

## **S2Biom Summer School**

**17-20 May 2016**

**Venue:**

**National Technical University of Athens (NTUA),**

**Zografou Campus**

**Athens, Greece**



**Information updated on 22<sup>nd</sup> of April, 2016**

## About S2Biom project

The S2Biom project - Delivery of sustainable supply of non-food biomass to support a “resource-efficient” Bio-economy in Europe - supports the sustainable delivery of non-food biomass feedstock at local, regional and pan European level through developing strategies, and roadmaps that will be informed by a “computerized and easy to use” toolset (and respective databases) with updated harmonized datasets at local, regional, national and pan European level for EU-28, Western Balkans, Moldova, Turkey and Ukraine. Further information about the project and the partners involved are available under [www.s2biom.eu](http://www.s2biom.eu).

### Project coordinator



### Scientific coordinator



### Project partners



S2Biom is co-funded by the European Commission in the 7th Framework Programme (Project No. FP7-608622). It is coordinated by FNR (Fachagentur Nachhaltende Rohstoffe e.V.), and the consortium includes 31 partners from EU28, western Balkans, Ukraine and Turkey.

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## Participants

The S2Biom summer school is foreseen for Master and PhD level students. Post-doc students and researchers (from both – universities and other research institutions) willing to extend their knowledge about non-food biomass feedstock supply chains, costs and technologies, are also welcome to join. Participants are invited to bring their own laptops to be used during the S2Biom Tool workshops.

Participants attending all four days of the summer school will receive a certificate of attendance.

## Organisers

The summer school is organised in the frame of S2Biom project.

The event is hosted by National Technical University of Athens / Laboratory of Steam Boilers and Thermal Plants and co-organized by WIP – Renewable Energies (Germany) and CERTH - Centre for Research & Technology Hellas (Greece) with support of other S2Biom project partners.



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## Fees

Participation in the summer school is free of charge. However, travel costs to and from the venue, accommodation costs as well as any other costs shall be covered by the summer school participants themselves or from alternative funding sources.

## Registration

Summer school participants need to register by sending their application form by e-mail to: [ilze.dzene@wip-munich.de](mailto:ilze.dzene@wip-munich.de). The registration form can be downloaded on S2Biom web-site.

**The extended deadline for the registration is 8<sup>th</sup> of May, 2016!**

Please note that the number of participants is limited to 20-25 students.

## Information about the venue and travel arrangements



The summer school will be held at **National Technical University of Athens (NTUA), Zografou Campus.**

Information about how to reach the venue is provided in the following link: [http://www.ntua.gr/map\\_en.html](http://www.ntua.gr/map_en.html)

Participants are responsible for organizing the accommodation on their own. There are number of options in the city and NTUA is easy to reach from Athens city center.

## Contact information

In case of questions or need for further information please contact the organisers:

→ Dr Ilze Dzene, WIP – Renewable Energies

E-mail: [ilze.dzene@wip-munich.de](mailto:ilze.dzene@wip-munich.de), T.+49-(0)6691-9274-977

