






The 6th International ENVIRONMENTAL BEST PRACTICES Conference “Sustainability schemes for bio-based products in the framework of the circular bioeconomy”

Organizer: University of Warmia and Mazury in Olsztyn
Date: 23-26 September 2019
23 September 2019 – Project Meetings
24-26 September 2019 – Conference

Place: Campus of the University of Warmia and Mazury in Olsztyn, Poland
Stoneczna 54 Str., 10-710 Olsztyn

PROGRAM

MONDAY – 23 September 2019
Parallel satellite workshops/project meetings (closed)

8:00 – 08:30	Registration Foyer, The Faculty of Mathematics and Computer Science Stoneczna 54 Street, 10-710 Olsztyn
8:30 – 19:00	Workshops/Project meetings
Lunch 13:00 – 14:00	EBIPREP  14:00 – 16:00 Room A1/6
Ice-breaking Party 19:30	BIOMagic  8:30 – 19:00 Room C2
	STAR-ProBio  14:00-19:00 Room C1

6th International ENVIRONMENTAL BEST PRACTICES Conference

“Sustainability schemes for bio-based products in the framework of the circular bioeconomy”

MONDAY – 23 September 2019

19:30 **Ice-breaking Party**
 Restaurant “Przystań Kortowska”, Jana Heweliusza 28 str. 10-719 Olsztyn (University campus)

TUESDAY – 24 September 2019

8:00 – 08:30 **Registration**
 Foyer, The Faculty of Mathematics and Computer Science, Stoneczna 54 Street, 10-710 Olsztyn

8:30 – 09:00 **Opening Ceremony (Room B)**
Welcome – Rector of University of Warmia and Mazury in Olsztyn, Poland
Introduction to EBP6 – Janusz Gołaszewski, University of Warmia and Mazury in Olsztyn, Poland

9:00 – 10:45 **Plenary Session 1**
Sustainable value chains for biomass-based products
(Room B)

Chairperson: Mariusz STOLARSKI, University of Warmia and Mazury in Olsztyn, Poland

9:00 – 9:25 *Invited Speaker:*
Vance OWENS, South Dakota State University, USA
 USA production and market of biomass for ground-based transportation fuel, sustainable aviation fuel, and bio-based products

9:25 – 9:50 *Invited Speaker:*
Jean-Luc DUBOIS, ARKEMA France
 Comparison of several oil crops potential for the production of the same chemical compound: is the cheapest oil the best solution?

9:50 – 10:10 **Myrsini CHRISTOU**, Center for Renewable Energy Sources (CRES), Greece
 EU production and market for cereals and lignocellulosic crops as a source of biomass for bio-based products

10:10 – 10:25 **Federica ZANETTI**, University of Bologna, Italy
 Innovative oil and starch crops as a source of biomass for the European bio-based economy


10:25 – 10:45 **Rolf BLAAUW**, Wageningen Food & Biobased Research, The Netherlands
 Examples of value chains for multipurpose biomass utilization

10:45 – 11:00 Coffee break



STAR-ProBio project meeting – closed. (Room C1)





TUESDAY – 24 September 2019

11:00 – 12:45	Plenary Session 2 Multi-product processing – requirements on sustainability (Room B)	PANACEA project meeting –closed (Room C2) 	STAR-ProBio project meeting – closed. (Room C1) 
	Chairperson: Anne-Cécile ROGER , University of Strasbourg, France		
11:00- 11:25	<i>Invited Speaker:</i> Vijay K. VERMA , Dhara Solutions GmbH, Austria Small scale biomass heating systems: Standards, quality labelling and market driving factors – An EU outlook		
11:25-11:45	Andreas WILKE , Offenburg University of Applied Sciences, Germany EBIPREP – Efficient Use of Biomass for low Emission Production of Renewable Energy and biotechnological valuable Products		
11:45-12:05	Jan CEBULA , Silesian University of Technology, Poland Cofermentation of potato pulp with poultry manure		
12:05-12:25	Philipp HUBER , Offenburg University of Applied Sciences, Germany Production of a value-added product from biogenic residues by <i>Euglena gracilis</i>		
12:25-12:45	Paulina MARCINIAK , University of Warmia and Mazury in Olsztyn, Poland Production of polyhydroxyalkanoates by <i>Paracoccus homiensis</i> from wastes generated by dairy industry		
12:45 – 13:00	Innovation presentations Chairperson: Ewelina OLBA-ZIĘTY , University of Warmia and Mazury in Olsztyn, Poland		
13:00 – 14:00	Lunch		

