



## ***SAHYOG SUMMER SCHOOL***

***Athens, 9-16 June 2013***

### **Object**

This will be the first of two Summer Schools, planned within the project *Sahyog* in order to stimulate research cooperation between Europe and India in the project field, with emphasis on recent developments on biomass and biowaste conversion.

### **Organisers**

The Athens Summer School will be organised by the responsible *Sahyog* partner, National Technical University of Athens (NTUA), and particularly by the Bioresource Technology Unit (BTU), a dedicated biomass research unit operating within NTUA's School of Chemical Engineering (see attached info).

In charge of the organization is the BTU Head and NTUA Professor, Emmanuel Koukios, author of more than 100 refereed biomass research publications that have received more than 1600 citations (Google H-index 23)

### **Participation**

To meet the targets of the Summer School, and make good use of the project resources, participation will be limited to a well-balanced group of 20 young Indian and European researchers, to be selected by the organizers, following the Summer School official announcement and the submission of applications.

Ideally, the class will consist of a minimum of 10 Indian and a maximum of 10 European participants of the following levels: post-doctoral researchers, doctoral

candidates and other post-graduate students active in research, as well as diploma thesis-level and other advanced undergraduates.

## **Venue**

The Summer School will take place in Athens, Greece, at the Zografou Campus of the National Technical University of Athens (NTUA).

Classes will meet in the Conference Hall of NTUA's Library Building, equipped with WiFi and Teleconference facilities.

Computer-based work will be hosted in the Chemical Engineering School PC Lab, where computers will be available for all trainees.

Participants will also perform a number of Laboratory experiments at cooperating Engineering Labs (Organic, Biotechnological, Environmental etc.).

## **Time**

According to the *Sahyog* Contract, the Summer School duration will be one full week, i.e., starting on Sunday, 9 June, and ending on Sunday, 16 June 2013.

The selected Summer School period follows that of the European Biomass Conference, which is to take place in Copenhagen, Denmark, 3-7 June 2013, thus facilitating participation in both events.

Early June is maybe the best time of the year for visiting Athens and Greece (see attached photos)!

## **Programme of Activities**

- Saturday and Sunday: Arrivals – Transfer to accommodation places
- Sunday Evening: Welcome and Get-together
- Monday – Friday: Classes in 4 sections/day; Lab and industrial plant visits will also take place during the week:
  - 09:00 - 11:00: Section 1
  - 11:00 - 13:00: Section 2

- 13:00 - 14:00: Lunch (NTUA Campus Restaurant)
- 14:00 - 16:00: Section 3
- 16:00 - 18:00: Section 4
- Wednesday afternoon: City Visit & Excursion (see attached photos)
- Friday evening: Farewell party
- Saturday: Concluding Section
  - Presentation of Student Papers
  - Summer School Evaluation
  - Closing Remarks - End of Classes
  - Planning next Summer School: India, 2014!
- Saturday and Sunday: Transfer to the airport – Departures

## Scientific Topics

The following topic list is based on the relevant information in the Contract Annex, and reflects the interests of the project, as made apparent during the early phase of the *Sahyog* research. The organisers are in contact with the project coordinator and the other project partners for improvements and other modifications they see fit, which will be communicated by the Summer School web pages on the project web-site.

1. Utilization of biomass and biowastes for bio-materials, bio-chemicals, and bioenergy production – Introduction and potential
2. Biomass characteristics: Physics, Chemistry, Biology, Engineering
3. Advances in the pretreatment of biomass for bioenergy production
4. Critical factors for fermentative conversion of biomass and biowastes to biofuels/biomolecules
5. Critical factors for thermochemical conversion
6. Bioethanol from lignocellulosic bio-feedstocks
7. Sustainable biodiesel production from biomass
8. Anaerobic digestion of for biogas production
9. Biological hydrogen production from biomass/waste
10. Innovative algae systems for biomolecules
11. Microbial fuel cells for bioenergy production
12. Chemistry in biomass and biowaste conversion pathways
13. Designing biorefineries for sustainable biomass use
14. Assessing feasibility & sustainability of biomass use

## Lecturers

### *Invited Experts*

The organisers have contacted a number of European and international experts on one of the Summer School topics, and are in the process of receiving confirmations by some of them. The list includes the following:

- Pieter Claassen, Wageningen U. & Research (WUR), The Netherlands
- Guido Zacchi, Lund University, Sweden
- Lee Lynd, Thayer School of Engineering, NH, USA
- Jack Saddler, Univ. of British Columbia, Canada
- Yukihiko Matsumura, Hiroshima University, Japan
- Inci Eroglu, Middle East Technical University, Ankara, Turkey
- Antonis Kokossis, BIOCORE Project – NTU of Athens, Greece
- Gerasimos Lyberatos, Editor, *Hazardous Wastes J.*
- Michael O'Donohue, INRA, France
- Leif Jonsson, Umeå University, Sweden
- Henning Jørgensen, U. of Copenhagen, Denmark
- René van Ree, WUR, The Netherlands
- Anton Friedl, Technical Univ. of Vienna, Austria
- Tony Bridgwater, Aston University, UK
- David Baxter, EC's Joint Research Centre, The Netherlands
- Valentin Popa, Editor, *Cellulose Chem. Technol. J.*
- Ioannis Economidis, f. KBBE Programme & EC-US Biotech Task Force

### *Speakers from Sahyog Partners*

- Rob Bakker, WUR, The Netherlands
- Rainer Janssen, WIP Renewable Energies, Germany
- Ludo Diels, VITO, Belgium
- Kees Kwant, NL-Agency, The Netherlands
- Other *Sahyog* proposals for European speakers
- Debabrata Das, IIT Kharagpur, India
- Director, bioresources & biotechnology, TERI, India
- Other possible speakers from Indian R&D groups to be suggested by project coordinator and partners
- NTUA experts from cooperating Labs

## **Training Fee**

The Summer School full fee covers: participation, venue and materials, lunch and coffee, welcome and farewell parties, city tour & excursion, and local transfer.

The fee for Indian participants nominated by *Sahyog* partners and selected by the organisers will be covered by project funds of the organisers.

European participants nominated by *Sahyog* partners and selected by the organisers will pay a reduced fee of 500 Euro.

All the other selected participants will pay the full fee of 800 Euro.

## **Accommodation**

The organisers have reserved a small number of rooms at the NTUA Campus Student House, for single or double use. These rooms will be offered free of charge for use by the participants nominated by the *Sahyog* partners, on a first come – first served basis, with priority to Indian participants.

A number of low price rooms at well-located hotels will be secured for the other Summer School participants.

## **Transport**

Air travel costs will be covered by the participants.

Free local transfer for all from/to the airport and to/from the meeting venue

## **Applications – Deadline – Selection procedure**

Interested young Indian and European researchers are kindly invited to express their intention by email to the Summer School Secretariat, along with (a) their CV and (b) a brief rational (max. 1 page) on the links of their research with their attendance of the Summer School.

The deadline for applications is **28 February 2013**. Applicants will be informed on the outcome of the selection process the latest by 15 March 2013.

The selection procedure will be based on (i) the relevance of the Summer School to the applicant's research; (ii) his/her CV and scientific and technological qualities; and (iii) his/her nomination by *Sahyog* partners. In addition, (iv) the need to form a well-balanced class profile will be taken into account.

### **Secretariat – Contact Info**

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**SEE YOU IN ATHENS!**