

## CURRICULUM VITAE

### **Nicolas Kalogerakis, PhD, P.Eng**

*Professor Emeritus of Biochemical Engineering*

Laboratory of Biochemical Engineering

& Environmental Biotechnology

School of Chemical and Environmental Engineering

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*Collaborating faculty*, Institute of GeoEnergy - FORTH, Chania, Greece.

*Visiting Professor (2018-19)*, Dept of Chemical Engineering, American University of Sharjah, UAE

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### **CV Highlights:**

Nicolas Kalogerakis is a professor of Biochemical Engineering in the School of Chemical and Environmental Engineering at the Technical University of Crete where he has served as Vice-President of the University Council and Department Head (twice). Prior to that he was a Professor at SUNY-Buffalo (USA) and at the University of Calgary (Canada) where he climbed quickly through all ranks. In 1997, he returned to Greece as the founding faculty member of the Environmental Engineering Dept. He holds a Diploma in Chemical Engineering from NTUA (Athens, Greece), a Master degree from McGill University (Montreal, Canada) and a PhD from the Univ. of Toronto (Canada). During 2018-19, he was a Visiting Professor in the Dept of Chemical Engineering at the American University of Sharjah (UAE). Currently he is also Collaborating faculty at the Institute of GeoEnergy – FORTH, Chania Greece.

His area of expertise includes biochemical engineering & environmental biotechnology focusing on bioremediation and phytoremediation technologies for the restoration of contaminated sites; protection and restoration of the marine environment (oil spills and marine litter); novel oxygenation systems (nanobubble technologies) and wastewater treatment; and mathematical modeling of environmental processes. He has been very active in attracting external research funding totaling in excess of 25 million USD. Currently, Prof. Kalogerakis's group is participating in 3 EU funded research projects, coordinator of nanoBT, an ERA-MIN2 project and was the coordinator of KILL\*SPILL, a large FP7-project, that was recently completed.

He has served as a member of the European Commission (EC) Environment Committee (2007-2011) and as Sherpa in the EC, High Level Group on Key Enabling Technologies (2013-2015).

### **Bibliographic Data:**

*Publications:* 245 papers, 12 editorials and 6 patents

*Scopus:* Citations >12450, H-index 62

*Google Scholar:* Citations >18000, H-index 74.

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## Education

- 1979 -1983 *Doctor of Philosophy*, Department of Chemical Engineering & Applied Chemistry  
University of Toronto, Toronto, Ontario, Canada.
- 1977 -1979 *Master of Engineering*, Department of Chemical Engineering,  
McGill University, Montreal, Quebec, Canada.
- 1972 -1977 *Dipl. Chem. Engineering*, Department of Chemical Engineering,  
National Technical University of Athens (NTUA), Athens, Greece.

## Academic Positions

- 2021 – present *Professor Emeritus of Biochemical Engineering*, TU-Crete, Chania, Greece
- 2020 – present *Collaborating faculty*, Institute of Geoenergy, FORTH, Chania, Greece
- 1997 – 2021 *Professor of Biochemical Engineering & Director*, Laboratory of Biochemical  
Engineering & Environmental Biotechnology, TU-Crete, Chania, Greece
- 2018 – 2019 *Visiting Professor*, Dept. of Chemical Engineering, American University of Sharjah,  
UAE
- 2008 – 2009 *Visiting Professor*, Dept. of Environmental Management, Cyprus University of  
Technology, Lemesos, Cyprus
- 1995 – 1997 *Professor of Biochemical Engineering*, Department of Chemical Engineering,  
State University of New York (SUNY), Buffalo, NY, USA.
- 1990 – 1995 *Professor of Chemical Engineering*
- 1986 – 1990 *Associate Professor of Chemical Engineering*
- 1983 – 1986 *Assistant Professor of Chemical Engineering*, Department of Chemical & Petroleum  
Engineering, University of Calgary, Calgary, Alberta, Canada.

