



Sveučilište u Zagrebu
Agronomski fakultet



University of Zagreb
Faculty of Agriculture



**FACULTY OF AGRICULTURE ZAGREB
AGRICULTURAL ENGINEERING DEPARTMENT
FACULTY OF AGRICULTURE OSIJEK
FACULTY OF AGRICULTURE AND LIFE SCIENCES
UNIVERSITY OF MARIBOR
INSTITUTE OF AGRICULTURAL ENGINEERING, BOKU, VIENNA
AGRICULTURAL INSTITUTE OF SLOVENIA
NATIONAL INSTITUTE FOR AGRICULTURAL MACHINERY - INMA BUCHAREST
CROATIAN AGRICULTURAL ENGINEERING SOCIETY**



46th International Symposium "Actual Tasks on Agricultural Engineering"

SYMPOSIUM PROGRAMME

27th February – 1st March 2018, Grand hotel "Adriatic" Opatija, Croatia

MONDAY - 26th February 2018.

18.00-19.00 Registration of participants

TUESDAY - 27th February 2018.

8.00-9.00 Registration of participants

Moderator: Assistant professor Nikola Bilandžija

9.00-9.30 OFFICIAL OPENING

Prof. Zoran Grgić, Dean of Faculty of Agriculture University of Zagreb

Prof. Silvio Košutić, President of Scientific Committee of ATAEE

Prof. Istvan Szabo, CASEE representative, Faculty of Mechanical Engineering SZIE, Hungary

Prof. Andreas Gronauer, BOKU, Vienna, Head of Institute of Agricultural Engineering

9.30-11.00 PAPER PRESENTATIONS

Milan MARTINOV, Andreas GRONAUER, Silvio KOŠUTIĆ

Highlights of 27th club of Bologna meeting

Heinz BERNHARDT, Michael MEDERLE, Maximilian TREIBER, Sascha WÖRZ

Aspects of digitization in agricultural logistics in Germany

Fabrizio MAZZETTO, Raimondo GALLO

Solutions to automate operational monitoring activities of agro-forestry tasks

Martin HÖHENDINGER, Sascha WÖRZ, Hans-Jürgen KRIEG, Reinhard DIETRICH, Lorenz FRECH, Jörn STUMPENHAUSEN, Heinz BERNHARDT

Integration of weather influences into an on-farm-energy management system

Davor PETROVIĆ, Đuro BANAJ, Vjekoslav TADIĆ, Dario KNEŽEVIĆ, Anamarija BANAJ

Impact of technical spraying factors on ground and air drift in cherry orchard

Javier LIZASOAIN, Jonas LEBER, Susanne FRÜHAUF, Kwankao KARNPAKDEE, Bernhard WLCEK, Andreas GRONAUER, Alexander BAUER

Demand driven biogas production by discontinuous feeding strategies

Jaroslav ČEPL, Pavel KASAL, Milan ČÍŽEK, Andrea SVOBODOVA, Václav MAYER, Daniel VEJCHAR

The effect of drip irrigation on potato yield and quality

Georgiana MOICEANU, Mihai CHIȚOIU, Gheorghe VOICU, Gigel PARASCHIV, Valentin VLĂDUȚ, Iulia GĂGEANU, Mirela DINCĂ

Comparison between miscanthus and willow energy consumption during grinding

George IPATE, Gabriel-Alexandru CONSTANTIN, Gheorghe VOICU, Gabriel MUSUROI, Mariana-Gabriela MUNTEANU, Elena-Madalina STEFAN

Real-time measurement of solar ultraviolet exposure in a plastic greenhouse

11.00-11.30 COFFEE BREAK

11.30-13.00 PAPER PRESENTATIONS

Denis STAJNKO, Miran LAKOTA, Damijan KELC, Rajko BERNIK

Possibilities for introduction of wood gas generator on a family farm – Slovenia case study

Nikola VAJDA, Damijan KELC, Peter VINDIŠ, Peter BERK, Jurij RAKUN, Denis STAJNKO, Miran LAKOTA

Increase of soil tillage efficiency with using of RTK - navigation

Tomáš LOŠÁK, Jaroslav HLUŠEK, Ivana LAMPARTOVÁ, Lubica POSPÍŠILOVÁ, Pavel ČERMÁK, Gabriela MÜHLBACHOVÁ, Ladislav VARGA, Július ÁRVAY, Boris LAZAREVIĆ