TUESDAY – 24 September 2019

14:00 – 15:45	Plenary Session 3 – Green chemistry and biotechnology – new technologies and markets (Room B)	PANACEA project meeting –closed (Room C2) 	
	Chairperson: Stawomir CIESIELSKI , University of Warmia and Mazury in Olsztyn, Poland		
14:00 –14:25	<i>Invited Speaker:</i> Roland WOHLGEMUTH , Coordination Committee for Biotechnology, Switzerland; Lodz University of Technology, Poland Biotechnology and Green Chemistry for the Design of Resource-efficient Processes		
14:25 –14:45	Venkateswar Reddy MOTAKATLA , University of Münster, Germany Biofuels and bioplastics production from waste materials through microbial fermentation technology		
14:45 –15:05	Tomasz POKÓJ , University of Warmia and Mazury in Olsztyn, Poland Enhanced polyhydroxyalkanoates production by mixed microbial cultures on crude glycerin with a feast-accumulation-endogenous growth cultivation strategy		
15:05 –15:25	Oliver JOCHUM , Offenburg University of Applied Sciences, Germany Biological methanation with membrane gassing in a whey pilot biogas plant		
15:25 –15:45	Luana LADU , Technische Universität Berlin (TU Berlin), Germany Measures to create a supportive regulatory framework for the bio-based industry		
15:45 – 16:00	Coffee break		
16:00 – 18:35	EBIPREP- project results communication		PANACEA project meeting (Room C2) 
	Chairperson: Andreas Wilke , Offenburg University of Applied Sciences, Germany		
16:00 – 16:20	Binayak OJHA , Karlsruhe University of Applied Sciences, Poland In situ analysis of dissolved organic acids in biogas fermentation process using metal oxide gas sensors		
16:20 – 16:40	Binayak OJHA , Karlsruhe University of Applied Sciences, Poland Development of a novel sensor system for online monitoring of the tar in synthesis gas streams of biomass gasification processes		
16:40 – 17:00	Gwenaëlle TROUVÉ , Université de Haute-Alsace, France Determination of the optimal working parameters by the Taguchi methods devoted to an experimental biomass gasifier		
17:00 – 17:20	Stefan TURAD , Offenburg University of Applied Sciences, Germany Increasing efficiency and profitability of biogas plants by reducing the residence time and using a waste material – wood juice		
17:20 – 17:35	Coffee break		

17:35 – 17:55	<p>Stefan TURAD, Offenburg University of Applied Sciences, Germany Parametric study of operationally and constructionally adapting a downdraft gasifier for using digestion residues</p>		<p>PANACEA project meeting (Room C2)</p> 
17:55 – 18:15	<p>Anna SANDHAAS, Offenburg University of Applied Sciences, Germany Efficient use of Wood Juice for the production of biotechnological valuable products</p>		
18:15 – 18:35	<p>Dolores JURADO FUENTES, University of Strasbourg, France Optimization of activation conditions of Ni-based catalysts on SiC extrudates for tars reforming. Subsequent application in a gasification pilot plant</p>		
19:30	<p>Conference dinner (Restaurant of Hotel HP Park Olsztyn, Al. Warszawska 119)</p>		

08:30 – 20:00

Study visits

MASPEX

Maspex Group is now one of the largest companies in Central and Eastern Europe in the food products segment. It is the leader in many product categories, such as juices, nectars, noncarbonated soft drinks, pasta, jams, ketchups and sauces. Maspex actively supports local communities, activities and initiatives for children and young people through charity and the development of culture, education and sport.



ChemProf

The company specializes in solving problems in a wide range of chemical technology, food and feed technology, biotechnology, nanotechnology, pharmacy, as well as chemical, biochemical and microbiological analysis. Thanks to cooperation with scientific and research centers and scientific units in the country and abroad, ChemProf are ready to carry out advanced tasks, develop and implement processes and unit operations on a pilot scale.



The Province of Warmia and Mazury

The Province of Warmia and Mazury called "the Region of Thousand Lakes" offers plenty of sightseeing places and tourist attractions.