## Administrative Positions

- 2013 – 2017 *Vice-President*, University Council, Technical University of Crete, Chania, Greece
- 2010 – 2013 *Vice-President*, Governing Council, University of Western Greece, Agrinio, Greece
- 2004 – 2008 *Head*, Dept. of Environmental Engineering, Technical University of Crete, Greece.
- 2000 – 2002 *Acting Head*, Dept. of Environmental Engineering, Technical University of Crete,  
Chania, Greece.
- 1997 – 2000 *Director of Graduate Studies*, Dept. of Environmental Engineering, Technical  
University of Crete, Chania, Greece
- 1989 - 1995 *Associate Director*, Pharmaceutical Production Research Facility (PPRF), University of  
Calgary, Calgary, Alberta, Canada.

## International Distinctions & Awards

- 2022 *Doctor Honoris Causa* awarded by the “Gheorghe Asachi” Technical University of Iasi  
for research contributions in the protection and restoration of the marine  
environment.
- 2019 Distinguished Speaker at University of Toronto’s seminar series “*Lectures on the  
Leading Edge*”
- 2019 Distinguished Speaker at McGill University’s *EUL seminar series*
- 2017 *Research Excellence Award*, Technical University of Crete, Chania, Greece
- 2014 – present *Advisory Board member*, City of Scientific Research and Technology Applications  
(SRTA-City) Alexandria, Egypt
- 2013 – present *Advisory Board member*, CIIMAR – Interdisciplinary Centre of Marine and  
Environmental Research Porto, Portugal;
- 2013 *Top-10 most cited articles 2010-2011 Award*, Talanta, Elsevier

2010	<i>Top-50 most cited articles 2005-2009 Award</i> , J. Chromatography A, Elsevier
2008 – 2009	<i>Visiting Professor</i> , Cyprus University of Technology, (to set up graduate studies programs in Environmental Management & Technology).
2006	<i>Ecopolis 2006 Research Team Award</i> (Laboratory of Biochemical Engineering and Environmental Biotechnology – headed by Prof. N. Kalogerakis)

### **Representative in European Commission**

- European Commission Committee – China Collaborative Research Program, Greek Delegate (2017)
- European Commission Committee – Prize design for best technology collecting marine litter (2016)
- Sherpa European Commission - High Level Group on Key Enabling Technologies (2013-2015)
- Environment Committee – National representative for Greece (expert) – GSRT (2007-2011)
- EC-Working Group E on priority substances– National representative of the Ministry of Environment and Climate Change of Greece (2007–2010).

### **Evaluation Panels**

- *Vice Chair Environment Panel* – Marie Curie Actions (2004-07), DG Research, European Commission
- *Member Environment Panel* – Marie Curie Actions (2001-04), DG Research, European Commission
- *Member of Evaluation Committees* for FP-6 and FP-7 Collaborative RTD projects and Horizon-2020 Innovation and Research Actions, REA, European Commission (2001 – 2017).
- *Reviewer of Greek Research Funding Agencies* (1998 – 2017).
- *Member Environmental Sciences Panel* – SR&TD Project Grants, Fundação para a Ciência e a Tecnologia (FCT), Portugal (2014 – 2023).
- *Member of Expert Panel for Strategic Basic Research*, Research Foundation - Flanders (FWO), Belgium (2018-2020)

### **Journal Editorial Boards**

*Microplastics (MDPI) Editor-in-Chief;*

*New Biotechnology (Elsevier) Associate Editor;*

*Reviews of Environmental Contamination and Toxicology (Nature-Springer) Associate Editor;*

*Scientific Reports (Nature-Springer);*

*Microbial Biotechnology (Wiley & Soceity for Applied Microbiology);*

*Trends in Biotechnology (Elsevier Publishers);*

*Clean Technologies (MDPI);*

*Recent Patents on Engineering (Bentham Science Publishers);*

*The Open Chemical Engineering Journal (Bentham Science Publishers);*

*Journal of Environmental Engineering & Management (TU-lasi).*

### **Guest Editor**

Guest editor in special journal issues on bioremediation and/or phytoremediation:

