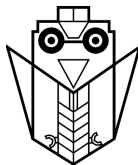




Sveučilište u Zagrebu
Agronomski fakultet



University of Zagreb
Faculty of Agriculture



**FACULTY OF AGRICULTURE ZAGREB
DIVISION OF AGRICULTURAL ENGINEERING
FACULTY OF AGROBIOTECHNICAL SCIENCES OSIJEK
FACULTY OF AGRICULTURE AND LIFE SCIENCES
UNIVERSITY OF MARIBOR
AGRICULTURAL INSTITUTE OF SLOVENIA
NATIONAL INSTITUTE FOR AGRICULTURAL MACHINERY - INMA BUCHAREST
CROATIAN AGRICULTURAL ENGINEERING SOCIETY**



50th International Symposium “Actual Tasks on Agricultural Engineering”

PROGRAMME

March 11th –13th 2025, Opatija, Croatia

TUESDAY –March 11th

9.00-10.00 REGISTRATION OF PARTICIPANTS

10.00-10.30 SYMPOSIUM OPENING

Aleksandar MEŠIĆ, Dean of the Faculty of Agriculture University of Zagreb

Bojan STIPEŠEVIĆ, Faculty of Agrobiotechnical sciences in Osijek, University of J.J. Strossmayer

Andreas GRONAUER, Faculty of Agricultural, Environmental and Food Sciences, Free University of Bolzano

Nikola BILANDŽIJA, Head of Division of Agricultural Engineering, Faculty of Agriculture Zagreb

10.30-11.45 PAPER PRESENTATIONS

Moderator: Igor KOVAČEV

Andreas MANDLER, Lorenzo BECCE, Giovanni CARABIN, Andreas GRONAUER, Fabrizio MAZZETTO
**CROSS-COMPETENCES IN AGRICULTURAL ENGINEERING: CURRICULUM DEVELOPMENT
AND LIFELONG LEARNING IN THE CONTEXT OF RURAL DIGITIZATION**

Francesco F. NICOLOSI, Pietro OSS, Giovanni CARABIN, Merve KARACA, Lorenzo BECCE, Andreas GRONAUER, Fabrizio MAZZETTO, Massimiliano RENZI, Michele MATTETTI
EXPERIMENTAL ANALYSIS OF AGRICULTURAL TRACTOR EMISSIONS AND CONSUMPTION BY MEANS OF LABORATORY TESTS

Petar DIMITROV, Hristo BELOEV, Kaloyan STOYANOV, Todor DELIKOSTOV, Atanas ATANASOV, Evgeni ENCHEV, Vlado DONEV
ENERGY CONSUMPTION STUDIES OF A MACHINE-TRACTOR AGGREGATE FOR SPRING PRE-SOWING TILLAGE

Petru CÂRDEI, Adrian LUNGU, Valentin VLĂDUȚ, Iulian VOICEA, Ioan CABA, Iuliana GĂGEANU, Florin NENCIU, Sorin BORUZ
LOAD ESTIMATION ON THE WHEEL OR ON THE AXLE OF AN AGRICULTURAL VEHICLE, BASED THE VARIATION OF THE STRAIN IN THE RIMS

Eduard ALGEORGE POP, Marius POP-CALIMANU, Liviu-Daniel PIRVULESCU
A NEW DEVICE FOR TRANSPORTING AND OPERATING LARGE AND MEDIUM REVERSIBLE PLOUGHS

Lorenzo BECCE, Ayesha ALI, Giovanni CARABIN, Andreas MANDLER, Andreas GRONAUER, Fabrizio MAZZETTO
ORCHARD SPRAYER PERFORMANCE: A METHODOLOGICAL APPROACH TOWARD ENVIRONMENTAL IMPROVEMENT

11.45-12.15 COFFEE BREAK

12.15-13.45 PAPER PRESENTATIONS

Merve KARACA, Giovanni CARABIN, Mehmet M. TOPAÇ, Fabrizio MAZZETTO
ROLLOVER STABILITY IN TRACTORS: A MULTIBODY DYNAMICS AND EXPERIMENTAL PERSPECTIVE

