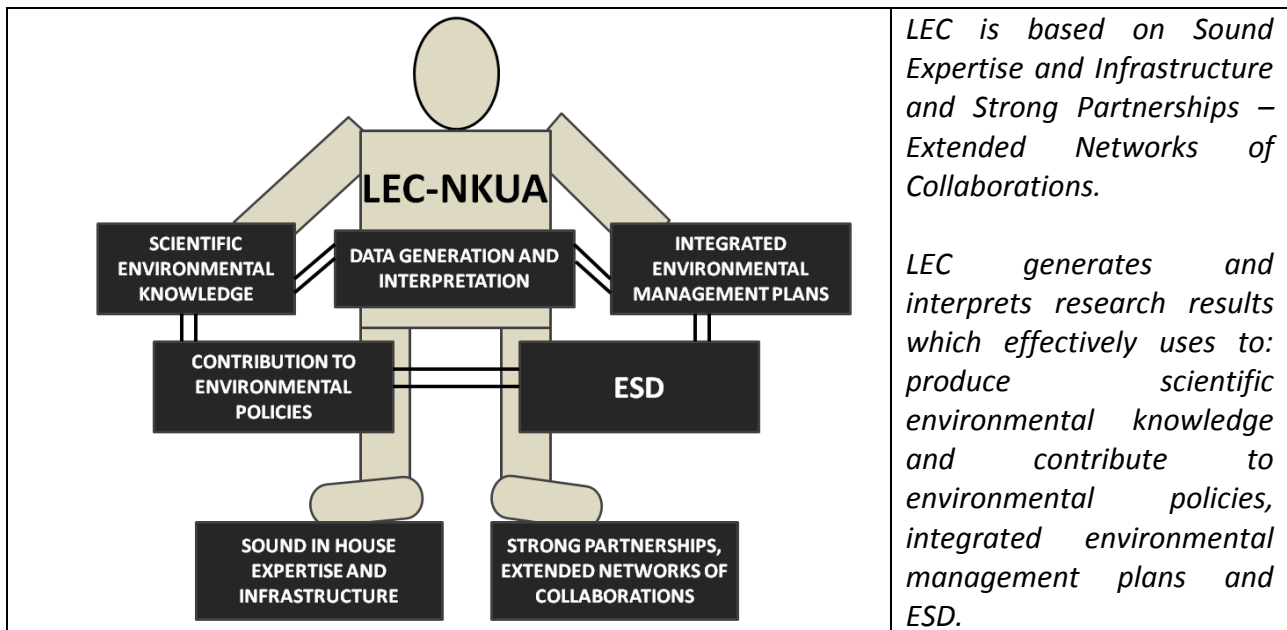
Furthermore LEC maintains a permanent collaboration in research activities with the following staff of the Department of Chemistry:

- Dr. Evangelos Bakeas (Assoc. Prof. – Dept. of Chemistry/NKUA, Analytical Chemistry)
- Dr. Nikolaos Thomaidis (Prof. – Dept. of Chemistry/NKUA, Analytical Chemistry)
- Dr. Haralambos Proestos (Assist. Prof. – Dept. of Chemistry/NKUA, Food Chemistry)
- Dr. Athanasios Valavanidis (Em. Prof.)
- Dr. Panagiotis A. Siskos (Prof., retired)

Members of Departments of the School of Sciences of NKUA, members of Departments of other Greek Universities and staff of Greek Research Centres collaborating with LEC are:

- Dr. Vassilios Roussis (Prof. – Dept. of Pharmacy/NKUA, Pharmacognosy)
- Dr. Serafim Poulos (Prof. – Dept. of Geology/NKUA, Geomorphology)
- Dr. Ariadne Argyraki (Assoc. Prof. – Dept. of Geology/NKUA, Economic Geology & Geochemistry)
- Dr. Efstratios Kelepertzis (Researcher - Dept. of Geology/NKUA, Econ. Geology & Geochemistry)
- Dr. Artemis Nikolaidou (Prof., retired – Dept. of Biology/NKUA, Zoology)
- Dr. Persefoni Megalofonou (Assoc. Prof. – Dept. Biology/NKUA, Zoology)
- Dr. Nikolaos Kalogeropoulos (Prof., - Dept. of Nutrition and Dietetics, Harokopio Univresity)
- Dr. Christina Zeri (Researcher, HCMR)
- Dr. Helen Kaberi (Researcher, HCMR)
- Dr. Aleka Pavlidou (Researcher, HCMR)