*Water Air Soil Pollution: Focus;*

*Environment International;*

*Biodegradation;*

*Journal of Chemical Technology and Biotechnology (3 times);*

*European Journal of Soil Biology (2 times);*

*Process Biochemistry;*

*International journal of Phytoremediation;*

*New Biotechnology (3 times)*

**Funded Research (competitive research programs since 2010)**

<b>Funding agency &amp; Project title</b>	<b>Budget</b>	<b>Period</b>
EU-Horizon Europe – <b>NYMPHE</b> – R&I action program New system-driven bioremediation of polluted habitats and environment (Total project funding: 6.159.976 €)	267.751 €	2023-26
EU-Horizon2020 – <b>MINAGRIS</b> – R&I action program Micro- and NANO-Plastics in AGRICULTURAL Soils: sources, environmental fate and impacts on ecosystem services and overall sustainability. (Total project funding: 6.999.972 €)	147.187 €	2021-26
GR-HFRI /Faculty – <b>X-PRESS</b> – Research Grant “EXTreme environments: High PRESSure Sampling and experimentation system for deep-sea hydrocarbon releases”	178.000 €	2021-24
EU-ERA-MIN2 – <b>nanobT</b> – R&I action program Application of nano-bubble technologies to mining industry operations (Co-ordinator, Total project funding: 540.000 €)	202.500 €	2020-23
EU-Horizon2020 – <b>ELECTRA</b> – R&I action program Electricity driven Low Energy and Chemical input Technology for Accelerated bioremediation. (Total project funding: 6.000.000 €)	275.625 €	2018-22
EU-Horizon2020 – <b>OILY MICROCOSM</b> – Marie Curie IF Global (TUC & MIT) Mechanistic Microscale Approach to the Microbial Degradation of Oil Droplets in Subsea Crude Oil Releases (postdoc: Dr. G. Kapellos)	176.408 €	2017-20
EU-Horizon2020 – <b>MADFORWATER</b> – R&I action program Development and application of integrated technological and management Solutions for wastewater treatment and efficient reuse in agriculture tailored to the needs of Mediterranean African Countries (Total project funding: 2.910.868 €)	215.000 €	2016-20
EU-Horizon2020 – <b>INMARE</b> – Innovation action program Industrial Applications of Marine Enzymes: Innovative screening and expression platforms to discover and use the functional protein diversity from the sea. (Total project funding: 6.000.000 €)	250.000 €	2015-19
EU-FP7- <b>KILL•SPILL</b> – RTD program Integrated Biotechnological Solutions for Combating Marine Oil Spills (Coordinator, Total project funding: 8.996.599 €)	448.080 €	2013-16
EU-FP7- <b>BIOCLEAN</b> – RTD program “New biotechnological approaches for biodegrading and promoting the environmental biotransformation of synthetic polymeric materials” (Total project funding: 2.995.988 €)	300.000 €	2012-15
EU-FP7- <b>WATER4CROPS</b> – RTD program “Integrating biotreated wastewater reuse and valorization with enhanced water use efficiency (WEF) to support the Green Economy in EU and India” (Total project funding: 5.973.764 €)	200.000 €	2012-16
GR-GSRT – program SYNERGASIA-II “Microalgae – Bioproducts” (Total project funding 650.000 €)	146.800 €	2012-15
EU-LIFE10 ENV/GR/601- <b>CHARM</b> “Chromium in Asopos groundwater system: remediation technologies and measures” (Total project funding 2.708.267 €)	590.538 €	2011-15

GR-GSRT – program HERAKLEITOS-II “Oil spill bioremediation in marine environments”	45.000 €	2010-13
GR-GSRT – program HERAKLEITOS-II “Membrane Bioreactor for municipal wastewater treatment”	45.000 €	2010-13
EU-FP7- <b>Minotaurus</b> – RTD program “Microorganism and enzyme immobilization: Novel techniques and approaches for upgraded remediation of underground-, wastewater and Soil” (Total project funding: 3.908.064 €)	289.864 €	2010-13
EU-FP7- <b>Ulixes</b> – RTD program “Unravelling and exploiting Mediterranean Sea microbial diversity and ecology for Xenobiotics’ and pollutants’ clean up” (Total project funding: 3.902.892 €)	285.004 €	2010-13
GR-Ministry of Environment & Climate Change - Contract “Scientific support to the Water Agency” – Coordinator	147.600 €	2010-11

Plus, another 56-research projects over the period 1984 to 2010. Total research funding exceeds 20 million €.

