



Conference program

6th International Conference on Trends in Agricultural Engineering 2016



September 7th 2016 – September 9th 2016

Prague

Czech Republic

Conference venue:

Conference TAE 2016, Round Hall, Faculty of Engineering, Czech University of Life Sciences Prague
Kamýcká 129, Praha 6, 16521

*All conference rooms are equipped with a computer, data projector and presenter.
The computers will run MS Windows. PowerPoint and PDF presentation formats will be supported.
Presentations are limited to 10 minutes (15 minutes for plenary sessions) plus 5 minutes for discussion.
It will not be able to extend this time so please ensure that you keep to this time.*



6.9.2016

Tuesday

Faculty of Engineering, Round Hall

17:30 Registration
18:00 Welcome party

7.9.2016

Wednesday

Faculty of Engineering, Round Hall

8:00 Registration
9:00 Opening ceremony
9:15 Presentation of Centre for International Projects in Life Sciences.
9:30 Plenary sessions
11:00 Lunch - Club G
13:00 Paralel sessions
14:45 Coffee break
15:15 Paralel sessions
18:30 Bus departure to Klášterní pivovar Strahov from Round Hall, Faculty of Engineering
18:45 Dinner in Prague's Old Town at Klášterní pivovar Strahov - <http://www.klasterni-pivovar.cz/>
(transportation will be arranged)

8.9.2016

Thursday

Faculty of Engineering, Round Hall

9:00 Paralel sessions
10:30 Coffee break
11:00 Paralel sessions
12:00 Lunch - Club G
13:30 Paralel sessions
15:00 Coffee break
15:30 Paralel sessions
17:00 Poster sessions
18:30 Reception at Faculty Brewery "Suchdolský Jeník"

9.9.2016

Friday

9:00 Sightseeing trips to Prague, Hop on Hop off Tour (it is not covered by conference fee)

7.9.2016

Wednesday

Faculty of Engineering, Round Hall

8:00 Registration

9:00 Opening ceremony

Chairmann: prof. D. Herák

9:30 **G. Gürdil, B. Demirel, I. Balada, Y. Baz**

Determining organic waste potential of mobile public bazaars in Samsun (review)

9:50 **F. E. Berisso**

Soil physical properties as affected by repeated wheeling

10:10 **R. Sigalingging, J. W. Ch. Sigalingging, D. Herák**

Solar energy opportunities for Indonesia agricultural systems

10:30 **J. Chyba, F. Kumhála, P. Novák**

Mapping and differences of soil physical properties

11:00

Lunch - Club G



Wednesday

Faculty of Engineering, Round Hall

Session RKU I

Chairmann: Dr. G. Gürdil

-
- 13:00 **V. Adomavičius, J. Valickas, G. Petrauskas, L. Pušinaitis**
Potential of village house for sustainable energy production
-
- 13:15 **I. Balada, V. Altmann**
Production of briquettes from waste paper
-
- 13:30 **O. Chotovinský, V. Altmann, M. Příkryl**
Influence of weather conditions on waste biomass production in the Vysočina Region of the Czech Republic
-
- 13:45 **A. Jasinskas, I. Kibirškienė, R. Domeika, J. Čėsna, K. Romaneckas, J. Mašek**
Research of willow preparation and utilization for energy purposes
-
- 14:00 **P. Jindra, M. Kotek, T. Kotek, M. Hruška**
The influence of injection time's dynamic changes on particulate matters production
-
- 14:15 **P. Kic**
Dust pollution in buildings for chicken fattening
-
- 14:30 **Ľ. Kubík, F. Adamovský**
Mechanical properties of biomass pellets
-

14:45

Coffee break

Chairmann: prof. N. Aldoshin

-
- 15:15 **J. Malašák, J. Bradna, P. Hrabě, M. Kučera**
Energy utilization of by-products from mechanical recycling process of electronic waste
-
- 15:30 **P. Neuberger, D. Adamovský, R. Adamovský**
Changes in temperature and energy in the ground mass with linear horizontal heat exchanger
-
- 15:45 **V. Novák, J. Volf, D. Novák, V. Ryzhenko**
Measurement of pressure converter with conductive ink
-
- 16:00 **M. Polák, V. Polák, M. Hudousková**
Verification of model calculations for the Kaplan turbine design
-