Phosphorus fertilization as a component of growing technology of barley

Damijan KELC, Peter VINDIŠ, Peter BERK, Jurij RAKUN, Denis STAJNKO, Miran LAKOTA

Testing lettuce, cultivar 'Ljubljanska ledenka', for 'baby leaf' production

Ranko KOPRIVICA, Jan TURAN, Biljana VELJKOVIĆ, Dušan RADIVOJEVIĆ, Nikola BOKAN, Dragan ĐUROVIĆ, Dragoljub ĐOKIĆ, Igor BALALIĆ

Physical properties of oil rapeseed kernels at different moisture content and varieties

Alberto BARBARESI, Daniele TORREGGIANI, Viviana MAIOLI, Patrizia TASSINARI

Assessment of building solution effectiveness on a winery thermal behaviour

Mariana FERDEȘ, Mirela DINCĂ, Bianca ZĂBAVĂ, Gigel PARASCHIV, Mariana MUNTEANU, Mariana IONESCU

Laccase enzyme production and biomass growth in liquid cultures of wood-degrading fungal strains

Mirela DINCĂ, Mariana FERDEȘ, Bianca ZĂBAVĂ, Gigel PARASCHIV, Nicoleta UNGUREANU, Valentin VLĂDUȚ, Georgiana MOICEANU

Lignocellulosic biomass pretreatment by hydrolytic fungal strains

Mariana-Gabriela MUNTEANU, Gheorghe VOICU, George IPATE, Nelus Evelin GHEORGHITĂ, Gabriel-Alexandru CONSTANTIN, Iulian-Claudiu DUTU, Irina-Aura ISTRATE

Aspects regarding the flow of the mixture flour-water at different temperatures, through small diameter channels

13.00-15.00 LUNCH BREAK

15.00-17.00 PAPER PRESENTATIONS

Carmen Otilia RUSĂNESCU, Marin RUSĂNESCU, Mihaela BEGEA, Gigel PARASCHIV, Sorin Ștefan BIRIȘ, Gheorghe VOICU, Ileana Nicoleta POPESCU

Assessing the risk of aridity: a case study Bucharest – Romania

Edmond MAICAN, Sorin-Ștefan BIRIȘ, Cătălin PERȘU, Mihaela DUȚU, Mihai Gabriel MATACHE, Sorin IORDACHE, Călin ALFIANU

Nonlinear impact resistance simulation of a newly designed roof from an agricultural tractor cabin

Alina OVANISOF, Ovidiu VASILE, Maria DRAGOMIR

Analysis of human whole-body vibration exposure on a U650 tractor

Dorel STOICA, Iulian-Claudiu DUȚU, Gheorghe VOICU, Mihaela-Florentina DUȚU

Influence of the oscillation frequency on the separation process at the conical sieves

Nicoleta UNGUREANU, Valentin VLĂDUȚ, Cătălin PERSU, Dan CUJBESCU, Marius Remus OPRESCU, Iulian VOICEA

Study on the compaction under front and rear wheel of a 40 kW tractor on plowed soil

Nicoleta UNGUREANU, Valentin VLĂDUȚ, Sorin-Ștefan BIRIȘ, Gigel PARASCHIV, Mirela DINCĂ, Bianca Ștefania ZĂBAVĂ, Vasilica ȘTEFAN, Nelus EVELIN

FEM modelling of machinery induced compaction for the sustainable use of agricultural sandy soils

Gheorghe VOICU, Magdalena - Laura TOMA, Elena - Madalina ȘTEFAN, Paula TUDOR, Mihaela - Florentina DUTU

Grain pile stratification process on sieves of harvester cleaning system

Gabriel-Alexandru CONSTANTIN, George IPATE, Gheorghe VOICU, Gabriel MUȘUROI, Mariana-Gabriela MUNTEANU, Maria DRAGOMIR

Evaluation of hand-arm vibration transmitted during soil tillage based on Arduino and MPU9250 motion sensor

Bernard GOYETTE, Rajinikanth RAJAGOPAL, Jean-François HINCE, Md. Saifur RAHAMAN

A scale-up procedure for processing high-solid content food waste and dairy manure in a low temperature anaerobic digester

17.00 WELCOME RECEPTION

WEDNESDAY - 28th February 2018.