### Publications by Prof. Nicolas Kalogerakis

(245 papers & 12 editorials, **Scopus: Citations > 12450, H-index 62**; Google Scholar: Citations >18000, H-index 74; ORCID# 0000-0001-7033-0302)

#### Patents

1. Docoslis, A., N. Kalogerakis, L.A. Behie and K.V.I.S. Kaler, "Filter for Perfusion Cultures of Animal Cells and the Like", US Patent 5,626,734 (May 6, 1997).
2. Koukaras, K., N. Kalogerakis, E.N. Kampouris, "Toxic Heavy Metals Removal System for Shellfish", World patent WO 2009/083742 A1 (July 9, 2009).
3. Psillakis, E. and N. Kalogerakis, "Vacuum Assisted Headspace Microextraction sampling apparatus and method", Greek patent (2012) EL 20110100054.
4. Kalogerakis, N., S. Fodelianakis, E. Antoniou, E. Korkaraki, "Production and application of a novel Bioaugmentation Pad for marine oil spills", Greek patent (2015) EL 20140100211.
5. Antoniou, E., N. Kalogerakis, "Biosurfactant production of high purity by marine bacteria degrading the heavy fraction of crude oil", Greek patent (2017) EL 20171009585.
6. Syranidou, E., N. Kalogerakis, "Perpetual recycling of C-C backbone weathered plastics by tailored marine consortia", Greek patent (2021) EL 20211010041.

#### Recent refereed journal publications (2011 - present)

1. Karkanorachaki, K., E. Syranidou, P.-N. Maravelaki, N. Kalogerakis, "Intertwined synergistic abiotic and biotic degradation of polypropylene pellets in marine mesocosms", *J. Hazard. Mater.*, 457, 131710 (2023). <https://doi.org/10.1016/j.jhazmat.2023.131710>.
2. Syranidou, E., Karkanorachaki, K., Barouta, D., ...Avgeropoulos, A., Kalogerakis, N., "Relationship between the Carbonyl Index (CI) and Fragmentation of Polyolefin Plastics during Aging", *Environmental Science and Technology*, 2023
3. Seridou, P., Syranidou, E., Kalogerakis, N., "Hydroponic phytoremediation of antimony by *Tamarix smyrnensis* and *Nerium oleander*", *J. Chem. Tech. Biotech.*, 2023
4. Seridou, P., Kotzia, E., Katris, K., Kalogerakis, N., "Ballast water treatment by ozone nanobubbles", *J. Chem. Tech. Biotech.*, 2023
5. Kampouris, T.E., E. Syranidou, P. Seridou, K. Gagoulis, I.E. Batjakas, and N. Kalogerakis, "MPs and NPs intake and heavy metals accumulation in tissues of *Palinurus elephas* (JC Fabricius, 1787), from NW Aegean Sea, Greece", *Environmental Pollution*, 316, 120725 (2023).
6. Petoussi, M.A., Kalogerakis, N., "Mathematical Modeling of Pilot Scale Olive Mill Wastewater Phytoremediation Units". *Sustainability*, 15(11):8630 (2023).
7. Antoniou, E. and N. Kalogerakis, "Laboratory testing of dispersant effectiveness at high pressures", *Can. J. Chem. Eng.*, 101, 772-781 (2023).

