

Dr. ELENI MANOUSAKI

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Technical University of Crete,
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HIGHER EDUCATION

- 2002** Chemistry Degree
Department of Chemistry
Faculty of Sciences
Aristotle University of Thessaloniki, Greece
- 2003** Master of Science
Department of Environmental Engineering
Technical University of Crete, Greece
- 2008** Doctor of Philosophy
Department of Environmental Engineering
Technical University of Crete, Greece

THESES

Diploma Thesis

Title: "Study of the removal of anionic and cationic surfactants with the addition of electrolytes"
Supervisors: Antonis Avranas

MSc Thesis

Title: "Sonolytic degradation of linear alkylbenzene sulfonate in aqueous solutions: Effect of operating conditions and aerobic biodegradability"
Supervisors: Eleftheria Psillakis, Dionissios Mantzavinos, Nicolas Kalogerakis

PhD Thesis

Title: "Characterization of the capabilities of Mediterranean plants to remove lead and cadmium from contaminated soils"
Supervisors: Nicolas Kalogerakis, Nicolas Kallithrakas-Kontos, Eleftheria Psillakis

ACADEMIC SCHOLARSHIPS AND AWARDS

- 2002-2003** Top-mark and excellence for the MSc
Department of Environmental Engineering, Technical University of Crete
- 2004-2006** PhD Scholarship
European Social Fund and National Resources – EPEAEK II - IRAKLITOS
- 2005** Best Poster Award by Elsevier
3rd European Bioremediation Conference (Chania, 4 – 7 July 2005)

- 2012-2013** Two articles in the list of most read articles of the international peer-reviewed scientific journal *International Journal of Phytoremediation*
- 4^o Manousaki and Kalogerakis, Halophytes – a new trend in phytoremediation, 2011, 13, 959–969
- 18^o Kadukova, Manousaki and Kalogerakis, Pb and Cd accumulation and phyto-excretion by salt cedar (*Tamarix smyrnensis* Bunge), 2008, 10, 31-46

ACADEMIC EXPERIENCE

- April '03-Aug. '03** Research Assistant
Lab. of Biochemical Engineering and Environmental Biotechnology,
Department of Environmental Engineering, Technical University of Crete
- March '04-Dec. '06** Special Research Fund Account (ELKE), Technical University of Crete, Research Project EPEAEK II – IRAKLEITOS “Characterization of the capabilities of Mediterranean plants to remove lead and cadmium from contaminated soils”
- Jan. '07-July '07** Special Research Fund Account (ELKE), Technical University of Crete, Research Project EPEAEK II - PYTHAGORAS II “Treatment of micro-pollutants in secondary treatment effluents through the use of advanced oxidation processes”
- March '07-Jule '07** Special Research Fund Account (ELKE), Technical University of Crete, Research Project GSRT EPAN Environment - SMILES “Protection of groundwater from salt water intrusion through injection of treated industrial wastewater and development of technology for the sustainable management of sludge from industrial wastewater treatment plants”
- Oct. '07-May '08
&
Jan. '09- May '09** Special Research Fund Account (ELKE), Technical University of Crete, Research Project E.P.AL. “Protection of fishing resources in the area of Laconia Pref. from incidents of marine pollution”, Region of Peloponnesus - Fisheries
- June '08-Dec. '08** Special Research Fund Account (ELKE), Technical University of Crete, Research Project “Initiatives of taking measures for the protection of aquacultures and fishing resources in the area of Kavala Pref. from incidents of marine pollution”
- Jan. '09- March '09** Special Research Fund Account (ELKE), Technical University of Crete, Research Project “Protection activities of shellfish cultures of Thermaikos Gulf from incidents of marine pollution”
- Feb. '10-March '10
&
May '11-today** Special Research Fund Account (ELKE), Technical University of Crete, Research Project “LIFE07–INF/IT/000438–Oleico+–Europea awareness raising campaign for an environmentally sustainable olive mill waste management”
- Sept. '10-today** Special Research Fund Account (ELKE), Technical University of Crete, Research Project “EEA GRANTS - EL0075 - Innovation Centre of Crete (emphasizing management of natural resources)”
- May '11-today** Special Research Fund Account (ELKE), Technical University of Crete, Research Project “MINOTAURUS – Microorganism and enzyme

immobilization: Novel techniques and approaches for upgraded remediation of underground-wastewater and soil”

