

Program scheme


14th International Conference on Agrophysics

11-13 September 2023, Lublin, Poland

Day 0 - Sunday, September 10, 2023

18:00 - 21:00 Registration, Welcome reception

Day 1 - Monday, September 11, 2023

8:00 - REGISTRATION	
9:15 - OPENING CEREMONY - room A	
9:30 - OPENING LECTURE Marc Hendrickx - room A	
The impact of processing on quality and health related aspects of foods 	
<i>The event is carried out with the financial support of The City of Lublin, as part of the Visiting Professors in Lublin Program</i>	
COFFEE BREAK 10:00 - 10:30	
3rd Fruit Structure Workshop room A 10:30 - 12:30	Microbial Biodiversity and Resilient Plants Workshop room B 10:30 - 12:30
LUNCH 12:30-13:30	
3rd Fruit Structure Workshop room A 13:30 - 15:20	Microbial Biodiversity and Resilient Plants Workshop room B 13:30 - 15:20
COFFEE BREAK 15:20 - 15:40	
3rd Fruit Structure Workshop room A 15:40 - 17:50	POSTER SESSION Microbial Biodiversity and Resilient Plants Workshop 15:20-16:20
SNACK BREAK 17:50	
POSTER SESSION 3rd Fruit Structure Workshop 17:50 - 19:50	

Day 2 - Tuesday, September 12, 2023

3rd Fruit Structure Workshop room A 9:00 - 10:50	Biology of the Change – Microbial Processes Related with Greenhouse Gases Transformation in Natural and Agroecosystems Workshop room B 9:00 - 10:45
COFFEE BREAK 10:50 - 11:10	
Metrology and Modelling of Agrophysical Processes Workshop room A 11:10 - 13:00	Microbial Biodiversity and Resilient Plants Workshop room B 11:10 - 13:00
LUNCH 13:00-14:00	
Metrology and Modelling of Agrophysical Processes Workshop room A 14:00 - 15:50	Microbial Biodiversity and Resilient Plants Workshop room B 14:00 - 16:00
POSTER SESSION Metrology and Modelling of Agrophysical Processes Workshop 15:50 - 17:00	POSTER SESSION Biology of the Change – Microbial Processes Related with Greenhouse Gases Transformation in Natural and Agroecosystems Workshop 16:00 - 17:00
FOLKLORE EVENT 18:00 - 0:00	

Day 3 Wednesday, September 13, 2023

Physico-chemical Properties of Plant Materials Workshop room A 9:00 - 10:50	Physical Chemistry of Soil Degradation and Remediation Workshop room B 9:00 - 10:50
COFFEE BREAK 10:50 - 11:10	
Physico-chemical Properties of Plant Materials Workshop room A 11:10 - 13:00	Physical Chemistry of Soil Degradation and Remediation Workshop room B 11:10 - 13:00
LUNCH 13:00-14:00	
Physico-chemical Properties of Plant Materials Workshop room A 14:00 - 15:30	POSTER SESSION Physical Chemistry of Soil Degradation and Remediation Workshop 14:00 - 15:00
POSTER SESSION Physico-chemical Properties of Plant Materials Workshop 15:30 - 16:30	


Detailed program of workshops:

