

AGENDA

DRAFT

Workshop

on

Next Generation Biofuels and bio-based Chemicals

**21-23 April, 2009
Trieste, Italy**

Hotel Maximilian and Riviera

organized by

ICS-UNIDO

Tuesday, 21 April

08:30-09:00 Registration of participants

Introductory Session

09:00-09:20 Welcome Addresses and Greetings:

- G. Rosso Cicogna (Managing Director of ICS-UNIDO)

09:20-09:30 Introduction to the Workshop and Participants (S. Miertus, ICS-UNIDO Area Chief)

Session I International and national programmes on biofuels and bio-based products and general issues

Chairs: G. Centi, C. Apesteguia

09:30-10:00 ICS-UNIDO Programmes in the Field of Emerging Biofuels and Bio-based Chemicals (S. Miertus, ICS-UNIDO)

10:00-10:30 EC programmes for research in the field of biofuels bio-based chemical production (P. Venturi, European Commission - DG RTD)

10:30-10:50 Biodiesel and new Biodiesel Technologies (R. Garofalo, EBB, Belgium)

10:50-11:20 Coffee break

11:20-11:40 Biofuels vs food in Africa (K. Muzee, AFREPREN Kenya)

11:40-12:10 Automotive Biofuels: ENI Refining & Marketing R&D programmes (E.N. D'Addario, ENI Division R&M, Italy)

Session II State of the art of S&T for production of next generation biofuels, platform and speciality chemicals, bio-based polymers, and bio-waste valorization

Chairs: T. Schaefer, D. Liu

12:10-12:40 New building blocks for bio-based chemical industry (F. Trifiro', University of Bologna, Italy)

12:40-13:00 Discussion

13:00-14:00 Lunch

14:00-14:30 Biotechnology for the next generation of biofuels and bio-energy (A. Lali, A. Odaneth, Institute of Chemical Technology, Mumbai, India)

14:30-15:00 Catalytic applications in the production of next generation biofuels and bio-based chemicals (G. Centi, University of Messina and ICS UNIDO National Consultant, Italy)

15:00-15:30 Valorization of bio-polymers for production of plastics, materials and added value chemicals (A. J. Varma, NCL Pune, India)

15:30-16:00 Hydroesterification of Vegetable Oils to Biodiesel and Oil chemistry Bio-products (D. Aranda, Universidade Federal do Rio de Janeiro, Brazil)

16:00-16:30 Coffee break

16:30-17:00 From Bulk Biomass to Liquid Sugars: a Technology ready for Demonstration by Dong Energy (M. Moller, Dong Energy, Denmark)

17:00-17:30 Discussion

Wednesday, 22 April

Session III General aspects of biofuels and bio-refineries

Chairs: E. Chiellini, D. Aranda

- 09:00-09:30 The potential future impact of biotech on the chemical industry: conversion of renewable feedstocks to chemicals; technical and economical perspectives from the view of a bio-technology player (T. Schaefer, Novozymes, Denmark)
- 09:30-09:50 Technical, economic and environmental aspects of biofuel evaluation and related Decision Support Tools (F. Mueller Langer, German Biomass Research Centre DBFZ-Leipzig, Germany)

Session IV Technical session:

Part 1: lignocellulose as a renewable feedstock for biofuels and chemicals

- 09:50-10:10 Controlled hydrolysis of lignocellulose over solid catalysts (G. Centi, University of Messina and ICS-UNIDO National Consultant, Italy)
- 10:10-10:30 Molecular modelling of enzyme hydrolysis of ligno cellulose (A. Lali, A. Odaneth, Institute of Chemical Technology, India)
- 10:30-11:00 Coffee break**
- 11:00-11:20 Liquefaction of wood: technology, products, use and valorization (A. Krzan, Institute of Chemistry Ljubljana, Slovenia)
- 11:20-11:40 Ligninolytic enzymes as tools for obtaining of bio-based compounds (L. Golovleva, G.K. Skryabin Institute of Biochemistry, Russia)

Part 2: catalytic applications in the processing of biomass, its derivatives, and bio-waste

Chairs: A. Krzan, F. Mueller Langer

- 11:40-12:00 A Demonstration on Biorefinery of Vegetable Oil: Integrated production for biodiesel and 1,3-propanediol (D. Liu, Tsinghua University, China)
- 12:00-12:20 Aqueous-Phase Reforming Process and Catalytic Hydrogen Production from Biomass (P. Fornasiero, University of Trieste, Italy and ICS UNIDO Consultant)
- 12:20-12:40 Technologies for valorization of bio-waste (S. Sayadi, Centre de Biotechnologie de Sfax, Tunisia)
- 12:40-13:10 Discussion

13:10-14:20 Lunch

- 14:20-14:50 Catalytic processing of glycerol to fuels and chemicals (C. Apesteguia, INCAPE, Argentina)

Part 3: Added value chemicals and plastics from biomass

Chairs: N. D'Addario, L. Golovleva

- 14:50-15:20 Plant substances and their added value derivatives (I. Chukicheva, Institute of Chemistry, Komi Science Centre, Ural branch of RAS, Russia)
- 15:20-15:50 Bio-catalysis for the production of biofuels and bio-based chemicals (L. Gardossi, University of Trieste and ICS-UNIDO National Consultant, Italy)
- 15:50-16:20 Coffee break**
- 16:20-16:50 New trends in bio-based degradable plastics (E. Chiellini, University of Pisa, Italy)
- 16:50-17:20 Sustainable bio-based chemicals and plastics as a part of integrated concept of future generation of biofuels (R. Narayan, Michigan State University, USA)

17:20-18:00 Discussion

Thursday, 23 April

Session V Case studies and R&D trends on biofuels and bio-based products in developing countries with the focus on the next generation technologies. Following topics will be considered:

- trends in R&D of new and emerging technologies
- existing applications and case studies
- needs, potentials, and existing capacity in the field
- national strategies and projects
- international cooperation: ongoing and proposed projects

Chairs: P. Fornasiero, S. Zinoviev

09:00 -09:20 S. Sayadi, Tunisia

09:20-09:40 D. Liu, China

09:40-10:00 D. Aranda, Brazil

10:00-10:20 Discussion

10:20-10:40 Coffee break

10:40-11:00 E. Buravlev, Russia

11:00-11:20 C. Apesteguia, Argentina

11:20-11:40 A.J. Varma, India

11:40-12:00 Discussion

Final Session: Discussion on follow up actions

12:00-13:00 Round Table discussion (part 1) on follow up activities including collaborative research projects with ICS-UNIDO, presentations of proposals (*Moderators: S. Miertus, A. Falaschi*)

13:00-14:00 Lunch

14:00-14:30 Conclusions of the Workshop (G. Rosso Cicogna)

15:00-17:00 Expert Group Meeting