Moderator: Assistant professor Krešimir Čopec

9.00-11.00 PAPER PRESENTATIONS

Josip TOMIĆ, Krešimir ČOPEC, Dubravko FILIPOVIĆ, Stjepan PLIESTIĆ, Neven VOĆA

Collection and disposal of waste lubricant oils in the Republic of Croatia with a view to state in agriculture

Anamarija BANAJ, Đuro BANAJ, Vjekoslav TADIĆ, Davor PETROVIĆ, Dario KNEŽEVIĆ

Comparison of standard and twin row seeding on sunflower yield

Aleksandra DIMITRIJEVIĆ, Brankica ŠUNDEK, Nikola MATOVIĆ, Zoran MILEUSNIĆ, Rajko MIODRAGOVIĆ

Spinach production conditions in the different types of greenhouse constructions

Mihai Gabriel MATACHE, Corina MOGA, Cristina COVALIU, Iulian VOICEA, Catalin PERSU
Flotation system for agricultural wastewater treatment

Cristian SORICĂ, Mariana FERDES, Ion PIRNĂ, Valentin VLĂDUȚ Elena SORICĂ, Ion GRIGORE
Effects of UV-C irradiation upon the reference strains of some food-associated microorganisms

Cristian SORICĂ, Marian VINTILĂ, Valentin VLĂDUȚ, Mihai MATACHE, Elena SORICĂ, Ion GRIGORE
Energy indices of an equipment during fast freezing of berries

Simina MARIS, Lavinia Maria CERNESCU, Stefan-Alfred MARIS, Doina DARVASI, Titus SLAVICI
Determining efficient mixtures of biomass for pellet production

Dina STATUTO, Martina BOCHICCHIO, Carmela SICA, Pietro PICUNO
Experimental development of clay bricks reinforced with agricultural by-products

Pietro PICUNO, Dina STATUTO
New curricula and teaching programmes on sustainable agriculture: the “Sagri” project

11.00-11.15 COFFEE BREAK

11.15-13.00 PAPER PRESENTATIONS

Augustina PRUTEANU, Valentin VLĂDUȚ, Mihai MATACHE, Mihaela NIȚU
Experimental researches on the quality of sorting process of medicinal plants

Mateja GRUBOR, Ana MATIN, Nikola BILANDŽIJA, Vanja JURIŠIĆ, Ivan KOPILOVIĆ, Tajana KRICKA
Comparison of energy properties of wheat variety „Kraljica“ with unregistered varieties „Brkulja“

Roxana Mihaela BABANATIS MERCE, Theoharis BABANATSAS, Stefan MARIS, Dumitru TUCU, Oana Corina GHERGAN
Study of an automatic olives sorting system

Gabriel GHEORGHE, Cătălin PERSU, Dan CUJBESCU, Marinela MATEESCU
Influence of attack angle to draft force variation of a furrow opener at mulch foil planter

Adriana MUSCALU, Mariana BIRSAN, Ladislau DAVID, Ion GRIGORE, Ana Cristina FATU, Catalina TUDORA
Harvesting and processing of french marigold to obtain products with new uses

Gabriel GHEORGHE, Cătălin PERSU, Marian MIHAI, Dan CUJBESCU, Sorin BIRIȘ, Edmond MAICAN
Theoretical simulation for protective structure of operator cabin against falling object

Dragoș MANEA, Costin MIRCEA, Eugen MARIN, Petru CÂRDEI, Gabriel GHEORGHE, Florin POP
The effect of roots area cooling on tomatoes yield in solar

Dan VIDREAN, Florinel Cosmin BOJA, Alin TEUȘDEA, Cristina Ioana DRAGOMIR, Nicușor Flavius BOJA
Assesment of soil impact after using a vibro-combinator

Tajana KRIČKA, Mateja GRUBOR, Ivana TADIĆ, Vanja JURIŠIĆ, Ana MATIN
Changes in physical and chemical characteristics of coffee beans after thermal processing by roasting

13.00-15.00 LUNCH BREAK

15.00-15.30 COMMERCIAL PRESENTATIONS
Formulating tractor’s transmission oil aiming prolonge changing interval

15.30-17.10 PAPER PRESENTATIONS

Rares HALBAC-COTOARA-ZAMFIR, Cristina HALBAC-COTOARA-ZAMFIR

Adapting to climate changes – a challenge for Romanian agriculture

Rares HALBAC-COTOARA-ZAMFIR

Brief introduction on water harvesting and its potential in western Romania

Petre-Florinel NENU, Luisa-Izabel DUNGAN, Lavinia CERNESCU, Titus SLAVICI

Energetic and economic considerations on thermal regime effectiveness in a greenhouse

Alina MĂRGEAN, Vasile PĂDUREANU, Mirabela Ioana LUPU

Application of ultrasound in winemaking process

Nelus-Evelin GHEORGHITĂ, Sorin-Stefan BIRIȘ, Nicoleta UNGUREANU, Sorin IORDACHE, Maria PRUNĂU

Study on adapting the parameters of vibratory tillage to the resonance frequency of the agricultural soil