Jan.'12 -today Special Research Fund Account (ELKE), Technical University of Crete, Research Project «LIFE ENV CHARM - Chromium in Asopos groundwater system: Remediation technologies and Measures»

TEACHING EXPERIENCE

Sept. '03-Feb. '04 Laboratory Courses on “Soil and Ground Water Remediation Technique”, Department of Environmental Engineering, Technical University of Crete

Match '04-Dec. '06 Laboratory Courses on “Bioremediation” & “Environmental Microbiology”, Department of Environmental Engineering, Technical University of Crete

Feb. '05-July '09 Laboratory Courses on “Drinking water Treatment Methods”, Department of Natural Resources & Environment, Technological Educational Institute of Crete

May '08-Sept. '09 Courses on “Drinking water Treatment Methods”, Department of Natural Resources & Environment, Technological Educational Institute of Crete

April '09-July '09 Courses on “Environmental Chemistry”, Department of Environmental Engineering, Technical University of Crete

Dec. '10-today Courses on “Sciences and Technology”, Schools of Second Chance, Chania, Institute of Constant Education of Adult

PUBLICATIONS

Publications in International Peer-Reviewed Scientific Journals (chronological order)

- E. Manousaki, E. Psillakis, N. Kalogerakis and D. Mantzavinos, “Sonolytic degradation of linear alkylbenzene sulfonate in aqueous solutions: Effect of operating conditions and aerobic biodegradability”, *Water Research*, 2004, 38, 3751-3759
- J. Kadukova, E. Manousaki, N. Kalogerakis, “Lead and cadmium accumulation from Contaminated Soils by *Nerium oleander*”, *Acta Metallurgica Slovaca*, 2006, 12, 1, 181-187
- E. Manousaki, J. Kadukova, N. Papadantonakis and N. Kalogerakis, “Phytoextraction and phytoexcretion of Cd by the leaves of *Tamarix smyrnensis* growing on contaminated non saline and saline soils”, *Environmental Research*, 2008, 106, 326-332
- J. Kadukova, E. Manousaki and N. Kalogerakis, “Pb and Cd accumulation and phyto-excretion by salt cedar (*Tamarix smyrnensis* Bunge)”, *International Journal of Phytoremediation*, 2008, 10, 31-46
- E. Manousaki, F. Kokkali and N. Kalogerakis, “Influence of salinity on lead and cadmium accumulation by the salt cedar (*Tamarix smyrnensis* Bunge)”, *Journal of Chemical Technology & Biotechnology*, 2009, 84, 877-883

- E. Manousaki and N. Kalogerakis, “Phytoextraction of Pb and Cd by the Mediterranean saltbush (*Atriplex halimus* L.): metal uptake in relation to salinity”, *Environmental Science and Pollution Research*, 2009, 16, 844-854
- E. Manousaki and N. Kalogerakis, “Halophytes present new opportunities in phytoremediation”, *Industrial & Engineering Chemistry Research*, 2011, 50, 656-660
- E. Manousaki and N. Kalogerakis, “Halophytes – a new trend in phytoremediation”, *International Journal of Phytoremediation*, 2011, 13, 959–969
- L.A.B. Novo, E. Manousaki, N. Kalogerakis and L. Golzález, “The effect of cadmium and salinity on germination and early growth of *Brassica juncea* (L.) var. *juncea*”, Accepted for publication *Fresenius Environmental Bulletin*, 2013
- E. Manousaki, K. Galanaki, L. Papadimitriou, N. Kalogerakis, “Metal phytoremediation by the halophyte *Limoniastrum monopetalum* (L.) Boiss: two contrasting ecotypes” Accepted for publication *International Journal of Phytoremediation*, 2013

Number of Citations: 129

Publications in Peer-Reviewed Scientific Conferences (chronological order)