Dr. Eva Krasakopoulou (Assoc. Prof. – Dept. of Marine Sciences/University of the Aegean)
 Dr. Leondios Leondiadis (Researcher, Democritus Research Centre)
 Dr. Thomas Maggos (Researcher, Democritus Research Centre)



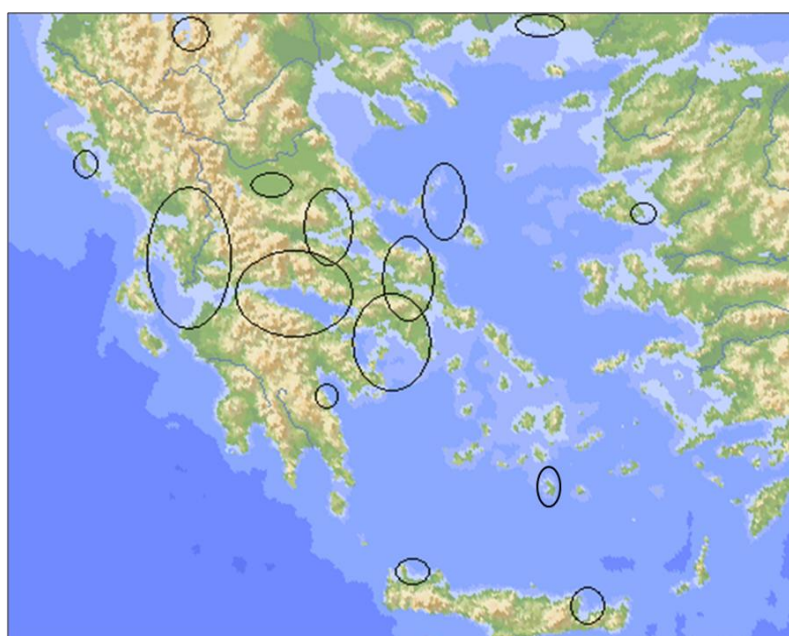
LEC-NKUA scientific and technical potential is based on the high expertise in certain domains of research and technology as well as on advanced equipment facilities, providing opportunities for several research activities in different fields. The perspective of the Laboratory includes an integrated and holistic approach of the environment, which has contributed to its very high reputation and the efficient handling of a large number of various types of competitive programs and projects of nearly all aspects of environmental science, technology, management and education. The Laboratory of Environmental Chemistry is accredited according to ISO/EN 17025. Its research activity and programs are related to the following major directions:

- Chemistry of aquatic systems with emphasis on the marine environment, including surface and ground waters, marine surface microlayer and sediments: circulation, chemical behavior, impact on ecosystems and distribution of metals, nutrients and organic pollutants, qualitative characteristics.
- Study of natural systems of particular interest (microenvironments), such as river estuaries, wetlands, lagoons etc, investigation of coastal eutrophication and its impact.
- Study of biogeochemical cycles and metal speciation, nutrients and other substances in aquatic systems.
- Environmental impact of anthropogenic activities in the natural environment, phenomena of marine pollution with emphasis on coastal systems.
- Ecotoxicological studies in aquatic ecosystems, bioaccumulation studies in various marine organisms - bioindicators and study of the impact of chemical compounds on the food chain.
- Study of metal speciation in natural systems and foodstuffs, which is responsible for their biological activity and impact. Toxicological study of trace elements in biological fluids.
- Chemistry of the atmospheric environment and indoor spaces, determination of various pollutants in aerosols.
- Magnetic properties of particulate matter and sediments.
- Applications of environmental geochemistry with emphasis on magnetic

characterization, behavior and distribution of principal elements and trace metals in soil systems.

- Study of interactions in the system rock - water with emphasis on chromium speciation.
- Environmental management of aquatic and marine ecosystems (use and exploitation of research results), contribution to the establishment of environmental policy and legislation.
- Environmental education with emphasis on sustainable development.