THURSDAY – 26 September 2019

8:45 – 10:30	Plenary Session 4 – Socio-economic dimensions of regulations on circular bioeconomy	
	Chairperson: Piergiuseppe MORONE , University of Rome Unitelma Sapienza, Italy	
8:45 – 9:10	<i>Invited Speaker:</i> Donald HUISINGH , University of Tennessee, USA How can WE Design and Implement Equitable Bio-Economy Policies that help to Ensure Food Security and other Bio-Securities in the Context of Climate Change Crises?	
9:10 – 9:30	Enrico BALUGANI , University of Bologna, Italy A simple tool to estimate ILUC risk for feedstocks used to produce bioplastics, in the framework of the STAR-ProBio project	
9:30 – 9:50	Mathilde CREPY , ECOS, Belgium Mapping existing policies related to direct and indirect land use change for the bio-based economy in Europe	
9:50 – 10:10	Enrica IMBERT , University of Rome Unitelma Sapienza, Italy Professionals procurers Sustainability Preferences	
10:10 – 10:30	Asha SINGH , Imperial College London, United Kingdom Strengths and opportunities of agricultural biobased value chains: in the UK and the role of stakeholders	
10:30 – 11:00	Coffee break	Scientific Board of CBEO UWM (closed) (Room C2)
11:00 – 12:45	Plenary Session 5 – Standardization processes for natural pharmaceutical products	
	Chairperson: Grażyna ZGÓRKA , Medical University of Lublin, Poland	
11:00 – 11:25	<i>Invited Speaker:</i> Sebastian GRANICA , Medical University of Warsaw, Poland The bioactivity of flavonoids present in food products in the context of their absorption, II phase metabolism and deconjugation at the inflammation site	
11:25 – 11:45	Aleksandra JÓZEFczyk , Medical University of Lublin, Poland Preparing and quality assessment of dry herbal extracts for intended medicinal use	
11:45 – 12:05	Grażyna ZGÓRKA , Medical University of Lublin, Poland Standardisation of herbal medicinal products in theory and practice	
12:05 – 12:25	Jan SOBCZYŃSKI , Medical University of Lublin, Poland Formulation development for drug products based on standardised herbal extracts	
12:25 – 12:45	Agnieszka GRZEGORCZYK , Medical University of Lublin, Poland Standardization of methods for determining the antibacterial activity of plant extracts and the isolated phytoconstituents	
12:45 – 13:00	Coffee break	

13:00 – 14:00	Discussion Panel– Circular Bioeconomy and Practice
	<p>Stanisław BIELECKI, Lodz University of Technology, Poland – Moderator Andreas WILKE, Offenburg University of Applied Sciences, Germany Sebastian GRANICA, Medical University of Warsaw, Poland Michał ŁUCZYŃSKI, ChemProf, Poland Danuta CIECHAŃSKA, Institute for Sustainable Technologies, Poland Roland WOHLGEMUTH, Lodz University of Technology, Poland</p>
14:00 – 14:15	EBP6 Closing Ceremony
	<p>Adam CENIAN, Institute Of Fluid-Flow Machinery Polish Academy of Sciences, Poland Summary of Poster Presentations</p>
	<p>Paweł BRZUZAN, University of Warmia and Mazury in Olsztyn, Poland Announcement on awards for young researchers</p>
	<p>Janusz GOŁASZEWSKI, University of Warmia and Mazury in Olsztyn, Poland EBP6 in statistics</p>
	<p>Reiner STAUDT, Offenburg University of Applied Sciences, Germany Invitation to EBP7</p>
14:15 – 15:15	Lunch

Poster Session (24-26 September 2019)