Zoran MILEUSNIC, Rajko MIODRAGOVIC, Andrija RAJKOVIC, Mihailo MILANOVIC, Aleksandra DRAGICEVIC, Olivera ECIM-DJURIC
EVALUATING AGRICULTURAL MACHINERY EFFECTIVENESS USING CATBOOST MACHINE LEARNING

Lucian Vasile MIHOC, Ileana MOGOȘANU, Cosmina Carmen FLORICA, Dumitru MNERIE, Doina DARVASI, Simina-Stefania MARIȘ, Gabriela-Victoria MNERIE
SUSTAINABLE DEVELOPMENT BASED ON REMOTE WORK AND ARTIFICIAL INTELLIGENCE

Rolf Atalvin LUPU, Rudolf Vasile MIRESCU, Diana Patricia TUCU, George Catalin CRISAN, Dumitru ȚUCU
ARTIFICIAL INTELLIGENCE IN AGRICULTURE – PERCEPTION OF THE RISKS IN HEALTH & SAFETY AT WORK

Ante GALIĆ, Stjepan PLIESTIĆ
THE ROLE OF ARTIFICIAL INTELLIGENCE IN MODERN AGRICULTURE

Vladimir DAM, Vladimir POLJANČIĆ, Stjepan PLIESTIĆ, Ante GALIĆ
CROBOT - AUTONOMOUS ROBOTIC FLEET SYSTEM FOR WEED CONTROL

Peter VINDIŠ, Peter BERK, Damijan KELC, Denis STAJNKO, Jurij RAKUN, Miran LAKOTA
COMPARISON BETWEEN A CLASSIC FORESTRY WINCH AND A CONSTANT PULLING FORCE WINCH

Kęstutis ROMANECKAS, Austėja ŠVEREIKAITĖ, Rasa KIMBIRAUSKIENĖ, Aušra SINKEVIČIENĖ, Jovita BALANDAITĖ, Regina ROMANECKIENĖ
ENERGY CONSUMPTION AND GHG EMISSIONS IN MAIZE-CEREALS INTERCROPPED CULTIVATION DURING ARID VEGETATIVE PERIOD

13.45-15.45 LUNCH BREAK

15.45-17.15 PAPER PRESENTATIONS

Ana MATIN, Ivan BRANDIĆ, Jasmina RANILOVIĆ, Tanja CVETKOVIĆ, Ivana TOMIĆ, Vanja JURIŠIĆ, Božidar MATIN, Mateja GRUBOR, Karlo ŠPELIĆ

THE ROLE OF MECHANIZATION IN INCREASING EFFICIENCY IN PRE- AND POSTHARVEST MUSTARD CULTIVATION

Peter BERK, Denis STAJNKO, Peter VINDIŠ, Damijan KELC, Miran LAKOTA, Mario LEŠNIK, Mihaela ROŠKARIĆ, Andrej PAUŠIĆ, Tomaž POJE, Viktor JEJČIĆ, Simona HAUPTMAN, Marko BREZNIK, Matej SEČNIK, Marko HOČEVAR

AUTOMATED MONITORING OF SPRAY DOSING PROCESS IN THE VINEYARD

Denis STAJNKO, Peter BERK, Damijan KELC, Manfred JAKOP

EFFECT OF DIFFERENT TILLAGE SYSTEMS ON SOIL COMPACTION AND WINTER WHEAT YIELD

Ivica KISIĆ, Dalibor JURINA, Luka BREZINŠČAK, Željka ZGORELEC, Marija GALIĆ, Radica ĆORIĆ, Igor BOGUNOVIĆ, Aleksandra PERČIN

EFFECTS OF FALLOW AND GREEN MANURE ON THE YIELD OF SOYBEAN GRAIN AND CO₂ EMISSION WITH USE REDUCED TILLAGE

Darija BILANDŽIJA, Sara MEDAK, Zvonimir ZDUNIĆ, Tajana KRIČKA, Nikola BILANDŽIJA

INFLUENCE OF DIFFERENT CORN HYBRIDES ON SOIL RESPIRATION AND MICROCLIMATE

Anamarija BANAJ, Barbara BOŠNJAK, Željka BANAJ, Zvonko ZEKO, Dominik MIKOLČEVIĆ, Đuro BANAJ