3rd Fruit Structure Workshop

Day 1 - Monday, September 11, 2023 - room A

10:30	Marc Lahaye Cell wall organization and tissue water contributions to fleshy fruit texture	French National Institute for Agriculture, Food, and Environment
11:00	Umehara Akira Modification of carrots pectic substances associated with cell membrane damage induced by low temperature blanching	Gifu University
11:20	Izabela Staniszevska Pulsed vacuum as a technique supporting osmotic dehydration of fermented beetroot slices	University of Warmia and Mazury in Olsztyn
11:40	Emel Hasan Yusuf Can Different Morphological Parts of the Prunus persica be used for Future Food Applications?	Wroclaw University of Environmental and Life Sciences
12:00	Kalina Tamara Haas Optical nanoscopy on the cell wall polymers brings to light new structures and new concepts	French National Institute for Agriculture, Food, and Environment
12:30	Lunch	
13:30	Pieter Verboven A microscopic look at the deformation of apple tissue in 4 dimensions	MeBioS Postharvest Group, KU Leuven
13:50	Fumina Tanaka Simulation of heat and mass transfer in persimmon fruit based on X-ray CT mapping	Kyushu University
14:10	Jolanta Cieřła Aggregation Index as an indicator of a gel point	Institute of Agrophysics, Polish Academy of Sciences
14:30	Candelas Maria Paniagua Correas The Role of Cell Wall Modifying Enzymes during Strawberry Ripening	University of Malaga
15:00	Nataliia Kutryrieva Nowak Molecular & microscopic tools to study fruit cell walls	Institute of Agrophysics, Polish Academy of Sciences
15:20	COFFEE BREAK	
15:40	Krzysztof Rutkowski The influence of storage conditions and 1-MCP postharvest treatment on cell structure and fruit firmness of 'Cortland' apples	The National Institute of Horticultural Research
16:00	Jan Zdulski The usefulness of VIS/NIR techniques and skin color measurements for monitoring firmness changes of 'Alexander Lucas' pear during storage	The National Institute of Horticultural Research
16:20	Alexis Peaucelle New plant growth model: Pectin nanofilament expansion drives cell wall expansion	French National Institute for Agriculture, Food, and Environment
16:50	Patrycja Pękała Spectroscopic studies of the structure and distribution of apple cell wall polysaccharides at different developmental stages	Institute of Agrophysics, Polish Academy of Sciences
17:10	Vadym Chibrikov Mechanical properties of bacterial cellulose-hemicellulose plant cell wall analogues – a numerical simulation study	Institute of Agrophysics, Polish Academy of Sciences
17:30	Wojciech Wrzosek Advanced atomic force microscopy technique for measurement biology samples.	Labsoft Sp z o.o.
17:50	SNACK BREAK	
	POSTER SESSION: 17:50-19:50	

Day 2 - Tuesday, September 12, 2023 - room A

09:00	Marc E.G. Hendrickx Process structure function relations of cell wall materials in food systems <i>The event is carried out with the financial support of The City of Lublin, as part of the Visiting Professors in Lublin Program</i>	KU Leuven	
09:30	Malgorzata Nowacka The physical and structural changes in apples obtained in the laboratory scale drying and compared to the industrial scale	Institute of Food Sciences, Warsaw University of Life Sciences	
09:50	Marianna Giancaterino The potential use of Pulsed Electric Fields (PEF) at low and medium electric field strength to modify tomato pectin nanostructure.	Austrian Competence Centre for Feed and Food Quality, Safety and Innovation, Institute of Food Technology, University of Natural Resources and Life Sciences	
10:10	Katarzyna Rybak The impact of pulsed electric field and ultrasound pre-treatment on cold formulation process with aloe vera juice and selected properties of porous apple tissue	Institute of Food Sciences, Warsaw University of Life Sciences	
10:30	Aleksandra Matys The impact of pulsed electric field pretreatment on texture and structure of vacuum-dried apples and strawberries	Institute of Food Sciences, Warsaw University of Life Sciences	
10:50	COFFEE BREAK		

Detailed program of workshops:

Microbial Biodiversity and Resilient Plants Workshop**Day 1 - Monday, September 11, 2023 - room B**

10:30	Maria Teresa Ceccherini Microbial Biodiversity for Sustainable Plants Production Soil sciences: a history of conquests from the Neolithic to the present day, to understand how closely man and the soil are	University of Florence
11:00	Eligio Malusa Biodiversity Indicators in Agriculture and Horticulture PRACTICAL WORKSHOP	Research Institute of Horticulture in Skierniewice
11:30	Łukasz Dziewit Next generation sequencing techniques and tools Investigating Arctic and Antarctic microbiomes for eco-epidemiological and bioprospecting purposes – novel tools and approaches PRACTICAL WORKSHOP	University of Warsaw
11:50	Przemysław Decewicz Next generation sequencing techniques and tools Towards an efficient evaluation, verification and curation of genetic mobile elements in (meta)genomic datasets	University of Warsaw
12:20	SUMMARY & DISCUSSION & QUESTIONS	
12:30	Lunch	
13:30	Magdalena Frąć Soil and Plant Microbiomes under Changing Environment	Institute of Agrophysics, Polish Academy of Science
14:00	Monika Kordowska-Wiater The microbiota of Polish red grape wines of spontaneous fermentation in the light of metagenetic and culturomic studies	University of Life Sciences in Lublin
14:20	Weronika Kursa The impact of plant extracts in the form of spraying on the biodiversity of fungi colonizing seedlings of winter wheat (<i>Triticum aestivum</i> L.) and selected quality parameters of seedlings in phytotron conditions PRACTICAL WORKSHOP	University of Life Sciences in Lublin
14:40	Grzegorz Koczyk Bioinformatics Methods in Environmental Microbiology Reproducible metagenomic data analysis in a browser - a short tour	Institute of Plant Genetics of the Polish Academy of Sciences
15:10	SUMMARY & DISCUSSION & QUESTIONS	
15:20	COFFEE BREAK	
POSTER SESSION: 15:20-16:20		