- E. Manousaki, J. Kadukova and N. Kalogerakis, “Accumulation and effects of lead in *Nerium oleander* growing on heavy metal contaminated soil”.
3rd European Conference on “Bioremediation”
Chania, Greece, 4-7 July 2005
- J. Kadukova, E. Manousaki, M. Skoula, G. Naxakis and N. Kalogerakis, “Pb and Cd uptake from non-saline and saline environment by *Tamarix smyrnensis*”.
3rd “European Conference on “Bioremediation”
Chania, Greece, 4-7 July 2005
- E. Manousaki, J. Kadukova, G. Naxakis and N. Kalogerakis, “Release of Pb and Cd by the leaves of the Mediterranean plant *Tamarix smyrnensis*”.
9th International Conference on “Environmental Science and Technology (CEST 2005)”
Rhodes Island, Greece, 1-3 September 2005
- J. Kadukova, E. Manousaki and N. Kalogerakis, “Lead and cadmium accumulation from contaminated soils by *Nerium oleander*”.
3rd International Conference on “Waste - Secondary Raw Materials”
Strbske Pleso, Slovakia, 20-22 June 2006
- E. Manousaki, J. Kadukova, N. Papadantonakis and N. Kalogerakis, “Phytoextraction and release of Cd by the leaves of *Tamarix smyrnensis* growing on contaminated non saline and saline environment”.
8th International Conference on “Protection and Restoration of the Environment”
Chania, Greece, 3-7 July 2006
- E. Manousaki, J. Kadukova and N. Kalogerakis, “Excretion of metals by the leaves of plants: a new approach to the phytoremediation of sites contaminated with heavy metals”.
10th International Conference on “Environmental Science and Technology (CEST 2007)”
Cos Island, Greece, 5-7 September 2007

- E. Manousaki and N. Kalogerakis, "Phytoexcretion and phytoextraction: a novel combined remediation process".
9th International Conference on "Protection and Restoration of the Environment"
Kefalonia, Greece, 29 June -3 July 2008
- E. Manousaki and N. Kalogerakis, "Pb and Cd accumulation and interactions in *Atriplex halimus* L. grown on polluted soil under greenhouse conditions".
4th "European Conference on "Bioremediation"
Chania, Greece, 3-6 September 2008
- E. Manousaki, F. Kokkali and N. Kalogerakis, "Influence of salinity on lead and cadmium accumulation by the salt cedar (*Tamarix smyrnensis* Bunge)".
4th "European Conference on "Bioremediation"
Chania, Greece, 3-6 September 2008
- E. Manousaki and N. Kalogerakis, "Accumulation of cadmium and lead in the edible parts of the fodder shrub *Atriplex halimus* L. grown on Cd and Pb contaminated soils".
2nd International Conference on "Environmental Management, Engineering, Planning and Economics (CEMEPE 09) & SECOTOX Conference"
Mykonos island, Greece, 21-26 June 2009
- E. Manousaki and N. Kalogerakis, "Physiological and antioxidative changes induced by cadmium, lead and salt stress in *Atriplex halimus* L.". in 11th International Conference on "Environmental Science and Technology (CEST 2009)", Chania, Greece, 3-5 September 2009
- K. Galanaki, E. Manousaki and N. Kalogerakis, "Cd and Pb phytoexcretion by the leaves of three halophytes growing on non-saline and saline polluted soils".
5th "European Conference on "Bioremediation"
Chania, Greece, 4-7 July 2011
- S. Christofilopoulos, V. Kalogeraki, E. Syranidou, E. Manousaki and N. Kalogerakis, "Phytoremediation of bisphenol-A by the halophytes *Tamarix parviflora* and *Juncus acutus*".
5th "European Conference on "Bioremediation"
Chania, Greece, 4-7 July 2011
- E. Manousaki, E. Dimitroula, N.P. Nikolaidis, G.P. Karatzas, and N. Kalogerakis, "Mitigation measures for chromium-VI contaminated groundwater and soil using a phytoextraction pilot".
13th International Conference on "Environmental Science and Technology (CEST 2013)
Athens, Greece, 5-7 September 2013

Presentations in International Conferences (chronological order)

- N. Kalogerakis E. Manousaki and J. Kadukova, "Phyto-excretion: a novel approach for the phytoremediation of contaminated soils with heavy metals".
4th Symposium on "Biosorption and Bioremediation"
Prague, Czech Republic, 26-30 August, 2007
- E. Manousaki, J. Kadukova and N. Kalogerakis, "Phytoextraction and phytoexcretion of Cd and Pb by the salt cedar (*Tamarix smyrnensis* Bunge): a new combined phytoremediation process".
COST Action 859, Meeting of Working Group 4 "Integration and application of phytotechnologies" and Management Committee Meeting
Verneuil en Halatte, France, 15-17 October 2008