RAPSEED PRODUCTION IN TWIN ROW TECHNOLOGY IN THE REPUBLIC OF CROATIA

Vjekoslav TADIĆ, Davor PETROVIĆ, Ivan VIDAKOVIĆ

TECHNICAL INSPECTIONS OF PLANT PROTECTION MACHINES WITH MOBILE TESTING STATION

17.15-17.30 BREAK

17.30-18.45 PAPER PRESENTATIONS

Željka ZGORELEC, Marija GALIĆ, Aleksandra PERČIN, Neven VOĆA, Josip LETO, Nikola BILANDŽIJA

POSSIBILITIES OF GROWING ARUNDO DONAX ON WASTE MATERIALS

Ariana-Bianca VELCIOV, Maria RADA, Iasmina Mădălina ANGHEL, Virgil – Dacian LALESCU, Antoanela COZMA

EVALUATION OF NUTRITIONAL PARAMETERS OF WATERMELON (*Citrullus lanatus*) SEEDS AS A POSSIBLE USE IN ANIMAL FEED FORMULATION

Goran KIŠ, Dalibor BEDEKOVIĆ, Zlatko JANJEČIĆ, Luka BREZINŠČAK, Mateja GRUBOR, Ana MATIN, Igor KOVAČEV

THE INFLUENCE OF THE CHEMICAL COMPOSITION ON THE PHYSICAL QUALITY OF PELLETTED FEED

Cătălina TUDORA, Adriana MUSCALU, Floarea BURNICHI, Valentin Nicolae VLĂDUȚ

DESCRIPTION OF THE AGROBIOLOGICAL CHARACTERISTICS ON DIFFERENT GENOTYPES OF SAFFLOWER (*Carthamus tinctorius* L., fam. Asteraceae)

Ana-Maria TĂBĂRAȘU, Iuliana GĂGEANU, Dragoș-Nicolae ANGHELACHE, Luminița CATANĂ,
Nicolae-Valentin VLĂDUȚ, Florin NENCIU

EVALUATION OF THE BIOSTIMULATORY EFFECTS OF NETTLE AND SAGE EXTRACTS ON
THE DEVELOPMENT OF GREEN BEANS

Nicoleta Elena TUTUNARU, Diana Patricia ȚUCU, Emil Călin KAZOMIR, Alexandru FILIPOVICI,
Dumitru ȚUCU

ANALYSIS OF VEGETATION FIRES FROM AGRICULTURAL FARMINGS IN WEST BANAT

20.00 OFFICIAL DINNER

WEDNESDAY – March 12th

10.00-11.30 PAPER PRESENTATIONS

Algirdas JASINSKAS, Rita PETLICKAITĖ, Rolandas DOMEIKA, Ramūnas MIELDAŽYS

MULTI-CROP BIOMASS UTILIZATION FOR BIOENERGY PURPOSES AND EVALUATION OF
PRESSED BIOFUEL PROPERTIES

Djordje DJATKOV, Aleksandar NESTEROVIC, Miodrag VISKOVIC, Milan MARTINOV

BIOMETHANE POTENTIALS IN SERBIA- OPPORTUNITIES TO DECARBONIZE ENERGY MIX

Miodrag VISKOVIC, Djordje DJATKOV, Aleksandar NESTEROVIC, Milan MARTINOV

THE RESULTS OF BIOGAS SECTOR IN SERBIA IN 2023

Aleksandar NESTEROVIC, Djordje DJATKOV, Miodrag VISKOVIC, Milan MARTINOV

ALTERNATIVE FUELS FOR DECARBONIZING TRANSPORT SECTOR IN SERBIA

Emil Calin KAZOMIR, Eugen TUDOR, Elena Nicoleta TUTUNARU, Adriana ȚUCU, Dumitru ȚUCU

A COMPARATIVE ANALYSIS OF DOMESTIC BIOMASS COMBUSTION SYSTEMS

*Mirela - Nicoleta DINCĂ, Mariana FERDEȘ, Gigel PARASCHIV, Bianca - Ștefania ZĂBAVĂ,
Georgiana MOICEANU*