Tomaž POJE

Analysis of traffic accidents with tractors in Slovenia

Dan CUJBESCU, Gheorghe BOLINTINEANU, Cătălin PERSU, Iuliana GĂGEANU, Mihaela NIȚU, Augstina PRUTEANU, Gheorghe VOICU, Nicoleta UNGUREANU

Assessing the quality and energy indices of precision planters

Gheorghe BOLINTINEANU, Dan CUJBESCU, Cătălin PERSU, Iuliana GĂGEANU, Laurentiu VLĂDUȚOIU, Mihaela NIȚU, Augstina PRUTEANU, Nicoleta UNGUREANU

Researches of the bulb planting process in field and laboratory conditions

Baldwin G. JALLORINA, Victorino T. TAYLAN, Ireneo C. AGULTO, Helen F. GAVINO, Vitaliana U. MALAMUG, Emmanuel V. SICAT

Harnessing the irrigation water flows for micro-hydro power generation

Viktor JEJČIČ, Fouad AL-MANSOUR, Tomaž POJE

Carbon footprint of final wheat products from family farms

20.00 OFFICIAL DINNER

THURSDAY - 1st March 2018

Moderator: Assistant professor Igor Kovačev

9.00-11.30 PAPER PRESENTATIONS

Tomaž POJE

Analysis of registered tractors in Slovenia in the year 2016

Krešimir ČOPEC, Dubravko FILIPOVIĆ, Zlatko KORONC, Tomislav PEŠIĆ

Analysis of imports of used tractors into the Republic of Croatia in 2017

Zlatko KORONC, Dubravko FILIPOVIĆ, Goran FABIJANIĆ

Tractor DI diesel engine performances using different types of diesel fuel

Petru Marian CÂRLESCU, Vlad Nicolae ARSENOAIA, Ioan ȚENU, Adriana Teodora MUSCALU, Mariana Silvia BÂRSAN

Researches of mass and heat transfer of an innovative vertical dryer

Petru Marian CÂRLESCU, Ioan ȚENU, Radu ROȘCA, Adriana Teodora MUSCALU, Nicolae Valentin VLĂDUT

CFD simulation of an innovative vertical dryer for agricultural seeds drying

Vergil MURARU, Petru CARDEI, Sebastian MURARU, Cornelia MURARU-IONEL, Paula CONDRUZ

Convergence of different models for the same structure in computer aided engineering

Dan-Teodor BALANESCU, Vlad-Mario HOMUTESCU

Agricultural machinery hybrid propulsion system based on combined cycle gas and steam turbines

Lucian V. FECHETE TUTUNARU, Nicolae FILIP, Elena Mihaela NAGY, Mihai MATACHE

Influence of input flow over grain mill efficiency utilisation

Ivo GRGIĆ, Lari HADELAN, Josip GUGIĆ, Paula JURJEVIĆ, Magdalena ZRAKIĆ

Foreign trade of the Republic of Croatia with economic groups in selected agricultural and food products from 2010 to 2017

Ivo GRGIĆ, Jernej PRIŠENK, Vladimir LEVAK, Tea KOVAČ, Magdalena ZRAKIĆ

Production prices of selected agricultural products in the Republic of Croatia and reference prices of European Union

Ioan ȚENU, Oana-Raluca COORDUNEANU, Petru CÂRLESCU, Radu ROȘCA

Design and construction of a fertilizer spreader for glass houses and greenhouses

Viktor JEJČIČ, Aleksandar CVETANOVSKI

Smart vibration control system for farm machines

Registration fee payment information is accessible on website of the Symposium: <http://atae.agr.hr/>

All authors are kindly asked that any of coauthors of the paper have the oral presentation and to limit the time of presentation at **10 minutes!**

Information about hotel accommodation You can get directly from hotel's booking service:

Grand Hotel Adriatic

tel: +385 51 719-010, fax: +385 51 719-015

web: <http://www.hotel-adriatic.hr/en/> mail: info@hotel-adriatic.hr

Congress package 1 or Congress package 2 prices include official dinner fee.

We wish You a pleasant time in Opatija and useful contacts during Symposium.

Organiser of ATAE_2018

46th International Symposium “Actual Tasks on Agricultural Engineering”

EUR	Adriatic I****	
	Single room	Double room
Congress package 1 (breakfast and dinner)	71,00	50,00
Congress package 2 (breakfast+ lunch + dinner)	84,00	62,00

- Prices expressed in EURO per person/day
- Visitor's tax € 1,00 per person daily
- Payment should be effected directly on the reception in cash (in HRK) or by credit card (AmEx, Diners, Visa, EC/MC)

IMPORTANT:

When you are making the reservation of the accomodation, note that you are participating at the ATAE symposium.