Day 2 - Tuesday, September 12, 2023 - room B

09:45	COFFEE BREAK	
11:10	Krzysztof Treder Plant Responses to Stress Factorst Potato as a model crop for studying plant responses to stress factors PRACTICAL WORKSHOP	Plant Breeding and Acclimatization Institute–National Research Institute, Bonin
11:40	Stefanie Vink Bioinformatics Methods in Environmental Microbiology Using next generation sequencing to study microbial communities in environmental science: the importance of bioinformatics PRACTICAL WORKSHOP	GreenFinch Research
12:10	Stefanie Vink Bioinformatics Methods in Environmental Microbiology Using next generation sequencing to study microbial communities in environmental science: a pipeline step-by-step	GreenFinch Research
13:00	Lunch	
14:00	Alberto Acedo Next generation sequencing techniques and tools Development a guide of good practices on soil metabarcoding data generation PRACTICAL WORKSHOP	Biome Makers Inc.
14:30	Alberto Acedo Next generation sequencing techniques and tools Interactive workshop concerning NGS steps in laboratory and data elaboration and submission results to databases PRACTICAL WORKSHOP	Biome Makers Inc.
15:15	Piotr Koper Biostatistics in Environmental Research Microbial Transcriptomics. Start-to-Finish RNA-seq analysis using R and Bioconductor PRACTICAL WORKSHOP	Maria Curie-Skłodowska University in Lublin
15:35	Jacek Panek Biostatistics in Environmental Research How to approach biodiversity analysis in metagenomic studies	Institute of Agrophysics, Polish Academy of Sciences

Detailed program of workshops:

Metrology and Modelling of Agrophysical Processes Workshop**Day 2 - Tuesday, September 12, 2023 - room A, ground floor**

10:50	COFFEE BREAK	
11:10	Jose Enrique Fernandez Luque <i>Irrigating for Sustainable Intensive Agriculture: Technological Approaches</i>	<i>Irrigation and Crop Ecophysiology Group (REC group), Institute of Natural Resources and Agrobiology of Seville (IRNAS)</i>
11:40	Claas Nendel A multi-model ensemble to project the future for soybean in Europe	<i>Leibniz Centre for Agricultural Landscape Research (ZALF)</i>
12:00	Jaromir Krzyszczyk The AGRICORE suite: a novel policy assessment tool combining agent-based and biophysical modelling	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
12:20	Kálmán Rajkai Developing fractal dimension-based estimates on the HunSSD database	<i>Institute for Soil Sciences, Centre for Agricultural Research</i>
12:40	Jarosław Grodowski Ecosystems modeling & monitoring with the isotopic measurements capabilities	<i>INTERTECH POLAND</i>
13:00	Lunch	
14:00	Scott B. Jones <i>Optimizing root zone water management using strategic sensor placement and machine learning algorithms</i>	<i>Utah State University</i>
14:30	Renata Kuśmierk-Tomaszewska Forecasting the production effects of plant irrigation based on meteorological measurements and long-term results of field experiments for maintaining ecosystem services	<i>Bydgoszcz University of Science and Technology</i>
14:50	Marcin Kafarski Development of the system for complex permittivity spectrum measurements in the radio and microwave frequency range	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
15:10	Agnieszka Szyplowska Segmented linear calibration function for soil moisture estimation using microwave dielectric measurements	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
15:30	Arkadiusz Lewandowski Wireless IoT probe for soil moisture and salinity estimation based on dielectric spectrum measurements	<i>Warsaw University of Technology</i>
POSTER SESSION: 15:50-17:00		

Detailed program of workshops:

Biology of the Change – Microbial Processes Related with Greenhouse Gases Transformation in Natural and Agroecosystems Workshop**Day 2 - Tuesday, September 12, 2023 - room B, first floor**