Research activities of LEC are carried out in the framework of environmental programs at both national and international levels. Progress elaborated is characteristically reflected in LEC-NKUA statistics: the numbers of PhDs (>50), MScs (>280), peer-reviewed research publications (>250), University publications/books (23), environmental education publications (>100), monographs/books (>25), publications in conference proceedings (>400) etc, produced since the beginning of LEC-NKUA research activity. Particularly significant is the contribution of the cooperations, in which the laboratory participates, with several local and international institutes. Through these collaborations effective transfer of know-how is achieved.



Areas in Greece studied by
LEC-NKUA

COLLABORATIONS WITH OTHER INSTITUTES

National Institutes

Hellenic Centre for Marine Research (HCMR)
General State Chemical Laboratory
“Democritus” Research Centre
National Agricultural Research Foundation
(NAGREF)

International Organizations

IUPAC
UNEP/ MAP
MIO-ECSDE
GWP-MED

International Institutes

Ruder Boskovic Institute of Zagreb
European Environmental Agency (EEA)
PAP/RAC
Marine Environmental Laboratory of Monaco
Bulgarian Academy of Science, Institute of
Inorganic Chemistry

Universities

Harokopio University
Univ. of Liverpool
Univ. of Dresden
Agricultural University of Carthage
RIKILT-Wageningen UR

EDUCATIONAL ACTIVITY

A major part of the work of the Laboratory of Environmental Chemistry is devoted to its educational activities, focusing both on undergraduate and post graduate courses, offered within the Chemistry Department and the School of Sciences of the University of Athens.

Undergraduate Course - Chemistry Department

Courses offered: Environmental Chemistry (6th Semester - obligatory)
Atmospheric Chemistry (7th Semester – by choice)
Chemical Oceanography (7th Semester – by choice)
Toxicology - Ecotoxicology (8th Semester – by choice)
Environmental Management and Technology (8th Semester – by choice)

Post Graduate Courses

A) Inter-Institutional Post-Graduate Course: “Oceanography and Management of the Marine Environment”. The Laboratory is responsible for the section of “Chemical Oceanography”.

Courses offered: Introduction to Chemical Oceanography
Marine Pollution
Analytical Chemical Oceanography
Special Chapters of Chemical Oceanography
Marine Ecotoxicology
Natural Products from Marine Organisms and Applications
Management of the Marine Environment

B) Post-Graduate Course of Chemistry Department: “Chemistry, Technology and Management of the Environment”

Courses offered: Environmental Management and Sustainable Development
Analytical Chemistry – Environmental Applications
Technology of Protection and Environmental Management
Chemical Oceanography
Renewable Energy Sources
Pollution of Aquatic - Terrestrial Systems
Ecotoxicology
Atmospheric Chemistry – Pollution
Consultation methods of environmental matters

C) Inter-University Post Graduate course: “Science Chemistry Education”. The Laboratory is responsible for the section of “Environmental Education and Education for Sustainable Development”.

Courses offered: Education for Environment and Sustainable Development I
Education for Environment and Sustainable Development II
Non Formal and Informal Education for Sustainable Development
Environmental Management



The post graduate courses aim at the training of young scientists in order to become specialized in the study, management and protection of the environment and capable of contributing to the development of environmental science and of covering the demands both locally and internationally.

AVAILABLE EQUIPMENT AND INFRASTRUCTURE

Rooms – Laboratories

- Students' Laboratory with 48 working places 200 m²
- 4 rooms specially designed for specific analytical determinations and installation of the appropriate instrumentation exceeding 200 m²
- Office space for the permanent staff and post graduate students
- Storing rooms
- Teaching room (48 seats, with ceiling based projector system)