18:30 Bus departure to Klášterní pivovar Strahov from Round Hall, Faculty of Engineering

**18:45 Dinner in Prague`s Old Town at Klášterní pivovar Strahov - <http://www.klasterni-pivovar.cz/>
(transportation will be arranged) - The Strahov Monastic Brewery, Klášterní pivovar Strahov,
Strahovské nádvoří 301, Prague 1**



Wednesday

Faculty of Engineering, Round Hall

Session RKU II

Chairmann: Dr. R. Sigalingging

-
- 13:00 **J. Blahovec**
Thermal analysis of root vegetable at 30 – 90 °C
-
- 13:15 **V. M. Bulgakov, V. V. Adamchuk, L. Nozdrovicky, M. Boris, Y. I. Ihnatiev**
Properties of the sugar beet tops during the harvest
-
- 13:30 **M. Çercioglu**
Application of organic and inorganic amendments on soil physical properties of a xerofluent soil
-
- 13:45 **I. Gravalos, D. Kateris, T. Gialamas, P. Xyradakis, N. Alfieris, P. Pigis**
Edge detection in ficus carica tree images using fuzzy logic
-
- 14:00 **P. Hlaváč, M. Božiková**
Temperature effect on milk selected physical properties
-
- 14:15 **Z. Hlaváčová, T. Regrut, M. Malínek**
Drying characteristics and electrical properties
-
- 14:30 **P. Hrabě, A. Sedláček**
Mechanical behaviour of oil rape seeds during relaxation and creep
-

14:45

Coffee break

Chairmann: Dr. F. Berisso

-
- 15:15 **P. Novák, J. Hůla, J. Kumhálová**
Translocation of soil particles at different speed of tillers
-
- 15:30 **V. Rataj, M. Macák, M. Barát, J. Galambošová**
Soil compaction and soil moisture content in extreme climate conditions
-
- 15:45 **P. Šařec, P. Novák**
Influence of biological transformation of organic matter on improvement of water infiltration ability of modal luvisol
-
- 16:00 **K. Vaitauskienė, E. Šarauskis, V. Naujokienė, A. Jasinskas**
Influence of different methods of bio-preparation use on cutting characteristics of winter wheat residues
-

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Strahovské nádvoří 301, Prague 1**



Thursday

Faculty of Engineering, Round Hall

Session RKU I

Chairmann: Dr. R. Chotěborský

-
- 9:00 **V. Poulek, M. Libra, A. Khudysh**
Advanced constructions of radiation concentrators for photovoltaic systems (review)
-
- 9:15 **Z. Vondrášek, L. Dlabal**
Determination of loading characteristics of a generator for a bladeless turbine
-
- 9:30 **N. Aldoshin**
Methods of harvesting of mixed crops
-
- 9:45 **J. Bernas, M. Kopecký, J. Moudrý Jr., Z. Jelínková, J. Moudrý, K Suchý**
Cultivation of tall wheatgrass and reed canary grass for energy purposes in terms of environmental impacts
-
- 10:00 **D. Cillis, A. Pezzuolo, F. Gasparini, F. Marinello, L. Sartori**
Differential harvesting strategy: technical and economic feasibility
-

10:30

Coffee break

Chairmann: Dr. J. Mašek

-
- 11:00 **J. Čedík, M. Pexa, J. Chyba, R. Pražan**
Pressure conditions inside the workspace of mulcher with vertical axis of rotation
-
- 11:15 **O. N. Didmanidze, G. E. Mityagin, A. M. Karev**
The development of the automobile transport in agriculture
-
- 11:30 **J. Hůla, P. Kovaříček, P. Novák, M. Vlášková**
Surface water runoff and soil loss in maize cultivation
-
- 11:45 **L. Chládek, Z. Holečková, P. Vaculík**
Different ways of fertilizer application together with bio-Effectors for maize biotope
-

