

eseia International Summer School 2016

Novel Development in Biorefineries



18 - 29 July 2016

Lisbon, Portugal

The National Laboratory
of Energy and Geology - LNEG



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eseia ISS 2016

Course description

The eseia International Summer School (ISS) 2016 program aims to cover fundamental aspects and to reveal solutions in the quest for **innovations in the biorefinery framework** converting underexplored biomass into biofuels and chemicals. This Summer School will help you to think out of the box when developing your career on any topics relating to biomass and waste to energy and industrial products.

Top scientists and practitioners from science and business will give you insights from a policy, socioeconomic, design and technology angle. The eseia business network will help you and your project to develop, for example with a business plan.

**LEARN HOW TO OPTIMISE THE
BIORESOURCE VALUE CHAIN!**

Programme outline

The first week is dedicated to lectures, interactive workshops, knowledge assessments and end of the day discussions with the trainees on particular aspects of interest to their own projects.

In the second week, experimental and modeling work will be carried out from 9:00 to 17:00.

Class format

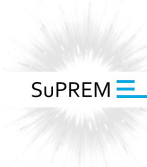
Hands-on experience conferred through lectures, case studies, lab work, group work and discussions, and industrial visits.

Organisation

The ISS 2016 is organised by eseia, the European Sustainable Energy Innovation Alliance, and it is part of the training formats within the eseia Education and Training Programme (www.etp.eseia.eu).

The hosting institution of the ISS 2016 is LNEG, the National Laboratory of Energy and Geology. LNEG is an R&D institution oriented to meet the needs of society and business.

The ISS will train students, young post grads and professionals. The ISS is supported by the EC H2020 project BioEnergyTrain and will link to the EC projects Phoenix, Ener2i and SuPREME.



BioEnergyTrain Consortium at LNEG



LNEG Venue



ISS 2015: Sunset Garden Talk

Programme

Week 1: 18 - 24 July

Monday 18 July

- 09.00 Opening Ceremony
Teresa Ponce de Leão, Director of LNEG
- 11.00 Smart Bioenergy, Bioproducts and services for a sustainable future. *Prof. Lothar Fickert, TU Graz*
- 14.30 Systems Integration: An overview
Teresa ponce de Leão, Director of LNEG
- 15.30 Biorefineries: Current worldwide status
F. Gírio, LNEG
- 18.00 Opportunities for Young Researchers under Horizon 2020. *Brigitte Hasewend, eseia Director*
- 20.00 Welcome Dinner

Tuesday 19 July

- 09.00 Biomass value chain management
Devrim Yazan, LNEG
- 14.30 Overview of current Biomass pretreatments
Florabela Carneiro, LNEG
- 15.30 The thermochemical platform
Filomena Pinto, LNEG
- 16.30 The biochemical platform
Prof. Wolfgang Bauer, TU Graz
- 18.00 Good examples on Sustainable Innovation
Dr. Maarten Arentsen, University of Twente
- 20.00 Dinner

Wednesday 20 July

- 09.00 Cell factories as biorefinery platforms for the conversion of Mediterranean feedstock
Patrícia Moura, LNEG
- 10.00 Maximizing feedstock potential for bio-conversion. *Susana Marques, Alberto Reis, LNEG*
- 11.00 Various Case Studies
Teresa L. Silva, Ana Eusébio, Luís Alves, Susana Paixão Patrícia Moura, Helena Albergaria, LNEG
- 20.00 Dinner

Thursday 21 July

- 09.00 Algal biorefineries
Luísa Gouveia, Alberto Reis, LNEG
- 14.30 Industrial Talks
- 18.00 Project Management: practical aspects
Catherine Bilger, eseia
- 20.00 Dinner

Friday 22 July

- 09.00 Technical visits
Navigator Company, S.A.: Pulp and paper plant;
AMARSUL: Municipal solid waste processing plant; **Algafuel, S.A.:** Bioengineering company for industrial production of microalgae.

**GET ACCESS TO BIO-TECH
INFRASTRUCTURES!**

Week 2: 25 - 29 July

Participants may choose among the following practical and experimental courses:

- At-Line Monitoring Techniques For Microbial Processes Optimization
- Microalgal production and uses: A practical approach
- Biomass fractionation I: The power of Ionic Liquids
- Biomass fractionation II: Lab and pilot-scale reactor operation.
- Novel Thermochemical Processes for the Biorefinery
- Operations management in bioresource chains: A modeling approach
- Methodologies to optimise bioresource utilisation and energy systems in regional context
- Computer-Aided Biorefinery's Processes Design
- Boosting innovation: KIC InnoEnergy Innovation Readiness Level tool and Delphos.



Lisbon is an illuminated city. The almost constant presence of sunshine and the River Tagus transforms the Portuguese capital into a mirror of a thousand colours - highlighting the city's unique architecture and beauty. Good memories are guaranteed either being a free explorer or joining our cultural program!

Background

eseia is a European non-profit association of leading research and innovation organisations in sustainable energy. Currently, eseia has 31 members from 14 countries from research, academia, industry and government. eseia strives to become the premier provider of practice-oriented education and training in renewable energies. The eseia Education and Training Programme (ETP) has been set up in 2013 to create innovative training solutions that will fill the gap in skills development as identified by the EC SET Plan Education and Training Initiative. To date, more than 500 students and young professionals have received training under the eseia Education and Training Programme. The ETP activities included the International Summer Schools (ISS), On Site Student Camps and Lab Courses hosted by eseia member organisations from business for post-graduate students, and Inter-regional Training Workshops for professionals.

www.eseia.eu / www.etp.eseia.eu



Practical Information

Who should attend?

The ISS is aimed at international master and Ph.D. students and young post-doc researchers, practitioners and professionals from industry or public sector. The official language of the course is English.

Application procedure

Applicants should prepare a short motivation letter, CV and abstract of their recent work related to this year's summer school topic, if applicable.

Application Deadline: 30 June 2016

Register now on www.etp.eseia.eu !

Fee

The summer school fee is 600 EUR, covering the course materials, board and lodging at the Catholic University Residence. Costs and organisation of arrival and departure is in the responsibility of the participants. If a participant does not require lodging, please contact eseia.

BOOST YOUR CAREER!

Academic recognition

The ISS is the equivalent of 3 ECTS, 75 hours sessions, project preparation and follow-up.

Location

The ISS 2016 will be held at the campus of LNEG:
The National Laboratory of Energy and Geology.
Estrada do Paço do Lumiar, 22
1649-038 Lisboa
Portugal

For further information please contact eseia:

Tel: 0043-316 873 5281

office@eseia.eu