PS1

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| 1.1 | Use of herbaceous plants for the production of bio-products
Aušra Bakšinskaitė, Vita Tilvikienė |
| 1.2 | Biogas production from polylactic acid (PLA) under anaerobic thermophilic condition
Katarzyna Bernat, Dorota Kulikowska, Irena Wojnowska-Baryła, Rafał Jabłoński |
| 1.3 | Bioconversion of biomass by insects
Anna Bordiean, Michał Krzyżaniak, Mariusz Jerzy Stolarski, Stanisław Czachorowski |
| 1.4 | State of art and design trends for innovative sorting and collection methods of household waste
David Christensen, Lina Katan, Adam Cenian |
| 1.5 | Optimising GHG Emissions Along A Biodiesel Production Value Chain Using System Dynamics Modelling
Thomas Christensen |
| 1.6 | The impact of willow and Miscanthus plantations on insects biodiversity in the rural landscape
Stanisław Czachorowski, Natalia Piotrowska, Mariusz Jerzy Stolarski |
| 1.7 | Evaluation of biomass quality of selected woody species
Łukasz Gil, Mariusz Jerzy Stolarski |
| 1.8 | The results of research on the determination of the normalised yield curve of the cup plant
Marek Hryniewicz |
| 1.9 | Hemp (<i>Cannabis sativa</i> L.) biomass as a feedstock for bio-based fuel
Zofija Jankauskienė, Vita Tilvikienė, Renaldas Ruzgas, Egidijus Zvicevičius, Živilė Černiauskienė |
| 1.10 | Elemental composition, antioxidant activity and bioactive compounds content of SALIVET as an example of bio-based complementary feed from willow bark (<i>Salix</i> sp.)
Andrzej Juszczyk, Marcin Turemko, Agnieszka Gomułka, Krzysztof Waśkiewicz, Mateusz Kondzior |
| 1.11 | Application of Corine database in assessment of changes in land use structure
Barbara Kalisz, Janusz Gołaszewski, Krystyna Żuk-Gołaszewska, Wioleta Radawiec, Przemysław Slesiński |
| 1.12 | Life cycle assessment of short rotation willow production – a review
Michał Krzyżaniak, Mariusz Jerzy Stolarski, Kazimierz Warmiński |
| 1.13 | Aerobic degradation of PLA in thermophilic conditions
Dorota Kulikowska, Katarzyna Bernat, Irena Wojnowska-Baryła, Rafał Jabłoński, |
| 1.14 | Potential and dynamics of yielding and biometric characteristics of black locust (<i>Robinia pseudoacacia</i> L.) cultivated on marginal soil
Mariusz Matyka, Jan Kuś, Paweł Radzikowski |
| 1.15 | Project BioBIGG - Bioeconomy in the South Baltic Area: Circular economy principles applied to a potato value chain
Dariusz Mikielewicz, Roksana Bochniak, Aleksandra Gołąbek, Paweł Dąbrowski, Rafał Andrzejczyk, Jan Wajs |
| 1.16 | Yielding Virginia mallow depending on selected agrotechnical factors
Bartosz Napiórkowski |
| 1.17 | Total carbon content in willow and poplar bark and wood harvested in annual cycle
Dariusz Niksa, Mariusz Jerzy Stolarski |
| 1.18 | Economic indicies in the production of two short rotation woody crops species
Ewelina Olba-Zięty, Mariusz Jerzy Stolarski, Michał Krzyżaniak, Monika Makowska |

	1.19	Agricultural byproducts valorization in the circular economy: the case of chaff Luigi Pari, Vincenzo Alfano, Antonio Scarfone, Simone Bergonzoli, Alessandro Suardi
	1.20	Agricultural biogas plants in Poland Dumitru Peni, Mariusz Jerzy Stolarski, Marcin Dębowski, Michał Krzyżaniak
	1.21	Marginal land spatial recognition and its possibilities for biomass production Rafał Pudełko, Anna Jędrejek, Małgorzata Kozak
	1.22	Diversity of earthworm (Lumbricidae) species in industrial crops Paweł Radzikowski, Jarosław Stalenga, Beata Feledyn-Szewczyk
	1.23	Upstream environmental assessment of first and second generation sugars Iana Câmara Salim, Gumersindo Feijoo, Maria Teresa Moreira
	1.24	Willow productivity in Poland Mariusz Jerzy Stolarski, Dariusz Niksa, Michał Krzyżaniak, Józef Tworowski, Stefan Szczukowski
	1.25	The quality of solid biofuels versus fossil fuels Mariusz Jerzy Stolarski, Barbara Rybczyńska, Michał Krzyżaniak, Waldemar Lajszner, Łukasz Graban, Dumitru Peni, Anna Bordiean, Ewelina Olba-Zięty, Anna Sadowska,
	1.26	Applicability of ash from combustion of <i>Sida hermaphrodita</i> R. as soil improver and its effects on crop size Mateusz Szymański, Bartosz Pietrzykowski, Adam Cenian
	1.27	The biomass potential and quality of non-food crops grown in northern climate Vita Tilvikiene, Zydre Kadziuliene, Ausra Baksinskaite, Urte Stulpinaite
	1.28	Harmonisation under the criteria of sustainable development and their operationalization Mirostawa Witkowska-Dąbrowska
PS2	2.1	Optimization of extraction parameters of alginate from aerobic granules Agnieszka Cydzik-Kwiatkowska, Dawid Nosek, Mariusz Zygmunt Gusiatin, Magdalena Zielińska, Katarzyna Bernat, Dorota Kulikowska, Irena Wojnowska-Baryła
	2.2	Dissolved humic substances recovered from sewage sludge for Cu removal during soil flushing Barbara K. Klik, Zygmunt M. Gusiatin, Dorota Kulikowska
	2.3	Potential of dissolved organic matter (DOM) from municipal sewage sludge for treatment of Cu-contaminated soil Barbara K. Klik, Zygmunt M. Gusiatin, Dorota Kulikowska
	2.4	Anaerobic co-digestion of chicken manure with waste cooking oil Izabela Konkol, Jan Cebula, Adam Cenian
	2.5	Influence of glycerine phase on the stability of anaerobic fermentation of cattle manure Wioleta Mikucka, Katarzyna Bułkowska
	2.6	Evaluation of the possibilities of post-extraction biomass management Marcin Walter, Marek Adamczak
PS3	3.1	Synthesis of polyhydroxyalkanotaes from <i>Bacillus thuringiensis</i> using wood juice as substrate Elizabeth Obeyaa Adu, Andreas Wilke, Sławomir Ciesielski
	3.2	Separation of nicotine, aromatic volatiles and high molecular weight components from Burley tobacco using supercritical fluid extraction and fractionation Agnieszka Dębaczak, Katarzyna Tyśkiewicz, Rafał Kowalski, Rafał Wiejak, Edward Rój
	3.3	Polyhydroxyalkanoates Biosynthesis from Palm Oil using <i>Pseudomonas aeruginosa</i> Nipon Pisutpaisal, Pinanong Tanikkul