LEC's Available Equipment

- Inductively Coupled Plasma Mass Spectrometer (ICP-MS THERMO ICAP-Qc)
- Flame Atomic Absorption Spectrometer (VARIAN, SpectrAA-200)
- VGA for the determination of mercury and arsenic (complementary to VARIAN, SpectrAA-200)
- Graphite Furnace Atomic Absorption Spectrometer (VARIAN, SpectrAA-640Z).
- Electrochemical Analyzer / Polarographer (ECOCHÉMIE μ-AUTOLAB)
- Total and methyl-mercury Analyzers with Cold Vapor Atomic Fluorescence Spectroscopy
- Module for in situ determination of Hg fluxes -Dissolved Gaseous Mercury DGM
- High Pressure Liquid Chromatography – HPLC (WATERS 600)
- Carbon Analyzer (SHIMADZU TOC-5000A)
- Laminar flow cabinet (clean room)
- Microwave Digester (CEM MARS 240/50)
- Bartington Magnetic Susceptibility Meter with Dual frequency sensor, core sensor and mini-sample sensor
- Spectrophotometer UV/VIS (VARIAN, Cary-1E)
- Freeze Dryer (LABCONCO)
- Balance (4 decimal digits)
- Balance (3 decimal digits)
- Ultraclean Water Production System (MILLIPORE MILLI-RO, MILLI-Q Academic)
- Laboratory pH meters (Jenway και Orion)
- Laboratory conductivity meter (Radiometer)
- Spectrophotometers for undergraduate students' training
- Portable salinity, conductivity and pH analyzer (YELLOW SPRINGS INSTRUMENTS, MODEL 63)
- Portable dissolved oxygen analyzer (YELLOW SPRINGS INSTRUMENTS, MODEL 550)
- Water samplers (HYDRO BIOS, Go Flo)
- Sediment samplers (MAKERETH, Ekman, Van Veen)



Laminar Flow Cabinet (clean room)



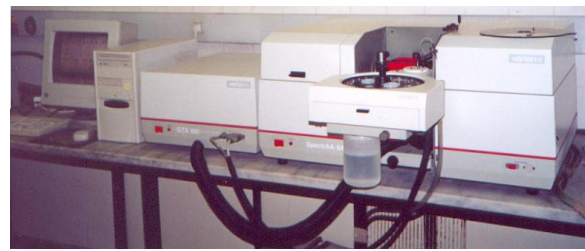
Inductively Coupled Plasma Mass Spectrometry (ICP-MS, Thermo ICAP-Qc)



Electrochemical Analyser (Ecochemie)



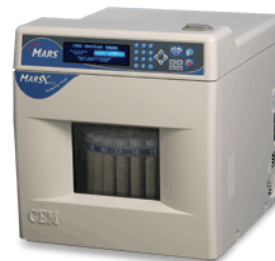
Flame Atomic Absorption Spectrometry (Varian SpectrAA 200)



Graphite Furnace Atomic Absorption Spectrometry (Varian SpectrAA 640Z)



Carbon Analyser (Schimadjou 5000A)



Microwave Digester (MARS 240/50, CEM, Matthews)



Freeze dryer (Freezone / LABCONCO)



