



Free-to-attend one-day International Workshop on Sustainable Water-Energy Engineering

“An interesting day of talks, providing a state-of-the art review of the challenges and opportunities relating to sustainable water and energy engineering”

14 March 2018, Anfiteatro, Eng. Ambiental, USP-Sao Carlos, Brazil

Background and goals:

As part of a running SPRINT/FAPESP programme and the Memorandum of Understanding by and between the Universidade de Sao Paulo (Brazil) and the University of Oxford (United Kingdom), and the CAPES PROEX Excellence Graduate Programme PPG-SHS (Hydraulic & Sanitary Engineering), this 1-day Workshop will feature the state-of-the-art presentations from a range of academics and practitioners concerned with sustainable water and energy engineering. The Workshop will focus on areas related to water-energy nexus, including novel and renewable energy sources, as well waste-water-energy treatment and water reuse, and industrial process water treatment and recycling. The workshop is highly interdisciplinary, and currently involves engineering, microbiology, chemistry, mathematics, and the social sciences. The talks will encompass theoretical, field and numerical methods and highlight challenges associated with understanding and modelling sustainable water-energy engineering. The Workshop is aimed at academic researchers, water quality modelers, and practitioners with real-life water-energy problems. Attend the meeting to hear reviews of current practice and discussions on future challenges, gain an overview of international objectives, suggest additional areas of interest and offer interesting case studies for future financing proposals.

Programme:

8:30 to 9:00 hrs, Registration and welcome, Prof. E. C. Pires, USP-Brazil

9:00 to 10:30hrs: Session 1: “UK Sustainable Water-Energy Engineering Experiences”, Moderator: Prof. Eduardo C Pires, USP-Brazil

1st Talk: “The role of energy storage in the incorporation of renewable energy for water treatment”, Prof René Bañares-Alcántara, University of Oxford, UK

2ndTalk: “The Water Energy Food Nexus and Clean Water: How to Ensure a Sustainable Supply?”, Prof. Nick Hankins, Research Director of Centre for Sustainable Water Engineering, University of Oxford, UK

Open questions and brainstorming, Moderator Prof. E. C. Pires

10:30 to 10:45 hrs, Coffee-break

10:45 to 12:15 hrs: Session 2: “Brazilian Sustainable Water-Energy Engineering Challenges”, Moderator: Prof. René Bañares-Alcántara, Univ Oxford, United Kingdom

3rd Talk: “The Security of the Water-Energy-Food Nexus in Subtropical Areas: A Step Forward to Stormwater Recycling using Bioretention Treatment and Living Filters”, Marina B de Macedo, PPGSHS-EESC, Univ Sao Paulo, Brazil

4th Talk: “How Can We Propose Public-Private Partnership for A New Generation of Smart Water-Energy Solutions to Attend a Changing Society?”, Dr. Mario Mendiondo, Univ Sao Paulo, Brazil

Open questions and brainstorming, Moderator Prof. René Bañares-Alcántara, Oxford, UK

12:15 to 12:30 hrs: Summary and the Steps Forward, Prof. E. C. Pires, USP-Brazil



12:30 to 14:00 hrs, Lunch

14:00 to 16:00 hrs, Follow-up on MoU USP-Oxford and financing proposals (under invitation)

Speakers:

- **René Bañares-Alcántara** (BSc Mexico, MA Oxf, MS PhD Carnegie Mellon), René has a Bachelors degree in Chemical Engineering from the Universidad Nacional Autónoma de México (UNAM). He then studied in Carnegie Mellon University where he obtained both a Master and a PhD degrees in Chemical Engineering. Upon completion of his studies he worked for various academic institutions including the Instituto de Investigaciones Eléctricas, the Facultad de Química (UNAM) and the University of Edinburgh. He has been associated to the Department of Engineering Science (as a Reader) and to New College (as a Fellow) since 2003.
- **Nick Hankins** is an Associate Professor in Chemical Engineering at the Department of Engineering Science, The University of Oxford. He holds an M.A. from the University of Cambridge, a PhD from the University of Oklahoma and is a Chartered Chemical Engineer. He has over 7 years industrial experience in the petroleum and chemical industries with Shell Research and Aspen Technology, and 19 years of academic experience in esteemed UK and US institutions. His area of expertise lies in colloidal and interfacial processes and the application of colloids, surfactants, interfaces and membranes in process technology, particularly in potable and wastewater treatment. He is the Director of the Centre for Sustainable Water Engineering at The University of Oxford, and acted as the Oxford Director of the Singapore-Peking-Oxford Research enterprise. He is Editor-in-Chief of the Journal of Water Process Engineering, and sits on the editorial board of four other journals.
- **Eduardo Cleto Pires** is a Mechanical Engineer from Universidade de São Paulo (1977), Master Degree in Mechanical Engineering from Pontifical Catholic University from Rio de Janeiro (1981) and Ph.D in Civil Engineering (Hydraulics and Sanitary Engineering) from University of São Paulo (1985). Professor of the Engineering School of São Carlos (University of São Paulo) since 2003. Visiting Researcher at University of Oxford, UK, in 2008. Has experience in Sanitary Engineering, focusing on Wastewater Treatment. Currently is Area Coordinator at CAPES Engineering Sciences.
- **Marina Batalini de Macedo** is a Phd Student at Graduate Programme on Water & Sanitary Engineering (PPGSHS) at EESC-USP, she is M Sc in Water & Sanitary Engineering at EESC-USP, with Bachelor in Environmental Engineering from Federal Univ of Uberlandia, Minas Gerais. In 2012-2013 studied at at Ecole National Supérieure de Chimie de Rennes, France; also had experiences in sustainable planning, soil chemistry and water treatment at VEOLIA, France.
- **Mario Mendiondo** is a Water Resources Engineer from FICH-UNL, Argentina, M Sc and PhD in Water Resources and Environment from IPH-UFRGS, Brazil. Senior postdoc at CESR, University of Kassel, Germany. In 2014-2016 he acted as Research Director of National Center of Monitoring & Alerts of Disasters (CEMADEN-MCTIC). In 2016 he received the São Paulo State Medal for Civil Defense and in 2017 was elected International Fellow of the Institute of Advanced Studies, Univ of Warwick, UK. Nowadays he is Assistant Professor at Department of Hydraulics & Sanitary Engineering at EESC-USP and coordinates the Graduate Programme of Water & Sanitary Engineering, PPGSHS at EESC-USP.

Audience priority: The Workshop Organization invites an open audience ranging from academics to stakeholders, decision-makers and private companies. Certificates will be given to attendees. Registration priority will be given to PPGSHS graduate students.

Fees and Credits: No fee will be charged to participants. Students attending the Workshop will have partial recognition credits if officially enrolled in the the cycle of [2018 PPGSHS International Water Lectures](#).



Registration and Contacts: Secretary of PPGSHS-EESC/USP, Av. Trabalhador Saocarlense, 400, CEP 13566-590, Sao Carlos-SP, Tel: (16) 3373 9552, Email: ppgshs@sc.usp.br. Link: www.eesc.usp.br/ppgshs. Because of limited number of places, we strongly recommend earlier registration.

Disclosure Statement: this event is scheduled with the [2018 EESC-USP Postgraduate Week](#), and is in compliance with the [CAPES Engineering I Strategic Document](#), the [2013-2016 CAPES Engineering I Evaluation Report](#), as well the [PPGSHS Action Plan 2017-2020](#).