**Scope and Objective**

This workshop addresses the state of art and the perspectives of research for the development of biorefineries intended to produce energy and bio-based added value chemicals from renewable sources comprising both dedicated crops and biowaste of urban, agriculture and agro-industrial origin. Biomass pathways are often considered essentially bioenergy pathways, due to financial incentives that have been granted by policy makers to market operators in order to increase the share of renewable energy production. Nevertheless the production of materials, fuels and chemicals starting from biomass represents one of the most promising alternative uses of biomass.

Energy and non-energy biomass pathways might show low or high likelihood of conflicting issues that need to be addressed in order to design better policies and trigger innovation and competition among market operators. For instance product marketability is a major issue for successful biorefinery realization at industrial and commercial level. These and other issues, such as dedicated crops versus biowaste, food supply chain waste analysis, chemical versus biochemical processes, biorefinery feed cost and perspectives of technological transfer will be addressed in the presentations of experts from academic institutions coming from Europe and South America and industrial operators.

The workshop has been organized in the framework of the IEE - Intelligent Energy Europe BIOTEAM project, of the eCOST - European Cooperation in Science and Technology EUBis Action TD1203 and of the IRSES Marie Curie Action.
Program

Tuesday, October 29

Morning session

8.30  Registration

9.00  Welcome and introductory remarks
      
      Guido Bolatto, Secretary-General of Torino Chamber of Commerce
      Giuseppe Genon, President of Fondazione per l’Ambiente - Turin School of Local Regulation

9.15  Current research on innovative pathways for bio-based products
      Chair: Giuseppe Genon

      Sustainability performance and market mapping of biomass pathways for energy and non-energy uses: BIOTEAM international project.
      Daniele Russolillo, Fondazione per l’Ambiente, Italy

      University of Torino projects on the valorization of biowaste as a source of added value bio-based products
      Enzo Montoneri, University of Torino, Italy

      The COST Action EUBis on food waste valorisation for sustainable chemicals, materials & fuels
      Joachim Venus, Leibniz-Institute, Germany

      RENERFOR Project: BRUSA (Biomass Resources Use and Availability) Model
      Giulio Cerino, Andrea Crocetta, Polytechnic of Torino, Italy

      Assessing the economic profitability of biorefinery schemes
      Maurizio Prosperi, University of Foggia, Italy

10.45  Coffee break

11.10  The point of view of industrial operators
      Chair: Giuseppe Genon

      Biodegradable and compostable plastics: the case study of Novamont
      Christian Garaffa, Novamont, Italy

      Bio-based lubricants and chemical auxiliaries for industry
      Fiorenzo Bucelli, Foundry Chem, Italy
Remarks on the perspective to turn a municipal waste treatment plant into a biorefinery

Davide Mainero, Acea Pinerolese Industriale, Italy

12.10 Round table. Market-competitive bio-products: what is missing?
Chair: Daniele Russolillo

Invited speakers:
Joachim Venus (Leibniz-Institute, Germany), Massimo Centemero (Assobioplastiche, Italy), Roberto Moriondo (Regione Piemonte, Italy), Christian Garaffa (Novamont, Italy), Davide Mainero (Acea Pinerolese Industriale, Italy), Enzo Montoneri (University of Torino, Italy), Maurizio Prosperi (University of Foggia, Italy), Massimo Montelone (coordinator of the European Star Agroenergy project, Italy)

13.15 Closing remarks and session closure

Afternoon session

14.00 Registration

14.15 Biowaste valorization – Part A
Chair: Massimo Monteleone

Social Network Analysis of the bio-based products market. A focus on the biowaste valorization.

Piergiuseppe Morone (IT), Sapienza University of Roma

The analysis of the bioplastics market in Italy. Identifying strengths, opportunities, weaknesses and threats.
Valentina Tartiu, University of Foggia

Pilot Plant for the bioconversion of renewable feedstocks and (agro/food...) residues.

Joachim Venus (DE), Department of Bioengineering, Leibniz-Institute for Agricultural Engineering Potsdam-Bornim (ATB)

Biorefinery development based on valorization of industrial by-product streams.