Equipment for mesocosm experiments

MAIN RECENT RESEARCH PROGRAMMES / COMPETITIVE PROJECTS

- HIMIOFOTS "Hellenic Integrated System for Monitoring, Prediction and Technology of Marine and Surface Waters" 2018-2019, funded by ESPA/EU
- INVALOR "Research infrastructure for Waste Valorization and Sustainable Management of Resources", funded by ESPA/ EU
- MEDCIS, Support Mediterranean Member States Towards Coherent and Coordinated Implementation of the Second Phase of the MSFD, 2017-2019, funded by EU
- Supreme, Supporting Maritime Spatial Planning in the Eastern Mediterranean, 2017-2018, funded by EU
- ACTION MED, ACTION PLANS for Integrated Regional Monitoring Programmes, Coordinated Programmes of Measuring and Addressing Data and Knowledge Gaps in Mediterranean Sea, 2015-2017, funded by EU
- IRIS-SES, Integrated Regional Monitoring Implementation Strategy in the South European Seas, 2013-2015, funded by EU
- THALIS project (DAPHNE), Investigation of the impact of climate change on river deltas: case study the Delta of Pinios River (Thessaly, Greece), 2012-2014
- ARISTEIA I Project 640, Integrated Study of Trace metals biogeochemistry in the coastal marine environment (ISMET-COMAREN), 2012-2015, Team Leader –Co-ordinator Prof. M. Scoullou
- Horizon 2020 Capacity Building Mediterranean Environment Programme (2009-2014), Team Leader –Co-ordinator Prof. M. Scoullou
- THALIS project (DAPHNE), Investigation of the impact of climate change on river deltas: case study the Delta of Pinios River (Thessaly, Greece), (2012-2014) Participant Prof. M. Dassenakis
- Combination of chemical analytical measurements and remote sensing techniques for coastal water monitoring. The cases of Eastern Mediterranean and Black Sea (2007-2009, Funding: IUPAC, Co-ordinator Assoc. Prof. M. Dassenakis)
- Investigation of the environmental state of the gulf of Souda (2007-2008, Funding: Municipality of Souda, Team leaders: Assoc. Prof. M. Dassenakis collaboration with Assoc. Prof. M. Thessalou, Dept. Of Biology)
- Study of the transport and chemical behavior of toxic pollutants in a marine area affected by industrial activities. Application of mild catalytic antipolluting technologies (2005-2008, Funding: General Secretariat of Research and Technology and MOTOR-OIL, Co-ordinator Assoc. Prof. M. Dassenakis)
- Researchers' nights: A night on the beach with oceanography researchers (ANOBOR) – Researchers against degrading environment (RADE) – Research web in the society (REWEBIS) (2006-2007-2008, Funding: E.U. Specific Support Action projects, Human resources, Marie Curie actions and mobility FP6 –FP7, Co-ordinator Assoc. Prof. M. Dassenakis)
- Integrated study of coastal organosedimentary forms, plan for protection – management (, 2005-2007, Pythagoras II, Funding: Ministry of Education-EU, Co-ordinator Assoc. Prof. M. Dassenakis)
- Quality characteristics of the municipal solid wastes of the region of Epirus (2008, Funding: Periphery of Epirus, Co-ordinator Prof. M. Scoullou)
- Chemical characterisation of the dehydrated and dried sludge of the Athens/Psittalia Sewage Treatment Plant in order to be used as alternative fuel in the cement factory. Examination of the air emissions before and after the use of the sludge as a fuel (F4nd5ng-TITAN cement factory, Co-ordinator Prof. M. Scoullou)

- Examining pollutant leaching from the fly and bottom ashes obtained from the Hospital Waste Incinerator in Attica, in order to propose their safe disposal (Funding: ACMAR, Co-ordinator Prof. M. Scoullos)
- General coordination of the program for determination of physicochemical parameters and qualitative composition of wastes of Attica (2006-08, Funding: Association of Communities and Municipalities in the Attica Region – ACMAR, Co-ordinator Prof. M. Scoullos)
- Model making of river estuaries endangered by eutrophication phenomena (2005-2007, Funding: Min. of Educ.-EU, Co-ordinator Prof. M. Scoullos)
- Nitrogen and phosphorus cycles in the Maliakos gulf (2004-07, Funding: Min. of Educ.-EU, Co-ordinator Assoc. Prof. M. Dassenakis)
- Biogeochemical study of heavy metals (2004-07, Min. of Educ.-EU, Co-ordinator Assoc. Prof. M. Dassenakis)
- General coordination of the Network of Laboratories for the monitoring of environmental quality of Greek seas (2004-6, (Min. of Environment-EU, Co-ordinator Prof. M. Scoullos)
- Monitoring of ground water quality of lake Koumoundourou and the nearby marine area in relation to the Waste Treatment Plant of western Attica (2003-04, Funding: Association of Communities and Municipalities in the Attica Region – A.C.M.A.R., Team Leader: Assoc. Prof.M. Dassenakis)
- Study of water pollution by hydrocarbons and heavy metals in strata of the Thrasio field (2003-06, Funding: General Secretariat of Research and Technology, EU, Co-ordinator Prof. M. Scoullos)
- Activities of monitoring and information in the delta of Sperchios river and Maliakos gulf (2002-3, Funding: Min. of Environment, Team leader: Assoc. Prof. M. Dassenakis)
- Study of pollutants' transport to the sea by land based sources (2000-02, Cooperation with Georgia, Funding: General Secretariat of Research and Technology, Co-ordinator: Assoc. Prof. M. Dassenakis)
- Network of scientific and professional sectors focusing on the marine environment (2000-01, Funding: General Secretariat of Research and Technology, Co-ordinator: Assoc. Prof. M. Dassenakis)
- Study of toxic chemical substances circulation in the drainage basin of river Asopos and the coastal zone of south Evoikos (1999-2001, Funding: General Secretariat of Research and Technology, Co-ordinator: Assoc. Prof. M. Dassenakis)
- Actions of information- activation and education of citizens and students for the greek marine environment (1999-2003, Funding: Min. of Environment, Co-ordinator: Prof. M. Scoullos)
- Pollutants' transport to the sea by small polluted rivers. (1999-2000 Funding: INTAS –EC, Cooperation with Georgia and Spain, Co-ordinator: Assoc. Prof. M. Dassenakis)
- General coordination of the EUPHEMET Project of the European Union in collaboration with the Imperial College-England and the IEEP-Belgium for the study of the environmental impact of heavy metals (Hg, Cd, Pb) (1998-2000, Funding: EU, Co-ordinator: Prof. M. Scoullos)
- Metal Pollution monitoring program of the Saronikos gulf by heavy metals (1986-2000, Funding: Min. of Environment, Co-ordinator: Prof. M. Scoullos)
- Metal Pollution monitoring of the Elefsis gulf by land based sources (1995-1999, Funding Min. of Environment, Co-ordinator: Prof. M. Scoullos)
- Pollution study of the Elefsis gulf, study of Prespes lakes (Funding: Elliniki Etaireia/National Trust for Greece/WWF, Co-ordinator: Prof. M. Scoullos)