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## Summer school agenda

<b>Tuesday</b>		
<b>17<sup>th</sup> May 2016</b>		
<b>Day 1: Biomass supply &amp; introduction to S2Biom toolset</b>		
10:00 – 10:15	Welcome to the summer school and overview of the agenda	Assoc. Prof. Sotirios Karellas, NTUA Manolis Karampinis, CERTH
<b>10:15 – 11:30</b>	<b>Session 1: Sustainable supply of non-food biomass to support a “resource-efficient” Bioeconomy in Europe</b>	
	Introduction to the S2Biom project	Ludger Wenzelides, FNR
	Sustainable supply of non-food biomass for a resource efficient bio-economy: Review on the state-of-the-art	Ilze Dzene, WIP
11:30 – 11:45	<i>Break</i>	
<b>11:45 – 13:15</b>	<b>Session 2: Estimation of biomass availability for lignocellulosic biomass</b>	
	Mapping of the biomass availability and cost supply curves	Igor Staritsky, DLO - Alterra
	Assessment of the cropping potential and the development of dedicated crops database	Jacqueline Ramírez Almeyda, UniBO
	S2Biom Tool box workshop*: biomass availability maps and cost supply curves	Igor Staritsky, Raymond Schrijver, DLO – Alterra
<b>Wednesday</b>		
<b>18<sup>th</sup> May 2016</b>		
<b>Day 2: Conversion technologies</b>		
<b>10:00 – 12:00</b>	<b>Session 3: Biomass conversion technologies</b>	
	Overview on biomass conversion technologies for energy and fuels	Tijs Lammens, BTG
	Overview on biomass conversion technologies for bio-based products	Ludger Wenzelides, FNR
12:00 – 12:15	<i>Break</i>	
<b>12:15 – 14:15</b>	<b>Session 4: Matching the biomass to conversion technologies</b>	
	Matching the biomass to conversion technologies	Tijs Lammens, BTG
	Biomass & Technology Matching Tool workshop*	Tijs Lammens, BTG
14:15 – 14:45	NTUA/LSBTP Lab tour (1 <sup>st</sup> group of students)	
<b>Thursday</b>		
<b>19<sup>th</sup> May 2016</b>		
<b>Day 3: Logistics</b>		
<b>10:00 – 13:15</b>	<b>Session 5: Biomass logistics</b>	
	The main logistical components and logistic concepts	Igor Staritsky, DLO – Alterra
	BeWhere Tool workshop*: Optimal Technology, Location and Capacity of Bio-energy Production Plants and Evaluation	Sylvain Leduc, IIASA
11:30 – 11:45	<i>Break</i>	
11:45 – 13:15	LocaGIStics Tool workshop*: Biomass Chain Design and Evaluation	Igor Staritsky, DLO – Alterra
13:15 – 13:45	NTUA/LSBTP Lab tour (2 <sup>nd</sup> group of students)	

<b>Friday</b> 20 <sup>th</sup> May 2016	<b>Day 4: Policy and case studies</b>	
<b>10:00 – 11:30</b>	<b>Session 6: Policies &amp; case studies</b>	
	Benchmark and gap analysis	Ludger Wenzelides, VITO & FNR
	Case study of Finland	Melin Kristian, VTT
11:30 – 11:45	<i>Break</i>	
11:45 – 12:30	Case study on Biofuel production in North-East Germany and North West Poland	Magda Borzęcka, IUNG, Simon Kühner, Klaus Lenz, SYNCOM
12:30	<i>End of the summer school</i>	

**\* Participants are invited to bring their own computers to be used during the workshops. Internet connection to access the S2Biom tools and databases will be provided by summer school organisers**

## Brief description of S2Biom Tools

**S2Biom Tool Box:** The S2Biom toolset aims to provide an easy access to a systematic, visually attractive and readily understandable spatially specific overview of data on biomass cost-supply, characteristics of conversion and pre-treatment technologies, biomass hubs and yards and matching biomass to technologies, market demand and policies for biomass for bioenergy and biobased products. It also provides optimal design and evaluation of biomass delivery chains and networks at local, regional, national and European scale in EU-28, Western Balkans, Ukraine, Turkey and Moldova at regional, national and European wide scale.

The tools developed in S2Biom are made available through a general user interface which can be accessed at <http://s2biom.alterra.wur.nl/>

**Biomass & Technology Matching Tool:** This tool guides the user in an interactive and attractive manner to the optimal match between biomass resources and conversion technologies. Each conversion technology has specific biomass input requirements, while the composition and characteristics of biomass at roadside varies widely. Some biomass types can be used in many different technology options, while others are hard to process or will need extensive pre-treatment. The matching tool uses extensive information from the S2Biom databases to show the user which types of biomass can be processed by which technologies to certain end-products, and thereby helps the user to find an optimal supply chain.

**BeWhere:** This tool supports the development of EU-wide and national strategies to develop an optimal network of biomass delivery chains. BeWhere provides as output a network of existing and suggestions for new to be developed biomass conversion chains according to optimal selection of technologies, their location and capacity, the costs of each segment of the supply chain, the total bio-energy and biomaterial demand, and avoided emissions at different geographical levels (regional, national and European level).

**LocaGIStics:** *Local Assessment tool for design and loGistics of biomass delivery chains.* This tool supports the user to design optimal biomass delivery chains, particularly taking account of different logistical organisations of the chain at regional level and analyse in a comparative way (for different biomass delivery chains) the spatial implications and the environmental and economic performance. It takes account of the biomass cost-supply, the conversion and pre-treatment technology options and novel logistical concepts of biomass hubs and yards. In relation to environmental impacts it takes account of the indicators and guidelines for assessing the overall sustainability performance for bioeconomy value chains. LocaGistics provides support for refining the BeWhere solution while reaching optimal economic and environmental performance per installation and full biomass delivery chain.