Seventh International Conference
ECOLOGICAL ENGINEERING AND ENVIRONMENT PROTECTION
(EEEP'2021)
with Youth Scientific Session and MELiSSA Summer University
30 September - 3 October 2021, Varna, Bulgaria

PROGRAM

30.09.2021 - Thursday

13:00 – 17:00 – REGISTRATION

17:00 – 17:30 – OPENING AND WELCOME ADDRESSES

Hristo Najdenski, President of the Organizing Committee
Christophe Lasseur, Member of the European Space Agency (ESA)
Others

PLENARY SESSION

Chairs: Alexandrov A., I. Simeonov

17:30 – 18:00 – Hristo Najdenski (Bulgaria), Microbial cellulose degradation – current state and perspectives

18:00 – 18:30 – Christophe Lasseur, C. Paille, S. Ortega, A. Makaya, S. Bonnieres, C. Audas, (ESA, The Netherlands), ECLSS system for a Mars transit mission (online)

18:30 – 19:00 – Viacheslav Ilyin, D. Korshunov, M. Skedina (Russia), Prospect for the use of microbial fuel cells in biological life support systems of hermetic objects

20:30 – WELCOME PARTY

01.10.2021 – Friday

1st session: MAN AND BIOSPHERE, BIODIVERSITY AND ECOSYSTEMS

Chairs: Borisova D., G. Sotirov

9:00 – 9:30 – Plenary lecture: Harmand J. (France), Contribution of control and modeling for an integrated approach of water reuse to favour circular economy of nutrients (online)

9:30 – 10:00 – Plenary lecture: Kathijotes N. (Cyprus), Investigating water management in archaeological sites in supporting sustainable tourism (online)

10:00 – 10:30 – Kermedchiev M., K. Angelov, A. Dolashki, L. Velkova, P. Dolashka, Treatment of wounds with natural substances


10:40 – 11:00 – COFFEE BREAK
2nd session: SPACE TECHNOLOGY, ENVIRONMENTAL ASSESSMENT AND ECOLOGICAL MONITORING

Chairs: Ilyin V., P. Angelov

11:00 – 11:30 – Plenary lecture: Jelev G., G. Sotirov, D. Borisova, Achievements in space explorations of Space Research and Technology Institute at the Bulgarian Academy of Sciences

11:30 – 12:00 – Plenary lecture: Borisova D., V. Hristova, Remote sensing data in environment state assessment

12:00 – 12:20 – Chaney M., Problems and prospects in organic growing of cereals


12:40 – 13:00 – Angelov P., P. Hristov, Equipment for simulating microgravity conditions as onboard the International Space Station

13:00 – 14:30 – LUNCH

3rd session: ECOLOGICAL ENGINEERING, MICROORGANISMS AND ENVIRONMENT (I)

Chairs: Tashyrev O., L. Kabaivanova

14:30 – 15:00 – Plenary lecture: Tashyrev O., V. Hovorukha, O. Havryliuk, G. Gladka, Spatial succession of microorganisms for treatment of organic waste and metal containing sewage with energy obtaining

15:00 – 15:20 – Hovorukha V., O. Havryliuk, I. Bida, Y. Danko, O. Shabliy, O. Tashyrev, Degradation of solid organic waste and purification of liquid filtrate with obtaining of hydrogen and methane

15:20 – 15:40 – Kabaivanova L., J. Ivanova, V. Hubenov, E. Chorukova, I. Simeonov, Anaerobic biodegradation of native wheat straw in thermophilic conditions with microalgae cultivation in the digestate

15:40 – 16:10 – COFFEE BREAK

4th session: ECOLOGICAL ENGINEERING, MICROORGANISMS AND ENVIRONMENT (II)

Chairs: Tonev D., V. Ilyin


16:30 – 16:50 – Ivanov S., Study of the pathosystem Xanthomonas euvesicatoria - pepper plants and the possibilities for biological control of bacteriosis by bacteriophages

16:50 – 17:10 – Parvanova-Mancheva T., E. Vasileva, V. Beschkov, Water purification by immobilized microorganisms

17:10 – 17:30 – Vasileva E., T. Parvanova-Mancheva, V. Beschkov, Effects of climate and environmental change, conserving water resources

17:30 – 18:30 – Poster session I

19:30 – 22:00 – OFFICIAL DINNER
02.10.2021 – Saturday

5th session: ECOLOGIZATION OF AGRICULTURE AND FORESTRY
Chairs: Marinova S., H. Tsakov


9:30 – 10:00 – Plenary lecture: Heyndricks M., J. Huygens, T. Van den Meersche, E. Daeseleire, I. Becue, G. Rasschaert (Belgium), One health in an agricultural context: antibiotic residues and resistance in manure and soil (online)

10:00 – 10:30 – Marinova S., E. Zlatareva, Estimation of industrial material flow produced by „Devnya cement“AD for remediation of acid spils

10:30 – 10:50 – Tsakov H., A. Alexandrov, D. Zoteva, O. Roeva, Forest fires in 2020 - economic and social consequences

10:50 – 11:10 – COFFEE BREAK

6th session: RENEWABLE ENERGY SOURCES AND BIOFUELS, MICROBIAL FUEL CELLS (I)
Chairs: Nenov V., D. Korshunov

11:10 – 11:40 – Plenary lecture: Korshunov D. (Russia), Studies of fermentation of vegetable waste and biological nitrogen removal processes using microbial fuel cells

11:40 – 12:10 – Plenary lecture: Wang H. (China), Data-driven based intelligent model free control and its application to renewable energy systems (wind turbine and biomass) (online)