- Assessment of the state of pollution of the Mediterranean Sea by zinc, copper and their compounds and proposed measures (1996, Funding, UNEP/FAO/WHO, Co-ordinator: Prof. M. Scoullou)
- Study of the biochemical mechanism of heavy metal transport from the dissolved phase to sediment through the green alga *Ulva lactuca* and determination of secondary metabolism products (1994-95, Funding: General Secretariat of Research and Technology, Co-ordinator: Assoc. Prof. M. Dassenakis)
- Elimination of industrial pollution of small rivers passing through cities (1993-94, Funding: EC, Co-ordinator: Prof. M. Scoullou)
- Pollution of the Mediterranean Sea (1993, Funding: European Parliament/STOA, Co-ordinator: Prof. M. Scoullou)
- Study of environmental legislation enforcement in Greece. Environmental politics proposals (Funding: Institute of European Environmental Policy, Co-ordinator: Prof. M. Scoullou)

RECENT SCIENTIFIC PUBLICATIONS

- SCOULLOS M., BOTSOU F., 2018. Handbook of Environmental Chemistry 59, 241-277. Geochemical processes of trace metals in fresh–saline water interfaces. The cases of Louros and Acheloos estuaries.
- PANAGIOTOULIAS I., BOTSOU F., KABERI H., KARAGEORGIS A.P., SCOULLOS M., 2017. Environmental Monitoring and Assessment 189(11), 598. Can we document if regulation and Best Available Techniques (BAT) have any positive impact on the marine environment? A case based on a steel mill in Greece.
- YALÇIN B., ARTÜZ M.L., PAVLIDOU A., ÇUBUK S., DASSENAKIS M., 2017. Science of the Total Environment 601-602, 405-424. Nutrient dynamics and eutrophication in the Sea of Marmara: Data from recent oceanographic research.
- PITTA E., ZERI C., TZORTZIOU M., MOUSDIS G., SCOULLOS M., 2017. Continental Shelf Research 149, 82-95. Seasonal variations in dissolved organic matter composition using absorbance and fluorescence spectroscopy in the Dardanelles Straits – North Aegean Sea mixing zone.
- VASILATOU V., DIAPOULI E., ABATZOGLOU D., BAKEAS E., SCOULLOS M., ELEFThERIADIS K., 2017. Environmental Science and Pollution Research 24(12), 11836-11846. Characterization of PM2.5 chemical composition at the Demokritos suburban station, in Athens Greece. The influence of Saharan dust.
- VASILATOU V., MANOUSAKAS M., GINI M., DIAPOULI E., ELEFThERIADIS K., SCOULLOS M., 2017. Frontiers in Marine Science 4, 42. Long term flux of Saharan dust to the Aegean Sea around the Attica region, Greece.
- SCOULLOS M., MALOTIDI V., LINDROOS P., SUOMALAINEN S., 2017. International Journal of Sustainability in Higher Education 18(6), 877-893. Learning for and about sustainability in higher education – a regional perspective based on experiences from the Baltic and the Mediterranean.
- SAKELLARI A., KARAVOLTSOS S., PLAVŠIĆ M., BEMPI E., PAPANTONOPOULOU G., DASSENAKIS M., KALOGEROPOULOS N., 2017. Microchemical Journal 135, 66-73. Copper complexing properties, trace metal content and organic matter physic-chemical characterization of Greek beers.
- KARAVOLTSOS S., FOTIADIS F., MICHOPoulos P., SAKELLARI A., PLAVŠIĆ M., BOURLETSIKAS A., KAOUKIS K., THOMAIDIS N.S., DASSENAKIS M., SCOULLOS M., 2017. Chemosphere 167, 28-35. Organic complexation of copper in throughfall and open field bulk deposition: Influence of the tree canopy of Mediterranean forest ecosystems.