8. Saridaki, A., T. Glytsos, L. Raisi, E. Katsivela, G. Tsiamis, N. Kalogerakis, M. Lazaridis, "Airborne particles, bacterial and fungal communities insights of two museum exhibition halls with diverse air quality characteristics", *Aerobiologia*, 39, 69-86 (2023).
9. Petousi, I., V. Thomaidi, N. Kalogerakis, M.S. Fountoulakis, "Removal of pathogens from greywater using green roofs combined with chlorination", *Environmental Science and Pollution Research*, 30, 22560-22569 (2023).
10. Seridou, P., S. Monogyiou, E. Syranidou, N. Kalogerakis, "Capacity of Nerium oleander to Phytoremediate Sb-Contaminated Soils Assisted by Organic Acids and Oxygen Nanobubbles", *Plants*, 12, 91 (2023).
11. Kapellos, G.E., H.J. Eberl, N. Kalogerakis, P.S. Doyle, C.A. Paraskeva, "Impact of Microbial Uptake on the Nutrient Plume around Marine Organic Particles: High-Resolution Numerical Analysis", *Microorganisms*, 10, 2020 (2023).
12. Karkanorachaki, K., P. Tsiota, G. Dasenakis, E. Syranidou, and N. Kalogerakis, "Nanoplastic Generation from Secondary PE Microplastics: Microorganism-Induced Fragmentation" *Microplastics*, 1, 85-101 (2022).
13. Petoussi, M. A. and N. Kalogerakis, "Olive mill wastewater phytoremediation employing economically important woody plants", *Journal of Environmental Management*, 302 B, 114076 (2022).
14. Syranidou, E. and N. Kalogerakis, "Interactions of microplastics, antibiotics and antibiotic resistant genes within WWTPs", *Science of The Total Environment*, 804, 150141 (2022).
15. Varamogianni-Mamatsi, D.; Anastasiou, T.I.; Vernadou, E.; Papandroulakis, N.; Kalogerakis, N.; Dailianis, T.; Mandalakis, M. "A Multi-Species Investigation of Sponges' Filtering Activity towards Marine Microalgae", *Marine Drugs*, 20, 24 (2022).
16. Petousi, I., V Thomaidi, N Kalogerakis, MS Fountoulakis, "Removal of pathogens from greywater using green roofs combined with chlorination", *Environmental Science and Pollution Research*, 1-10 (2022)
17. Kapellos, GE, HJ Eberl, N Kalogerakis, PS Doyle, CA Paraskeva, "Impact of Microbial Uptake on the Nutrient Plume around Marine Organic Particles: High-Resolution Numerical Analysis", *Microorganisms*, 10, 2020 (2022).
18. Thomaidi, V, I Petousi, D Kotsia, N Kalogerakis, MS Fountoulakis "Use of green roofs for greywater treatment: Role of substrate, depth, plants, and recirculation", *Science of The Total Environment* 807, 151004 (2022).
19. Antoniou, E., E Fragkou, G Charalampous, D Marinakis, N Kalogerakis, and E. Gontikaki, "Emulating Deep-Sea Bioremediation: Oil Plume Degradation by Undisturbed Deep-Sea Microbial Communities Using a High-Pressure Sampling and Experimentation System", *Energies* 15 (13), 4525 (2022).
20. Saridaki, A., T Glytsos, L Raisi, E Katsivela, G Tsiamis, N Kalogerakis, and M. Lazaridis, "Airborne particles, bacterial and fungal communities insights of two museum exhibition halls with diverse air quality characteristics", *Aerobiologia*, 1-18 (2022).
21. Saridaki, A., E. Katsivela, T. Glytsos, G. Tsiamis, E. Violaki, A. Kaloutsakis, N. Kalogerakis, M. Lazaridis, "Identification of bacterial communities on different surface materials of museum artefacts using high throughput sequencing", *J. Cultural Heritage*, 54: 44-52 (2022).
22. Kalogerakis, N., "Microplastics—A New Journal on the Environmental Challenges and Adverse Health Effects of Microplastics", *Microplastics*, 1, 1-2 (2022).
23. Seridou P. and N. Kalogerakis "Disinfection applications of ozone micro- and nanobubbles", *Environ. Sci.: Nano*, 8, 3493–3510 (2021).
24. Ntentakis DP, Ntentaki AM, Delavogia E, Kalomoiris L, Venieri D, Arkadopoulos N, Kalogerakis N, "Dissolved oxygen technologies as a novel strategy for non-healing wounds: A critical review", *Wound Rep Reg.*, 1-18, (2021).
25. Fragkou,E., Antoniou,E., Daliakopoulos, I., Manios, T., Theodorakopoulou, M., Kalogerakis, N. "In Situ Aerobic Bioremediation of Sediments Polluted with Petroleum Hydrocarbons: A Critical Review", *J. Mar. Sci. Eng.*, 9, 1003 (2021).
26. Karkanorachaki, K., E. Syranidou, N. Kalogerakis, "Sinking characteristics of microplastics in the marine environment", *Science of The Total Environment*, 793, 148526 (2021).
27. Kalogerakis N., G.C. Kalogerakis, Q.P. Botha, "Environmental applications of nanobubble technology: Field testing at industrial scale", *Can. J. Chem. Eng.*, 99, 2345–2354 (2021).
28. Mandalenaki A, Kalogerakis N, Antoniou E. "Production of High Purity Biosurfactants Using Heavy Oil Residues as Carbon Source", *Energies*, 14, 3557 (2021).