- E. Manousaki, J. Kadukova and N. Kalogerakis, “Bioaccumulation of Pb and Cd by *Nerium oleander* L.: impact on physiological characteristics”.
COST Action 859, Final Conference CSF
Ascona, Switzerland, 12-16 October 2009
- E. Manousaki, N. Paranychianakis and N. Kalogerakis, “Use of Halophytes for the Phytoremediation of Sites Contaminated with Heavy Metals”.
COST Action FA0901, “Putting Halophytes to Work - From Genes to Ecosystems”,
First Meeting, Naples, Italy, 12-13 March 2010
- E. Manousaki, J. Kadukova and N. Kalogerakis, “Lead and cadmium phytostabilization potential of *Nerium oleander* L. in contaminated non-saline and saline soil”.
7th International Phytotechnology Society Conference
Parma, Italy, 26-29 September, 2010
- G. Blanas, K. Galanaki, E. Manousaki and N. Kalogerakis, “Heavy metal phytoexcretion and phytoextraction with the use of halophytic plants”.
9th International Phytotechnology Society Conference
Hasselt, Belgium, 11-14 September, 2012
- L. Papadimitriou, K. Galanaki, E. Manousaki and N. Kalogerakis, “Cadmium phytoextraction with the halophyte *Limoniastrum monopetalum*”.
9th International Phytotechnology Society Conference
Hasselt, Belgium, 11-14 September, 2012
- E. Manousaki, K. Galanaki and N. Kalogerakis, “Cd phytoextraction using the halophyte sea fennel (*Crithmum muritimum* L.)”.
10th International Phytotechnology Society Conference
Syracuse New York, USA, 1-4 October 2013
- E. Dimitroula, E. Manousaki and N. Kalogerakis, “Phytoremediation of chromium-VI contaminated groundwater by a rhizofiltration pilot”.
10th International Phytotechnology Society Conference
Syracuse New York, USA, 1-4 October 2013

REVIEWER IN INTERNATIONAL PEER-REVIEWED SCIENTIFIC JOURNALS

- Biological Trace Element Research (Springer)
- Ecological Research (Springer)
- Ecotoxicology and Environmental Safety (Elsevier)
- Environmental Science and Pollution Research (Springer)
- Journal of Hazardous Materials (Elsevier)
- Journal of Plant Physiology (Elsevier)
- Journal of Chemical Technology & Biotechnology (Society of Chemical Industry, Wiley)
- Journal of Environmental Management (Elsevier)
- Journal of Environmental Science and Health, Part A (Taylor & Francis)

PARTICIPATION IN EUROPEAN UNION (EU) RESEARCH ACTIVITIES

- EUs COST Action 859 “Phytotechnologies to promote sustainable land use and improve food safety” <http://w3.gre.ac.uk/cost859/>. Initiator and Coordinator Dr. Jean-Paul Schwitzguébel,

Laboratory for Environmental Biotechnology (LBE), Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland.

- EUs COST Action FA0901 "Putting halophytes to work – from genes to ecosystems" <http://www.cost-halophytes.org/>. Coordinator Prof. Timothy Flowers, University of Sussex, UK.

PROFESSIONAL/SCIENTIFIC MEMBERSHIP

- Member of the Greek Chemists Association

TRAINING

- Training distance education program entitled: "The Project in Education", Center for Lifelong Learning and Sustainable Development (<http://www.diavima.edu.gr>)
- Training distance education program entitled: "The Project in Education", Center for Lifelong Learning and Sustainable Development "Participatory teaching techniques in modern education", Κέντρο Δια Βίου Μάθησης & Αειφόρου Ανάπτυξης (<http://www.diavima.edu.gr>)

COMPUTER SKILLS

- Windows operating system, MSOffice suite of programs (MS Word, MS Excel, Internet, MS Outlook etc.)
- Software for controlling several analytical instruments
- Chemistry (eg. ChemDraw) and engineering (e.g. SuperPro) application software

LANGUAGE SKILLS

- Written and spoken English (fluent)
- Written and spoken Italian (medium level)

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