- SARAGA D., MAGGOS T., SADOON E., FTHENOU E., HASSAN A., TSIOURI V., KARAVOLTSOS S., SAKELLARI A., VASILAKOS C., KAKOSIMOS K., 2017. *Aerosol and Air Quality Research* 17, 1156-1168. Chemical characterization of indoor and outdoor particulate matter (PM_{2.5}, PM₁₀) in Doha, Qatar.
- KOUTALIDI S., SCULLOS M., 2016. *Chemistry, Education, Research and Practice* 17, 10-23. Biogeochemical cycles for combining chemical knowledge and ESD issues in Greek secondary schools Part I: Designing the didactic materials.
- KOUTALIDI S., PSALLIDAS V., SCULLOS M., 2016. *Chemistry, Education, Research and Practice* 17, 24-35. Biogeochemical cycles for combining chemical knowledge and ESD issues in Greek secondary schools Part II: Assessing the impact of the intervention.
- OVEZIKOGLU P., LADAKIS M., DASSENAKIS M., 2016. *Fresenius Environmental Bulletin* 25(12), 5618-5624. Water and sediment quality in the national marine park of Alonissos Aegean sea.
- SAKELLARI A., PLAVŠIĆ M., KARAVOLTSOS S., DIAKOS I., DASSENAKIS M., PROESTOS C., 2016. *Current Research in Nutrition and Food Science*, 4(SI 2), 125-132. Electrochemical evaluation of the organic matter content of edible sea and rock salts retailed in the Greek market.
- SAKELLARI A., KARAVOLTSOS S., KALOGEROPOULOS N., THEODOROU D., DEDOUSSIS G., CHRYSOHOOU C., DASSENAKIS M., SCULLOS M., 2016. *Science of the Total Environment*, 568, 263-270. Predictors of cadmium and lead concentrations in the blood of residents from the metropolitan area of Athens (Greece).
- STAGAKIS M., COSTOPOULOU D., VASSILIADOU I., KARAVOLTSOS S., SAKELLARI A., KALOGEROPOULOS N., LEONDIADIS L., 2016. *Analytical Letters*, 49(7), 1114-1126. Determination of polychlorinated biphenyls in Aegean fish and seafood.
- SARAGA D.E., MAKROGKIKA A., KARAVOLTSOS S., SAKELLARI A., DIAPOULI E., ELEFThERIADIS K., VASILAKOS C., HELMIS C., MAGGOS T., 2015. *Aerosol and Air Quality Research*, 15(7), 2485-2495. A pilot investigation of PM indoor/outdoor mass concentration and chemical analysis during a period of extensive fireplace use in Athens.
- GIANNOPOULOU K., ZERI C., NEKTARIOS P., SAKELLARI A., NYDRIOTI E., SCULLOS M., 2015. *Compost Science and Utilization* 23(4), 248-266. Chemical evaluation of compost produced at a large Greek mechanical biological treatment plant: Metal availability and phytotoxicity.
- VASSILIADOU I., COSTOPOULOU D., KALOGEROPOULOS N., KARAVOLTSOS S., SAKELLARI A., ZAFEIRAKI E., DASSENAKIS M., LEONDIADIS L., 2015. *Chemosphere*, 127, 117-126. Levels of perfluorinated compounds in raw and cooked Mediterranean finfish and shellfish.
- KARAVOLTSOS S., KALAMBOKIS E., SAKELLARI A., PLAVSIC M., DOTSIKA E., KARALIS P., LEONDIADIS L., DASSENAKIS M., SCULLOS M., 2015. *Marine Chemistry* 173, 234-243. Organic matter characterization and copper complexing capacity in the sea surface microlayer of coastal areas of the Eastern Mediterranean.
- BOTSOU F., GODELITSAS A., KABERI H., MERTZIMEKIS T.J., GOETTLICHER J., STEININGER R., SCULLOS M., 2015. *Chemie der Erde - Geochemistry* 75(2), 219-236. Distribution and partitioning of major and trace elements in pyrite-bearing sediments of a Mediterranean coastal lagoon.
- MILATOU N., DASSENAKIS M., MEGALOFONOU P., 2015. *Food Additives & Contaminants: Part A* 32(7), 1129-1139. Do fattening process and biological parameters affect the accumulation of metals in Atlantic bluefin tuna?
- PAVLIDOU A., ANASTASOPOULOU E., DASSENAKIS M., HATZIANESTIS H., PARASKEVOPOULOU V., SYMBOURA N., ROUSELAKI E., DRAKOPOULOU P., 2014. *Science of the Total Environment* 497-498(1), 38-49. Effects of olive wastes on river basins and an oligotrophic coastal marine ecosystem: a case study in Greece.