29. Makaroglou, G., H. Marakas, S. Fodelianakis, A. Axaopoulou, I. Koumi, N. Kalogerakis, P. Gikas, "Optimization of biomass production from *Stichococcus* sp. biofilms coupled to wastewater treatment", *Biochemical Engineering Journal*, 169: 107964 (2021).
30. Charalampous, G.; Fragkou, E.; Kormas, K.A.; De Menezes, A.B.; Polymenakou, P.N.; Pasadakis, N.; Kalogerakis, N.; Antoniou, E.; Gontikaki, E. "Comparison of Hydrocarbon-Degrading Consortia from Surface and Deep Waters of the Eastern Mediterranean Sea: Characterization and Degradation Potential", *Energies*, 14, 2246 (2021).
31. Wang, T., L. Wang, Q. Chen, N. Kalogerakis, Rong Ji, Yini Ma, "Interactions between microplastics and organic pollutants: Effects on toxicity, bioaccumulation, degradation, and transport", *Science of The Total Environment*, 748: 142427 (2020).
32. Christofilopoulos, S., A. Kaliakatsos, I. Gounaki, D. Venieri and N. Kalogerakis, "Evaluation of a constructed wetland for wastewater treatment: Addressing emerging organic contaminants and antibiotic resistant bacteria", *New Biotechnology*, 52: 94-103 (2019).
33. Kaliakatsos, A., S. Christofilopoulos, N. Kalogerakis and D. Venieri "Efficiency of two constructed wetland systems for wastewater treatment: removal of bacterial indicators and enteric viruses", *J. Chem. Technol. Biotechnol.*, 94: 2123–2130 (2019).
34. Riva V., F. Mapelli, E. Syranidou, E. Crotti, R. Choukrallah, Ni. Kalogerakis and S. Borin, "Root Bacteria Recruited by *Phragmites australis* in Constructed Wetlands Have the Potential to Enhance Azo-Dye Phytodepuration", *Microorganisms*, 7: 384 (2019).
35. Tian, I., Q. Chien, W. Jiang, L. Wang, H. Xie, N. Kalogerakis, Y. Ma and R. Ji, "A carbon-14 radiotracer-based study on the phototransformation of polystyrene nanoplastics in water versus in air", *Environ. Sci.: Nano*, 6: 2907-2917 (2019).
36. Syranidou E, Karkanorachaki, K, Amorotti F, Avgeropoulos A, Kolvenbach B, Zhou N-Y, Fava F, Corvini P and Kalogerakis N, "Biodegradation of mixture of plastic films by tailored marine consortia", *J. Hazard. Mater.*, 375: 33–42 (2019).
37. Cappello S, Cruz Viggi C, Yakimov M, Rossetti S, Matturro B, Molina L, Segura A, Marques S, Yuste L, Sevilla E, Rojo F, Sherry A, Mejeha OK, Head IM, Malmquist L, Christensen JH, Kalogerakis N and Aulenta F, "Combining electrokinetic transport and bioremediation for enhanced removal of crude oil from contaminated marine sediments: Results of a long-term, mesocosm-scale experiment" *Water Research*, 157 (2019) 381-395.
38. Lilli MA, Nikolaos P. Nikolaidis NP, George P. Karatzas GP, Nicolas Kalogerakis N, "Identifying the controlling mechanism of geogenic origin Cr release in soils", *J. Hazard. Mater.*, 366: 169–176 (2019).
39. Syranidou E, Thijs S, Avramidou M, Weyens N, Venieri D, Pintelon I, Vangronsveld J and Kalogerakis N, "Responses of the Endophytic Bacterial Communities of *Juncus acutus* to Pollution with Metals, Emerging Organic Pollutants and to Bioaugmentation with Indigenous Strains", *Front. Plant Sci.* 9:1526 (2018).
40. Karkanorachaki K, Kiparissis S, Kalogerakis GC, Yiantzi E, Psillakis E, Kalogerakis N, "Plastic pellets, meso- and microplastics on the coastline of Northern Crete: Distribution and organic pollution", *Marine Pollution Bulletin*, 133, 578–589 (2018).
41. Kapellos GE, Paraskeva CA, Kalogerakis N and Doyle PS, "Theoretical Insight into the Biodegradation of Solitary Oil Microdroplets Moving through a Water Column", *Bioengineering*, 5, 15 (2018).
42. Frascari D, Zanolli G,... Kalogerakis, N,... Ortega CV, "Integrated technological and management solutions for wastewater treatment and efficient agricultural reuse in Egypt, Morocco and Tunisia", *Integrated Environmental Assessment & Management*, 14: 447-462 (2018).
43. Syranidou E, Karkanorachaki K, Amorotti F, Franchini M, Repouskou E, Kaliva M, Vamvakaki M, Kolvenbach B, Fava F, Corvini PF-X, Kalogerakis N. "Biodegradation of weathered polystyrene films in seawater microcosms", *Scientific Reports*, 7:17991 (2017).
44. Syranidou E, Karkanorachaki K, Amorotti F, Repouskou E, Kroll K, Kolvenbach B, Corvini PF-X, Fava F, Kalogerakis N. "Development of tailored indigenous marine consortia for the degradation of naturally weathered polyethylene films", *PLoS ONE*, 12(8): e0183984 (2017).
45. Mapelli, F., Scoma, A., Michoud, G., Aulenta, F., Boon, N., Borin, S., Kalogerakis, N., Daffonchio, D., "Biotechnologies for Marine Oil Spill Cleanup: Indissoluble Ties with Microorganisms", *Trends in Biotechnology*, 9: 860-870 (2017).

