

UDA IKASTAROAK  
CURSOS  
DE VERANO  
SUMMER  
COURSES

UPV/EHU



# NEW TRENDS IN RESTORATION OF DEGRADED SOILS III: TRACE ELEMENTS, ORGANIC POLLUTANTS AND CONSTRUCTED WETLANDS

Oct 09. - Oct 10.

Vitoria-Gasteiz (Casa de la Dehesa de Olarizu)

## PROGRAM AND SPEAKERS



UDA IKASTAROAK / CURSOS DE VERANO / SUMMER COURSES

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Fundación BBVA



## TUESDAY 9

**08:45 - 09:00** Reception of assistants.

**09:00 - 09:30** Opening session.

**Iñaki Prusilla Muñoz.** Councilor for Environment and President of CEA

**Luis Andrés Orive.** Director of CEA

**Juan Vilela Lozano.** Course director

**09:30 - 10:20** Keynote Speaker.

### **“EPA’s Green Remediation. Principles and Field Cases”**



**Carlos Pachón.** Special Assistant to the EPA Administrator with a primary responsibility in the areas of site cleanup, waste, international activities, and compliance and enforcement. Previously, he was with EPA’s Office of Superfund Remediation and Technology Innovation where his work focused on providing technical site cleanup information to a wide range of audiences, from technically-savvy project engineers to important stakeholders such as concerned citizens. Recent products include the Superfund report on the use of treatment technologies and the market study for treatment technologies in the United States. He also managed what has grown to be one of the nation's main references for technical information on site cleanup, <http://duin.org>. Carlos has given numerous presentations for domestic and international audiences on remediation topics. He has a BS from Colorado State University, a MEM from Duke University, and a MBA from Georgetown. Carlos is fluent in English, Spanish.

**10:20 - 11:00** Conference.

### **“Bioremediation and bioavailability of organic chemicals”**



**José Julio Ortega-Calvo.** Biologist, is a Scientific Researcher at the Institute of Natural Resources and Agrobiology of Seville (IRNAS), belonging to the Higher Council for Scientific Research (CSIC). Dr. Ortega is the head of the "Bioremediation and Bioavailability" group of the CSIC. PhD in biology from the University of Seville in 1991, D. Ortega worked on different aspects of microbial ecology during postdoctoral stays. In 1996 he joined the IRNAS-CSIC, as Titular Scientist, promoting in 2009 a Scientific Researcher. He has worked as a visiting researcher at the Swiss Institute of Water Science and Technology (EAWAG), at MIT and at the University of Oxford. Dr. Ortega was in 2016/2017 President in Europe of the Society of Environmental Toxicology and Chemistry, SETAC Europe. He is currently a member of the Stakeholder Bureau of the European Food Safety Authority.

11:00 - 11:40 Conference.

**“The lindane case in Aragón. Lindane and water”**



**Jesús Fernández Cascán.** Geologist, University of Zaragoza 1985. Until the year 2000 consultant in the field of environment, spatial planning and design and Construction Management of infrastructure and waste management. Since 2001, as an official, he has worked on the Report, authorization and monitoring of environmental impact studies and Integrated Environmental Authorizations, Inspection, monitoring, planning and optional management of works and waste management facilities. Since 2004 Facultative and technical direction of the research and decontamination works of the spaces affected by contamination with HCH (lindane) in Sabiñánigo.

11:40 - 12:00 Cofee break.

12:00 - 12:40 Conference.

**“Soil organic pollutants in the Basque Country Experiences and challenges”.**

**Paula Garrido.** AFESA Medio Ambiente S.A. PhD in Biology, with a solid background in risk analysis at the Helmholtz Center for Environmental Research (UFZ) in Leipzig (Germany) and with 10 years of experience in the field of research and recovery of contaminated soil and groundwater. He has participated and led important projects in this area as well as in the environmental consultancy and R + D + i in the CAPV and in other autonomous communities. He is a Risk Analyst accredited by the Environmental Body of the Basque Country in accordance with Decree 199/20065.

12:40 - 13:20 Conference.

**“Nanotechnology for decontamination: lindane and other organic pollutants”.**



**José Luis Vilas Vilela.** Associate Professor in Physical Chemistry at the Physical Chemistry Department of the University of the Basque Country. He is the head of the Macromolecular Chemistry Group. His current research interests include synthesis and characterization of polymeric materials, focusing in polymeric materials and composites with smart properties, like shape memory properties, electric properties and so on, and the synthesis of biocompatible polymers and polymers from renewable sources. He received his PhD in Chemistry in 1999 from the University of Basque Country. After working in different companies related with the synthesis and processing of polymeric materials he moved back to the university. He is member of several international associations, and he holds 100 publications and 3 patents.

13:20 - 13:45 Round table.

Moderator: **Unai Artetxe** (UPV-EHU)

13:45 - 15:45 Lunch break.

16:00 - 18:00 Visits to pilot projects (see attached map).

Bus departure: 16:00 from Parque de La Florida (C/Monseñor Cadena y Eleta)

Check different projects in: <http://www.vitoria-gasteiz.org/suelosdegradados>

## **WEDNESDAY 10**

**08:45 - 09:00** Opening.

**09:00 - 10:00** Keynote speaker.

**“Willows for small community wastewater treatment: constructed wetlands or short-rotation plantations”**



**Michel Labrecque.** Curator of the Montreal Botanical Garden and Head of the Research and Scientific Development division since 1997; he is also adjunct professor in the Department of Biological Sciences at the Université de Montréal. A specialist in plant ecophysiology, he is conducting research on both the use of plants to address environmental issues and plant physiological functioning in this context. His research on phytoremediation focuses on the absorption of trace elements and degradation of organic contaminants by plants for the purposes of brownfield restoration, or on former industrial as well as mining sites. He served as Chair for the International Symposium on the Tree (Montreal, 2000), and the International Workshop on Environmental Applications of Willows and Poplars (IPC FAO, 2007). He also co-founded the “Société québécoise de phytotechnologie” (Quebec Phytotechnology Society) in 2007. In 2017, he chaired the 14th International Phytotechnologies Conference, held in Montreal.

