

The SAHYOG project: Strengthening Networking on Biomass Research and Bio-waste Conversion – Biotechnology for Europe India Integration

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SAHYOG Contact:

Inventory

SAHYOG Project Coordination

Coordinator: Dr. Neeta Sharma Phone: +39 0835 974603 Email: neeta@enea.it Internet: www.enea.it

Dr. Priyangshu Manab Sarma TERI - The Energy and Resources Institute,India Phone: +91 11 24682100 Email: priyanms@teri.res.in Internet: www.teriin.org The main aim of the project SAHYOG is to bring together leading organisations in the field of **biomass production and bio-waste conversion research** carried out within EU research programmes and related programmes by Indian national institutions.

Inventories of biomass and bio-waste potentials and research projects/programs elaborated and analysed within SAHYOG are the basis for the joint Strategic Research Agenda (SRA) finally leading to a Roadmap for policymakers and researchers. SAHYOG ensures wide-range networking of relevant industries and scientific communities and establishes linkages between on-going research and innovation projects from EU and India.

Please see www.sahyog-europa-india.eu for more information.

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> Department of Biotechnology Ministry of Science & Technology, Government of India



Project News

In this third newsletter issue, we would like to inform our readers about up-coming SAHYOG activities such as the Mini-Symposium and Twinning Workshop in Utrecht on 28-29 October 2013, and the up-coming call for Short-term Exchanges of junior researchers from India and Europe. Furthermore, brief summaries will be presented about recent SAHYOG events including the Summer School in Athens and the Stakeholder Workshop in Copenhagen.

SAHYOG Mini-Symposium and Twinning Workshop, Utrecht, Netherlands, 28-29 October 2013

In conjunction with the up-coming SAHYOG project meeting on 25-26 October 2013, a SAHYOG **Mini-Symposium** on EU-India research cooperation in the fields of biomass and bio-waste and **Twinning Workshop** will be organised in Utrecht, Netherlands on 28-29 October 2013.

The main aim of the Mini-Symposium will be to present SAHYOG achievements to a wider audience, to discuss progress on the development of a bio-based economy in India & Europe, and to present and discuss the first draft of the SAHYOG Strategic Research Agenda.

The aim of the SAHYOG Twinning Workshop is to bring together project coordinators and other lead partners from past and on-going projects and initiatives as well as international networks in order to consolidate R&D results, exploit synergies and thus build up a critical mass for future EU-India research collaboration.

The **priority strategic research themes for twinning** activities of initiatives from India and Europe to be performed under SAHYOG are:

- Bioethanol production from lignocellulosic biomass
- Thermochemical conversion technologies (pyrolysis, gasification)
- Anaerobic digestion technologies (biogas, biomethane, hydrogen)
- Algae production and conversion systems
- Biomass to chemicals the biorefinery approach
- Feedstock production and genetic improvement of plants
- Sustainability and life cycle assessment

For each of these priority strategic research themes, **SAHYOG twinning information flyers** have been elaborated and published on the project website. These information flyers, together with a draft **Letter of Interest (LoI)** (for interested organisations from Europe and India) and a general **SAHYOG twinning flyer** are available at the website.

In case you are interested in participating in the Mini-Symposium and the Twinning Workshop, or in general in SAHYOG twinning activities on one or more of the abovementioned research themes, please get in contact with Dr. Robert Bakker, Wageningen UR, The Netherlands (robert.bakker@wur.nl), and Dr. Rainer Janssen and Dominik Rutz, WIP – Renewable Energies, Germany (rainer.janssen@wip-munich.de, dominik.rutz@wip-munich.de).

For more information on SAHYOG twinning and the **preliminary agenda of the Mini-Symposium and the Twinning Workshop,** please visit: www.sahyog-europa-india.eu/project-twinning

SAHYOG Short-term Exchanges of Junior Researchers from India and Europe

The SAHYOG Short-term Exchanges will be based on a call for proposals addressing high level junior experts with the aim to enhance the networking and exchange of young talents and to establish a sustainable cooperation between the EU and India.

The purpose of this competition is to enhance international cooperation in order to jointly contribute to the development of sustainable solutions in the field of biomass and bio-waste. Focus of this call is to create conditions for mutual learning but most importantly, future decisions on both the EU-India cooperation as well as in the addressed field of science will not be taken over the heads of the young people scientists.

Networking activities funded through the short-term exchanges will be:

- 1. Bi- or multi-lateral EU-India short-term exchange of junior-experts
- 2. Expert meetings

Priority strategic research themes for SAHYOG short-term exchanges will be the same as those specified for the twinning activities (see above).

The call for proposals will be published on the website and be open for approximately six weeks. European as well as Indian young researchers can apply for this exchange. The European researchers can choose to participate in an organized visiting tour or apply for a visit they organized themselves. The Indian researchers coming to Europe will visit individual research institutions. The duration of the visits is between five and ten days.