46. Kalogerakis N, Karkanorachaki K, Kalogerakis GC, Triantafyllidi E, Gotsis AD, Partsinevelos P and Fava F., "Microplastics generation: Onset of fragmentation of polyethylene films in marine environment mesocosms". *Front. Mar. Sci.* 4: 84 (2017).
47. Syranidou, E., S. Christofilopoulos and N. Kalogerakis, "Juncus spp.—The helophyte for all (phyto)-remediation purposes?", *New Biotechnology*, 38: 43–55 (2017).
48. Syranidou, E., S. Christofilopoulos, M. Politi, N. Weyens, D. Venieri, J. Vangronsveld and N. Kalogerakis "Bisphenol-A removal by the halophyte *Juncus acutus* in a phytoremediation pilot: Characterization and potential role of the endophytic community", *J. Hazard. Mater.*, 323: 350–358 (2017).
49. Lilli MA, Syranidou E, Palliou A, Nikolaidis NP, Karatzas G, Kalogerakis N, "Assessing the impact of geogenic chromium uptake by carrots (*Daucus carota*) grown in Asopos river basin", *Environmental Research*, 152: 96–101 (2017).
50. Fountoulakis, M.S., Daskalakis, G., Papadaki, A., Kalogerakis, N. and Manios, Th., "Use of halophytes in pilot-scale horizontal flow constructed wetland treating domestic wastewater". *Environ Sci Pollut Res*, 24: 16682–16689 (2017)
51. Christofilopoulos, S., E. Syranidou, G. Gkavrou, E. Manousaki and N. Kalogerakis, "The role of halophyte *J. acutus* L. in the remediation of mixed contamination in a hydroponic greenhouse experiment", *J. Chem. Technol. Biotechnol.*, 91: 1665–1674 (2016).
52. Syranidou E, Christofilopoulos S, Gkavrou G, Thijs S, Weyens N, Vangronsveld J and Kalogerakis N, "Exploitation of Endophytic Bacteria to Enhance the Phytoremediation Potential of the Wetland Helophyte *Juncus acutus*", *Frontiers in Microbiology*, 7: 1016 (2016).
53. Paranychianakis NV, M Tsiknia, and N Kalogerakis, "Pathways regulating the removal of nitrogen in planted and unplanted subsurface flow constructed wetlands", *Water Research*, 102: 321-329 (2016).
54. Yiantzi, E, Kalogerakis, N, Psillakis, E, "Design and testing of a new sampler for simplified vacuum-assisted headspace solid-phase microextraction", *Analytica Chimica Acta*, 927: 46-54 (2016).
55. Dokou, Z., V. Karagiorgi, G.P. Karatzas, N.P. Nikolaidis, N. Kalogerakis, "Large scale groundwater flow and hexavalent chromium transport modeling under current and future climatic conditions: the case of Asopos River Basin", *Environmental Science and Pollution Research*, 23: 5307-5321 (2016).
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More than 250 presentations at international conferences and professional meetings. Many invited presentations at International Conferences, Universities & Research Organizations as well as European Commission workshops.