ENZYMATIC PRETREATMENT OF AGRICULTURAL WASTE TO ENHANCE DIGESTIBILITY FOR
BIOGAS PRODUCTION

*Karlo ŠPELIĆ, Ana MATIN, Ivan BRANDIĆ, Ivana TOMIĆ, Božidar MATIN, Mario PANJIČKO,
Gregor Drago ZUPANČIĆ, Vanja JURISIĆ*

ENHANCING BIOGAS PRODUCTION FROM MISCANTHUS VIA BIOAUGMENTATION

Benjamin ZALOŽNIK, Peter LEPEJ, Simon KLANČNIK, Alenka BERLOŽNIK, Erik RIHTER, Jurij RAKUN
ENHANCING AGRICULTURAL RESILIENCE TO CLIMATE CHANGE: ADVANCED IOT SYSTEMS
AND SUSTAINABLE ENERGY SOLUTIONS

Viktor JEJČIČ, Tomáš POJE, Žan MONGUS, Fouad AL-MANSOUR

BIOMETHANE USE FOR TRACTORS

11.30-11.45 COFFEE BREAK

11.45-13.15 PAPER PRESENTATIONS

*George IPATE, Stefan DUMITRU, Gabriel CONSTANTIN, Madalina STEFAN, Ana-Maria RUGESCU,
Iuliana GAGEANU, Dan CUJBESCU, Elena-Melania CISMARU*

KEY CONCEPTS REGARDING UAV TECHNOLOGY USED IN CROP MONITORING

Liviu Constantin BUTNARU

USING SENTINEL-2 DATA AND NDVI TO PREDICT WINTER WHEAT HARVEST

Augustina PRUTEANU, Alexandru IONESCU, Cristian SORICA, Nicoleta Alexandra VANGHELE, Dorin Andrei CÎRSTEA, Robert Dorin CRISTEA

MIXED INTELLIGENT SYSTEM FOR THE PROTECTION OF AGRICULTURAL AND HORTICULTURAL CROPS FROM THE ATTACK OF PEST BIRDS

Eugen TUDOR, Nicolae Stelian LONTIS, Elena Nicoleta TUTUNARU, Dumitru ȚUCU

EVALUATION OF REMOTE SENSING TECHNOLOGIES FOR MEASURING THE ACCUMULATED PRECIPITATION

Damijan KELC, Denis STAJNKO, Peter VINDIŠ, Jurij RAKUN, Peter BERK, Benjamin ZALOŽNIK, Lara RESMAN, Boštjan FERENČAK, Štefan CIGÜT Jr., Miran LAKOTA

PRECISION FERTILIZATION OF WINTER WHEAT

Petru CÂRDEI, Iuliana GĂGEANU, Ana-Maria TĂBĂRAȘU, Nicolae-Valentin VLĂDUȚ, Raluca SFÎRU, Mihaela NIȚU

MATHEMATICAL MODEL FOR THE PROCESS OF COMPACTING BIOMASS GRANULAR MATERIALS

Eugen TUDOR, Emil Călin KAZOMIR, Nicolae Stelian LONTIS, Dumitru ȚUCU

THE INFLUENCE OF EXTERNAL FACTORS ON REFRIGERATED/FROZEN FOOD TRANSPORT

13.15-14.00 COMMERCIAL PRESENTATIONS

EUROMARKT d.o.o.

KRAMP AGRIPARTS d.o.o.

14.00-15.45 LUNCH BREAK

15.45-17.15 PAPER PRESENTATIONS

Ana MATIN, Ivan BRANDIĆ, Karlo ŠPELIĆ, Mateja GRUBOR, Ivana TOMIĆ, Mihael HERCEG, Vanja JURIŠIĆ, Božidar MATIN