- PITTA E., ZERI C., TZORTZIOU M., DIMITRIOU E., PARASKEVOPOULOU V., DASSENAKIS M., SCOULLOS M., ANAGNOSTOU E., 2014. *Mediterranean Marine Science* 15(2), 398-415. Dissolved organic matter cycling in eastern Mediterranean rivers experiencing multiple pressures. The case of the trans-boundary Evros River.
- MITROU N., NIKOLELI G.P., NIKOLELIS D.P., PSAROUDAKIS N., SCOULLOS M., 2014. *Electroanalysis* 26, 919-923. A calcium solid state ion selective minisensor based on lipid films on ZnO nanorods.
- SCOULLOS M., BOTSOU F., ZERI C., 2014. *Minerals* 4, 716-745. Linking environmental magnetism to geochemical studies and management of trace metals. Examples from fluvial, estuarine and marine systems.
- PARASKEVOPOULOU V., ZERI C., KABERI H., CHALKIADAKI O., KRASAKOPOULOU E., DASSENAKIS M., SCOULLOS M., 2014. *Marine Pollution Bulletin* 87(1-2), 323-337. Trace metal variability, background levels and pollution status assessment in line with the Water Framework and Marine Strategy Framework EU Directives in the waters of a heavily impacted Mediterranean Gulf.
- ZERI C., BESIKTEPE S., GIANNAKOUROU A., KRASAKOPOULOU E., TZORTZIOU M., TSOLIAKOS D., PAVLIDOU A., MOUSDIS G., PITTA E., SCOULLOS M., PAPHATHANASSIOU E., 2014. *Journal of Marine Systems* 135, 124-136. Chemical properties and fluorescence of DOM in relation to biodegradation in the interconnected Marmara–North Aegean Seas during August 2008.
- KARAVOLTSOS S., PLAVŠIĆ M., KALOGEROPOULOS N., KOGIANNOU D.A.A., STRMEČKI S., SAKELLARI A., DASSENAKIS M., SCOULLOS M., 2014. *Food Chemistry* 160, 53-60. Copper complexing properties and physico-chemical characterization of the organic matter in Greek herbal infusions.
- TEPAVITCHAROVA S., RABADJIEVA D., TODOROV T., KOVACHEVA A., DASSENAKIS M., PARASKEVOPOULOU V., 2014. *Pure and Applied Chemistry* 86(7), 1097-1101. Chemical speciation in fresh, saline and hyper-saline waters.
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