**10:00 - 10:45** Conference.

**“Attenuation of emerging pollutants by wetland systems. Cases from Catalonia and Denmark”**



**Víctor Matamoros.** Researcher at the Institute of Environmental Assessment and Water Research (IDAEA), Research Council of Spanish Government (CSIC). His researcher career has been focused on the area of water quality, particularly in the assessment of natural treatments for controlling organic pollution by the so-called “emerging pollutants” (polar pesticides, endocrine disruptors and pharmaceutical products) in waste and natural water. He has published over 60 papers in SCI journals (Hirsch Index 31) with more than 2900 citations (Scopus source). Since 2003, he has conducted novel research on the removal of contaminants of emerging concern in small and large scale constructed wetlands. His main research interests are to understand the degradation mechanisms of contaminants in natural treatment systems, the plant uptake of microcontaminants, and the development of analytical methodologies for their determination in different environmental matrices (water, sediment and plants).

**10:45 - 11:15** Coffee break.

11:15 - 12:00 Conference.

**“Soil: a view from the water”**



**Ane Zabaleta Lopetegui.** Degree in Geology and Doctor of Science (Hydrology) from the University of the Basque Country / Euskal Herriko Unibertsitatea. Currently working as a researcher in the Consolidated Group of Hydro-Environmental Processes of the UPV / EHU. She has developed her research activity and actively participated in various local, national and international projects, always approaching from a watershed perspective, issues as relevant as the relationship between environmental and anthropic factors with hydrological and sediment dynamics, trend detection in historical hydrological series, the impact of global change on future flows, the impact of hydrodynamics on water quality or the relationship between land uses and water. Its scientific production has given rise to scientific publications in international journals of high impact such as Catena, Hydrology and Earth System Sciences, Earth and Land Surface Processes, Journal of Hydrology and Land Use Policy.

12:00 - 12:45 Conference.

**“Toward a sustainable phytomanagement of the metal contaminated megasite of Metaleurop Nord (France)”**



**Bertrand Pourrut.** Assistant Professor in Environmental Sciences at ISA Lille (Lille Catholic University). He is a former plant ecotoxicologist and his main research activities focus on the relation between plants and pollutants. He aims at (i) evaluating the impact of pollutants or polluted matrixes (soils, waters, sediments) on plants; (ii) assessing human risk linked with consumption of vegetables grown on contaminated soils (community gardens close to industries or highways; urban farming on brownfields); (iii) selecting the best phytomanagement option (choice of plants, cultivar, soil preparation, biomass valorization...) to manage contaminated areas. He has published 27 scientific articles (h-index: 18) and he is the Head of the International MSc “Sustainable Management of Pollution”.

12:45 - 13:15 Round table.

Moderator: **Michel Mench** (University of Bordeaux)

13:15 - 15:30 Lunch break.

15:30 - 16:15 Conference.

**“Organic amendments for metal chemical/phyto stabilization in soils. Cases from Portugal”.**



**Paula Alvarenga.** received a BSc in Chemical Engineering, at the Technical University of Lisbon, a MSc in Analytical Chemistry at the University of Évora, and a PhD in Environmental Engineering at the Technical University of Lisbon (2009). She worked as a Professor and Researcher at the Polytechnic Institute of Beja for 24 years, from where she moved since January 2017 to ISA (Instituto Superior de Agronomia), at the University of Lisbon. She has a R&D background in Environmental Chemistry, and her research has focused mainly in the areas of soil pollution and remediation, phytoremediation, use of organic amendments in phytostabilization strategies, and risk assessment of the use of organic wastes as agricultural soil amendments. In these areas, she published more than 35 articles and co-authored four book chapters, being coordinator or investigator in about 13 R&D projects.

16:15 - 17:00 Conference.

**“Management strategies of organic wastes for environmental protection against trace metal contamination”.**



**Carlos Rad Moradillo.** Assistant Professor at the Chemistry Department of the Soil and Agricultural Sciences Section (University of Burgos). He is also member of the Research Group in Composting at the University of Burgos. He received a BSc in Chemistry, and a PhD in Soil Biochemistry at the University of Valladolid. His researching work is focused on the environmental and health affections concerning Compost of Sewage Sludge, leachates generated in a landfill and composting plants; as well as the Recycling of Organic Wastes for environmental restorations and soil improvements. Currently is working on Rural green infrastructure for pollinator protection Project.

17:00 - 17:45 Conference.

**“Plants and their associated bacteria: partners in remediation of contaminated soils and groundwater. Field examples”**



**Jaco Vangronsveld.** Director of the Centre for Environmental Sciences and professor in the Department of Botany and Environmental Sciences, head of the research group Environmental Biology. He received a MSc in Biology, and a PhD in Sciences and Environmental Biology at the University of Antwerpen. His research has focused mainly the areas of metal and nutrient uptake by plants, effects of toxic metal concentrations on plants and associated micro-organisms and Plant-microbe interactions and their role during plant growth and development and phytoremediation.

17:45 - 18:15 Round table.

Moderator: **Iñigo Zuazagoitia** (CEA)