	3.4	The efficiency of hydrolysis of lignocellulosic material after supercritical fluid extraction catalyzed by cellulolytic enzymes Kamila Orlińska, Wioleta Radawiec, Ewelina Olba-Zięty, Janusz Gołaszewski
	3.5	The stability of plant extracts compounds Mateusz Ostolski, Marek Adamczak
	3.6	Biosynthesis of polyhydroxyalkanoates by <i>Paracoccus homiensis</i> using volatile fatty acids Karolina Szacherska, Justyna Możejko-Ciesielska
	3.7	Regulation of enzyme and microorganisms activity by plant extracts Magdalena Śnieżawska, Marek Adamczak
	3.8	The application of supercritical fluid extraction in fast-growing trees biomass management- Application of supercritical fluid extraction in biomass processing of fast growing trees Katarzyna Tyśkiewicz, Piotr Kamiński, Zygmunt Fekner, Rafał Kowalski, Agnieszka Dębczak, Marcin Konkol, Edward Rój, Mariusz J. Stolarski
	3.9	The scCO₂ <i>Fucus vesiculosus</i> extract as a natural additive to plant protection products with antifungal properties Katarzyna Tyśkiewicz, Renata Tyśkiewicz, Marcin Konkol, Edward Rój, Jolanta Jaroszuk-Ścisiel, Krystyna Skalicka-Woźniak
PS4	4.1	Implementation of ecosystem-based DPSIR framework in the study on sustainability of bio-based products Janusz Gołaszewski, Anna Karwowska
	4.2	Legislation and consensus for minimum criteria in all bio-based economy sectors Michał Krzykowski, Ewelina Olba-Zięty, Janusz Gołaszewski, Jan Jakub Zięty
	4.3	Sustainability indicators of the effectiveness of using biomass resources in the production of bio-based products Izabela Samson-Bręk, Barbara Kalisz, Krystyna Żuk-Gołaszewska, Wioleta Radawiec
PS5	5.1	In vitro screening for anthelmintic activity of supercritical plant extracts against <i>Rhabditis</i> sp. Anna Bogucka-Kocka, Przemysław Kołodziej, Daniel Zalewski, Edward Rój, Anna Malm
	5.2	Prodigiosin – underrated weapon against Gram-positive bacteria Martyna Godzieba, Sławomir Ciesielski
	5.3	Comparison of antifungal activity of supercritical extracts obtained from the selected <i>Salix</i> species Agnieszka Grzegorzczak, Anna Biernasiuk, Dominika Grzegorzczak, Marcin Konkol, Katarzyna Tyśkiewicz, Rafał Wiejak, Edward Rój, Anna Malm