### Recent Invited Presentations (2016 – 2023) – Keynote or Plenary

1. “Fate of C-C backbone plastics and microplastics in the environment”, 3<sup>rd</sup> International Meeting on New Strategies in Bioremediation/Restoration Processes (Bioremid2023), Muttenez, Switzerland, June 17, 2023.
2. “Fate of C-C backbone plastics and microplastics in the marine environment and in agricultural soils”, University of Alcalá, Spain, Feb 17, 2023.
3. “Natural attenuation of plastics and microplastics in the marine environment: Can we hope for clean oceans?”, talk@EEH, Oct 20, 2022.

4. *“Plastics and microplastics pollution: Are nature-based solutions possible?”*, 1st International Conference on Sustainable Chemical & Environmental Engineering, Rethymno, Greece, Aug 31- Sept 4, 2022.
5. *“Ecosystem and engineering process applications of air nanobubbles”*, 5<sup>th</sup> International Conference of Chemical Engineering, Iasi, Romania, Oct 28-30, 2020.
6. *“Biodegradation of C-C backbone plastics and microplastics in the marine environment”*, University of Toronto (Lecture on Leading Edge series), Toronto, Canada, Oct 30, 2019.
7. *“Biodegradation of plastics and secondary microplastics in the marine environment”*, ISPTS-2019 conference, Hoboken, NJ, USA, Oct 25-28, 2019.
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10. *“Plastics degradation processes in the marine environment”*, Plastic Litter in Mediterranean Sea: Problems and Solutions, ECOMONDO-2018, Rimini, Italy, Nov 6-9, 2018.
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17. *“Bio-degradation of plastic debris in the marine environment: Any hope for clean oceans?”*, University of Waterloo, Dept of Chemical Engineering, June 2, 2017
18. *“Innovations needed for a Litter-free Mediterranean Sea”*, European Commission - BLUEMED – A basin of research and innovation for sustainable growth, Sliema, Malta, April 18-19, 2017.
19. *“Combating Marine Oil Spills Employing Biotechnological Methods”*, 7<sup>th</sup> Conference of the Scientific Society “Mikrobiokosmos”, Athens, Greece, April 7-9, 2017.
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### **Conference Organization**

*Conference Chair of the European Bioremediation Conferences (I to VIII) held in Chania, Crete Greece (2001 to 2022). First two conferences funded by EU’s Marie Curie - High Level Conferences (2001 & 2003).*

*Conference Chair of 11<sup>th</sup> International Phytotechnologies Conference, Heraklion, Crete, Greece (2014)*

*Conference Chair of ISMET 8, International Society of Microbial Electrochemistry and Technology, Chania, Sept 19-23, 2022.*

*Conference Chair of ISPTS-2024, 18<sup>th</sup> International Symposium on Persistent and Toxic Substances and Health, Chania, Sept 22-27, 2024.*

*Member of Scientific Committee of many International Conferences held in Europe, Canada & North Africa.*