12:10 – 12:30 – Blagoev A., S. Zapryanov, V. Gol’tsev, O. Gemišhev, Application of the plasma focus discharge in the radiobiology studies

12:30 – 14:00 – LUNCH

7th session: RENEWABLE ENERGY SOURCES AND BIOFUELS, MICROBIAL FUEL CELLS (II)
Chairs: Hovorukha V., H. Yemendzhiev

14:00 – 14:50 – Peeva G., H. Yemendzhiev, R. Koleva, V. Nenov, Nutrient recovery from waste sludge and wastewater


14:40 – 15:00 – Boukoureshtlieva R., T. Stankulov, A. Momchilov, Carbon-based cathode catalyst used in MFCS for wastewater treatment and energy recovery

15:00 – 15:30 – COFFEE BREAK

8th session: YOUTH SCIENTIFIC SESSION: ECOLOGICAL ENGINEERING, MICROORGANISMS AND ENVIRONMENT
Chairs: Tsyntsarski B., P. Dolashka


15:50 – 16:05 – Daneva Y., Ecosystems and biodiversity

16:05 – 16:20 – Zahariev I., Space technology and environment state assessment

16:20 – 16:35 – Pavlov R., Renewable energy and biofuels
9th session: ECOSYSTEMS AND ENVIRONMENTAL BIOTECHNOLOGIES
Chairs: Daccò C., L. Dimitrov

1640 – 1710 – Plenary lecture: Dimitrov L., Seabed mapping of the Bulgarian Black Sea Shelf for habitat characterization

1710 – 1730 – Simeonov I., L. Kabaivanova, E. Chorukova, Two-stage anaerobic digestion of organic wastes: a review

1730 – 1750 – Chaabna A., S. Semcheddine, Improvement of biogas production by SMC. Application on AM2

1750 – 1830 – Christov N. (France), H. Wang (China), I. Simeonov, Extremum seeking control of two-stage anaerobic digestion system: a mini review

1810 – 1930 – Poster session II

03.10.2021 – Sunday

10th session: YOUTH SCIENTIFIC SESSION MELiSSA (online)
Chairs: Najdenski H., P. Angelov


930 – 945 – Ciurans C., N. Bazmohammadi, C.-G. Dussap, J. Vazquez, J. M. Guerrero, F. Gòdia, The design of a hierarchical control structure to assess the integration of a higher plants compartment into the MELiSSA Pilot Plant

945 – 1000 – Md Muntasir A., Microbial monitoring of the spacebakery wheat growth chamber reveals a dynamic shift in the microbial composition correlated with plant growth phases

1000 – 1030 – COFFEE BREAK


1045 – 1100 – Markus P., K.M. Udert, Successful application of nitritation/anammox to undiluted source-separated urine


1115 – 1140 – YOUTH SCIENTIFIC DEVELOPMENTS - ANNOUNCEMENT OF THE RESULTS FOR THE BEST BULGARIAN SCIENTIFIC WORKS – P. Angelov


1220 – 1400 – LUNCH

1400 – 1900 – EXCURSION
Poster session I

01.10.2021, Friday, 17\textsuperscript{30} – 18\textsuperscript{50}


P.4. Eneva R., J. Miteva-Staleva, M. Kaleva, L. Dimitrova, N. Boteva, V. Hubenov, TWO-PHASE ANAEROBIC DIGESTION OF WHEAT STRAW USING IMMobilIZED MICROBIAL CONSORTIA

P.5. Chorukova E., G. Valevski, G. Stoyancheva, I. Simeonov, LABVIEW COMPUTER CONTROL SYSTEM FOR HYDROGEN BIOREACTOR IN ANAEROBIC DIGESTION PROCESS

P.6. Hubenov V., S. Mihaylova, I. Nikolova, L. Kabaivanova, E. Chorukova, INFLUENCE OF pH AND ORGANIC LOAD ON THE STARTUP OF BIOHYDROGEN PRODUCTION FROM CORN STEEP LIQUOR

P.7. Chorukova E., I. Simeonov, O. Roeva, MATHEMATICAL MODELING OF A TWO-STAGE ANAEROBIC DIGESTION SYSTEM WITH HYDROGEN AND METHANE PRODUCTION USING CORN STEEP LIQUOR AS A SUBSTRATE


P.11. Aleksandrov V., I. Sergiev, D. Todorova, CHLOROPHYLL FLUORESCENCE AND LEAF PIGMENTS CONTENT IN HERBICIDE-TREATED WHEAT PLANTS SUBJECTED TO SOIL DROUGHT OR FLOODING

Poster session II

02.10.2021, Saturday, 18\textsuperscript{10} – 19\textsuperscript{30}


P.15. Chanev M., L. Filchev, APPLICATION OF REMOTE SENSING METHODS IN VITICULTURE – A REVIEW

P.16. Dancheva A., METHODS FOR IDENTIFICATION AND VISUALIZATION OF MUNICIPAL WASTE DISPOSAL SITES USING AEROSPACE DATA


P.20. Dzhembekova N., S. Moncheva, N. Slabakova, I. Zlateva, S. Nagai, MONITORING OF POTENTIALLY TOXIC PHYTOPLANKTON IN THE BULGARIAN BLACK SEA AREA ON THE BASE OF ENVIRONMENTAL DNA METABARCODING


P.22. Stankulov T., R Koleva, R. Bukureshtlieva, H. Yemendzhiev, V. Nenov, A. Momchilov, PERFORMANCE OPTIMIZATION OF MFC FOR WASTEWATER TREATMENT – THE ELECTRODE MATERIAL IMPACT