09:00	Cornelia Welte <i>Climate change microbiology: novel insights into methane-cycling microorganisms</i>	<i>Radboud University</i>
09:30	Prof. Bruce Osborne <i>Land use/cover modifications and climate change mitigation: What we know, or think we know, and a lot of what we don't really know</i>	<i>UCD School of Agriculture and Food Science</i>
10:00	Jan Hupka Kitchen waste as feed for anaerobic digestion	<i>Gdansk University of Technology</i>
10:15	Gergana Kuncheva Changes in soil greenhouse gas emissions, organic matter and soil microbiota under the influence of erosion control and conventional tillage systems	<i>SSAPP "Nikola Pushkarov" Sofia</i>
10:30	Sivasankar Palaniappan Isolation of methane oxidizing bacteria from diverse environments	<i>Poznan University of Technology</i>
10:45	COFFEE BREAK	
POSTER SESSION: 16:00-17:00		

Detailed program of workshops:

Physico-chemical Properties of Plant Materials Workshop

Day 3 Wednesday, September 13, 2023 - room A, ground floor

09:00	Sylvia Mildner-Szkudlarz Formation of advanced glycation end-products in foods	<i>Poznań University of Life Sciences</i>
09:30	Magdalena Krekora The influence of flavonoids and their glycosides on the structure of gliadins	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
09:50	Emilia Janiszewska-Turak Analysis of the effect of the salt addition during the lactic acid fermentation process on the textural properties of fermented red beets	<i>Warsaw University of Life Sciences</i>
10:10	Aleksandra Żytek Effect of consolidation level on organic volatile compound emissions from maize during storage	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
10:30	Grzegorz Józefaciuk Physicochemical properties of plant tissues and their changes under abiotic stresses	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
10:50	COFFEE BREAK	
11:10	Eutiguio Gallego Friction phenomena in silos PRACTICAL WORKSHOP	<i>Universidad Politécnica de Madrid</i>
11:40	Łukasz Fudała and Michał Wojtal Applications of EDEM simulations for agricultural issues	<i>Endego Sp. z o. o.</i>
13:00	Lunch	
14:00	Krzysztof Dwiecki The role of association colloids in autoxidation of vegetable oils	<i>Poznań University of Life Sciences</i>
14:30	Michał Wojtal Designing agricultural machinery with EDEM	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
14:50	Joanna Wiącek Discharge rate influenced by shape and friction of particles in a shape of spheres and dimers	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
15:10	Antoni Miś Susceptibility of gluten network to mechanical destruction during dough mixing depending on its chemical dehydration by dietary fibre additives	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
POSTER SESSION: 15:30 -16:30		

Detailed program of workshops:

Physical Chemistry of Soil Degradation and Remediation Workshop

Day 3 Wednesday, September 13, 2023 - room B, first floor

09:00	Milena Kercheva Role of plant materials for improving of soil water retention properties	<i>Institute of Soil Science, Agrotechnology and Plant Protection "N. Poushkarov"</i>
09:30	Horabik Józef Discrete Element Method modeling of structure and strength of soil aggregates	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
09:50	Maria Skorupka Sulphur compounds as a mean to decrease nitrogen losses from urea fertiliser	<i>Institute of Agrophysics, Polish Academy of Sciences / Grupa Azoty</i>
10:10	Sylvia Kukowska Adsorption capacity of waste-derived soil conditioners towards cadmium ions	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
10:30	Angelika Gryta Digestate as an organic additive modifying the structure of model soil aggregates	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
10:50	COFFEE BREAK	
11:10	Mike Gorbounov To DoE or not to DoE? Roadmap for Improvement & Optimisation of Experimental Campaigns	<i>Brunel University London</i>
11:40	Katarzyna Szewczuk-Karpisz Assessment of agricultural waste biochars for remediation of degraded soil environment	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
12:00	Olena Siryk Hybrid polysaccharide-biochar hydrogels for agriculture: the impact on soil water retention and plant growth	<i>Institute of Agrophysics, Polish Academy of Sciences / Ovcharenko Institute of Biocolloidal Chemistry of NAS of Ukraine</i>
12:20	Grzegorz Józefaciuk Soil surface properties and their changes in degradation processes	<i>Institute of Agrophysics, Polish Academy of Sciences</i>
12:40	WORKSHOP SUMMARY & DISCUSSION	
13:00	Lunch	
POSTER SESSION: 14:00 -15:00		