In case you are interested in SAHYOG short-term exchange activities on one or more of the abovementioned research themes, please get in contact with Dörte Merk, International Bureau of the Federal Ministry of Education and Research at the Project Management Agency c/o German Aerospace Center (DLR) (Doerte.Merk@dlr.de) and Dr. S. Venkata Mohan, CSIR - Council for Scientific & Industrial Research - Indian Institute of Chemical Technology (IICT) (vmohan_s@yahoo.com).

For more information on SAHYOG Short-term Exchanges, please visit: www.sahyog-europa-india.eu /short-term-exchanges

SAHYOG Stakeholder Workshop in Copenhagen, Denmark, 6 June 2013

The aim of this SAHYOG workshop was to involve international experts and specialists from research, industry, and Governments in the elaboration of the Strategic Research Agenda (SRA) and the RTD Roadmap developed in the framework of the SAHYOG project.

The SAHYOG Stakeholder Workshop "EU – India Cooperation on Biomass and Bio-waste Research and Development" was organised by WIP on 6 June 2013, on the occasion of the 21st European Biomass Conference and Exhibition, 3-7 June 2013 in Copenhagen.

In this workshop activities and findings of the SAHYOG project, specifically the current status of the SAHYOG Strategic Research Agenda, was discussed with international stakeholders. Furthermore, project participants from India presented an overview of current research and development initiatives in the field of biomass and bio-waste in India.

Participants of the workshop included more than 40 stakeholders from Europe and India.

Please, see www.sahyog-europa-india.eu/stakeholder-workshops for the workshop summary documentation.



Audience of the SAHYOG Stakeholder Workshop in Copenhagen

All workshop presentations are available at: www.sahyog-europa-india.eu/stakeholder-workshops/2-uncategorised/57-sahyog-stakeholder-workshop



Participants of the SAHYOG Stakeholder Workshop in Copenhagen

SAHYOG Summer School in Athens, 9-16 June 2013

In the framework of the SAHYOG project two summer schools are planned to be organized with a duration of one week each. The 1st Summer School took place in Greece in June 2013 hosted by the European project partner NTUA and the other summer school will be organized in June/July 2014 in India by the Indian project partner Tezpur (TU).



SAHYOG Summer School in Athens

The first SAHYOG Summer School took place at the NTUA Zografou Campus, in Athens, Greece, in the period 9-16 June 2013. Between February and April 2013, following expression of interest and submission of CVs, a total of 20 Young Researchers was selected to attend the summer school, half of them from India and the other half from European teams.

The programme consisted of 20 (4 per day) 2-hour class units taught by distinguished experts who presented the latest developments in their respective fields, coming from a total of 10 countries, with a good balance of geographical distribution. The teaching programme

besides classroom work included a laboratory visit, a computational exercise, a welcome reception and a farewell party, an excursion in the city and the region, and a questionnaire-based evaluation. Each student was also required to develop a research project in a Student Paper.

The students evaluated the Summer School very positively, especially the quality of content and lecturers, and offered suggestions for its further improvement, such as more lab work, and adding some industrial visits.

For more information on SAHYOG summer schools, please visit: www.sahyog-europa-india.eu/ summer-schools



SAHYOG Summer School in Athens – Social Reception

SAHYOG Inventory on Research Programs and Projects

Within SAYHOG, a total of about 700 projects in the EU and 122 projects in India have been identified in an inventory of biobased projects, based on existing sources of information (e.g. Star-Colibri (www.star-colibri.net) and Cordis database) in the EU and a thorough survey in India.

The total funding of these projects is more than 1.5 billion Euro in the EU and 300 million Euro in India during the period 2007 – 2012.

A categorisation method was developed to find areas of research and the underlying projects could be identified. These overviews were made available to researchers and programme managers to allow for the identification of twinning opportunities.

An on-line database for the SAHYOG Project Inventory was set-up in April 2013. A fully searchable database including more than 800 projects was established under www.sahyog-projects-database.eu.

It presents an overview of existing programs and research projects in Europe and India, searchable with respect to the categories Upstream/Downstream, Type of Biomass, Production and pre-treatment, Biomass conversion technology, Product, Type of research, Organisation type, Drivers, and Sector. This database will be continuously up-dated with new information and projects during the course of the SAHYOG project.

For more information on the SAHYOG Project Inventory, please visit: www.sahyog-europa-india.eu/ inventories and the **on-line database www.sahyog-projects-database.eu**.



SAHYOG Communication and Dissemination

WIP Renewable Energies, Germany

Contact: Dr. Rainer Janssen, Dipl.-Ing. Dominik Rutz M.Sc.

Phone: +49 89 720 12743 Email: rainer.janssen@wip-munich.de|dominik.rutz@wip-munich.de

Internet: www.wip-munich.de