GRAIN DRYING EFFICIENCY AND POTENTIAL OF POSTHARVEST BIOMASS RESIDUES FOR BIOGAS PRODUCTION

Alexandru FILIPOVICI, Marius ADAM, Nicolae Stelian LONTIS, Dumitru ȚUCU

ENERGETIC WILLOW SLOW PYROLYSIS: EFFECT OF TEMPERATURE AND HEATING RATE

Božidar MATIN, Ilijana MIKULIĆ ALILOVIĆ, Ivan BRANDIĆ, Ana MATIN, Vanja JURIŠIĆ, Karlo ŠPELIĆ, Josip IŠTVANIĆ, Alan ANTONOVIĆ

THE POLYMER PROPERTIES OF LIQUEFIED OAK BIOMASS (QUERCUS ROBUR L.) AS A POTENTIAL ADDITIVE IN THE PRESSING OF SOLID BIOFUELS

Evelyne POP, Alin VOINESCU, Mirela GOJE, Mircea CRICOVEAN, Titus SLAVICI, Simina MARIS
SUSTAINABLE USE OF AGRICULTURAL WASTE FOR HEAT BRIQUETTES: A KNOWLEDGE TRANSFER

Karla GAŠPARIĆ, Anamarija PETER, Jona ŠURIĆ, Tomislav KARAŽIJA, Neven VOĆA
USE OF COCKROACHES IN THE PROCESSING OF FOOD WASTE

Lucia-Florina POPOVICI, Andrei COMAN, Simona OANCEA, Diana COMAN

AN ALTERNATIVE BIOMASS RESOURCE FROM POKEWEEED BERRIES USED AS BIO-COLORANT IN WOOL ECO-DYEING

Mariana FERDEȘ, Mirela - Nicoleta DINCĂ, Mariana IONESCU, Elena-Mădălina ȘTEFAN
BIOSYNTHESIS OF LACCASES IN LIQUID AND SOLID MEDIA BY SOME MEDICINAL EDIBLE
BASIDIOMYCETES

17.15-17.30 BREAK

17.30-19.00 PAPER PRESENTATIONS

*Lucian Vasile MIHOC, Andrei DUNA, Cosmina Carmen FLORICA, Titus SLAVICI, Ștefan DUNA,
Ramona DZITAC*

CONTRIBUTIONS TO THE RESOLUTION OF ISSUES RELATING TO THE PERFORMANCE OF
FIRE EXTINGUISHING SPRINKLER SYSTEMS

Alin VOINESCU, Alexandra ȘUTĂ, Evelyne POP, Ionelia BOBOC(Căs Moloce)

SOLUTIONS FOR SHREDDING MANUFACTURING EQUIPMENT USING CAD AND INDUSTRY 4.0

*Alexandru SUCIU, Oana-Corina GHERGAN, Stelian FLORICA, Ștefan-Alfred MARIȘ,
Cosmina-Carmen FLORICA, Bogdan PĂTRUȚ, Luisa-Izabel DUNGAN*

ON MODERN ADDITIVE MANUFACTURING FOR SOME AGRO-INDUSTRIAL SECTOR
COMPONENTS

*Ionelia BOBOC (căs. MOLOCE), Adriana Carmen CAZAN, Ștefan-Alfred MARIȘ, Evelyne POP,
Ramona Dzitac, Mircea UNTARU, Alexandru SUCIU*

INNOVATION AND TECHNOLOGY TRANSFER: PERSPECTIVES FROM THREE CASE STUDIES

Diana Patricia TUCU, Rolf Athalvin LUPU, Rudolf Vasile MIRESCU, Dumitru ȚUCU
WORK OUTSIDE WORKING ENTITY IN AGRICULTURE – PERCEPTION ON OPPORTUNITIES
AND RISKS

Rudolf Vasile MIRESCU, Rolf Atalvin LUPU, George Catalin CRISAN, Dumitru ȚUCU
KEY PERFORMANCE INDICATORS IN OCCUPATIONAL HEALTH & SAFETY SYSTEMS IN
AGRICULTURE

19.00 CLOSING SYMPOSIUM

THURSDAY – March 13th

10.00 – 19:30 Excursion to Istria - Visit to historical sights, Lunch, Wine tasting

All authors are kindly requested to limit the time of presentations at 10 minutes!

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

Symposium Venue is [Palace Bellevue hotel in Opatija](#).

Accommodation reservation: [Liburnia Hotels Booking service](#)