Apostolis A. Koutinas (Greece), Department of Food Science and Human Nutrition, Agricultural University of Athens

Improving the performance of the wheat bran biorefinery by the pre-extraction of starch-glucose.

Özge Tirpanalan (AU), Department of Food Science and Technology, University of Natural Resources and Life Sciences, Wien

Valorisation pathways for vegetable & fruit by-products.

Lies Kips (BE), Institute for Agricultural and Fisheries Research (ILVO), Merelbeke

Exhausted tomato plants to promote growth of other vegetable plants.
**Michele Negre** (IT), University of Torino
Food waste as a useful source of compounds improving plant health.

**Lenka Burketová** (CZ), Institute of Experimental Botany AS CR, Prague

17.00 Coffee break

17.20 Biowaste valorization – Part B
Chair: **Massimo Monteleone**

Food and non-food urban waste derived biosurfactans for emulsions in metalworking processes.

**Adriana K. N. Vargas** (BR), Universidade de São Paulo
Membrane processes.

**Michel Jaffrin** (FR), CNRS, University of Technology, Compiègne
Valorization of rice bran and other agroindustry waste by extraction of oil and esterification over solid catalysts.

**Nicoletta Ravasio** (IT), CNR ISTM, Milano
Development of catalysts for production of bio-oils via catalytic hydrotreatment.

**Blaž Likozar** (SL), National Institute of Chemistry, Ljubljana
Development of catalysts for glycerol esterification.

**Margarita Popova** (BG), Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences, Sofia
Added value metabolites from heterotrophic microalgae fermentation.

**Xavier Turon** (ES), Bioengineering Department, IQS, Ramon Llull University, Barcelona

19.15 Closing remarks and session closure

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**Wednesday, October 30**

8.45 Registration

9.15 Biowaste valorization – Part C
Chair: **Enzo Montoneri**

Utilization of waste bread for lactic acid fermentation.

**Joachim Venus** (DE), Department of Bioengineering, Leibniz-Institute for Agricultural Engineering Potsdam-Bornim (ATB)

Thermo-chemical conversion of biowaste and products upgrading and levulinic acid production.

**Witold Kwapiszki** (IE), University of Limerick
Biodiesel production: process intensification under non-conventional techniques.
**Giancarlo Cravotto** (IT), University of Torino

Levulinic acid production and bioplastics production from exhausted tomato plants.
**Silvia Tabasso** (IT), University of Torino

The Concept Of Biorefinery In Cork Factories.
**Francisco Yuste** (ES), Department of Technology for Forest Resources, Institute for the Wood, Cork and Charcoal, Mérida (Badajoz)

11.10 Coffee break

11.30 Biowaste valorization – Part D
Chair: **Enzo Montoneri**

Ion exclusion chromatography: a potentially valuable biorefinery technology for complex fluids. Application to fruit juice de-acidification as a case study.
**Nikolaos E. Mavroudias** (UK), Department of Applied Sciences, Faculty of Health and Life Sciences, Northumbria University, Newcastle upon-Tyne

The search for safer Ionic Liquids for biomass conversion.
**Andrew Jordan** (IE), School of Chemical Sciences, Dublin City University

Uses of refuse derived Soluble Bio-based Substances in the preparation, properties, and applications of nanomaterials.
**Luciano Carlos**, INIFTA-CONICET, Universidad Nacional de La Plata (AR)

12.45 Session closure

**Organizational Notes**

The workshop will be held on **October 29** from 8.30 to 19.15 and on **October 30** from 9.15 to 12.45 at the Conference Centre Torino Incontra, via Nino Costa 8 in Torino.

Participation is free but registration is mandatory within **October 28, h. 14.00**, at the following address: [www.to.camcom.it/biorefinery](http://www.to.camcom.it/biorefinery)

On October 29, during the morning session, **simultaneous translation** English-Italian will be provided. Nella sessione mattutina del 29 ottobre è prevista la **traduzione simultanea** inglese-italiano.