12:00

Lunch - Club G

Chairmann: prof. F. Kumhála

-
- 13:30 **G. Irseel**
The machine learning concept for an inclination sensor
-
- 13:45 **H. Kammuri, R. Otani**
Reducing field permeability and water input with surface compaction in dry seeded rice field
-
- 14:00 **M. Krupička, A. Rybka, P. Heřmánek, I. Honzík**
Analysis of hop matter separation with increased roller conveyor throughput
-
- 14:15 **J. Lev, M. Lahodová, J. Blahovec**
Precise automatic detection of plant seed germination
-
- 14:30 **A. Lisowski, J. Klonowski, A. Świętochowski, Z. Gut**
Power requirement for processing of maize plant by forage harvester
-



Thursday

Faculty of Engineering, Round Hall

Session RKU II

Chairmann: Dr. P. Valášek

-
- 9:00 **D. Yıldırım, B. Cemek, A. Ünlükara**
Evaluating the soil moisture content through different interpolation methods
-
- 9:15 **N. Žemličková, P. Šařec**
Influence of application of organic matter and its activators on soil-tillage implement draft on modal luvisol
-
- 9:30 **Z. Aleš, J. Pavlů, M. Pexa, J. Svobodová, M. Kučera, B. Peterka, J. Pošta**
Influence of biobutanol on wear of fuel injection system
-
- 9:45 **Ö. Ayer**
Material flow analysis of bimetallic hollow disc upsetting
-
- 10:00 **J. Hart, V. Hartová, J. Bradna**
Intrusion and hold-up alarm systems and their reliability glass break detection
-
- 10:15 **V. Hartová, J. Hart, J. Bradna**
Reliability of face readers in difficult conditions

10:30

Coffee break

Chairmann: Dr. S. Borowski

-
- 11:00 **R. Chotěborský, M. Linda, A. Kabutey**
Detection of austenite transformation of ADI cast iron using electromagnetic sensor
-
- 11:15 **F. Karaçam**
Genetic operators effect on stacking sequence optimization
-
- 11:30 **D. Kateris, I. Gravalos, Th. Gialamas, P. Xyradakis, D. Moshou**
A new approach to fault diagnosis in agricultural tractor mechanical gearbox
-
- 11:45 **M. Kotek, P. Jindra, J. Mařík, F. Lachnit**
The influence of exhaust catalyst with reduced efficiency on real exhaust emissions

12:00

Lunch - Club G

Chairmann: Dr. K. Vaitauskiene

-
- 13:30 **A. Krofová, M. Müller**
Influence of destination at adhesive bond production on its strength
-
- 13:45 **M. Linda, M. Hromasová**
Analysis of rapid temperature changes of the object with higher thermal constant
-
- 14:00 **M. Müller, P. Valášek, A. Rudawska**
Influence of filler content on mechanical properties of aluminium at 99.5 single-lap bonds bonded with aluminium and polymer powder filled epoxy adhesive
-
- 14:15 **J. Pavlů, Z. Aleš, V. Jurča**
Methods used to measuring fuel consumption during operation of tractors by telematics systems
-
- 14:30 **M. Pexa, J. Čedík, R. Pražan**
Analysis of the NRSC test during the use of biofuels for the Zetor Forterra tractor
-
- 14:45 **J. Pošta, B. Peterka**
Approximate test of the thermal degradation of engine oil



Thursday

Faculty of Engineering, Round Hall

Session RKU I

15:00

Coffee break

Chairmann: **Dr. M. Katahira**

15:30 **J. Papež, P. Kic**

Standards and real parameters of dairy farm technology in Czech republic

15:45 **A. Pezzuolo, D. Cillis, F. Marinello, L. Sartori**

Relationship between satellite-derived NDVI and soil electrical resistivity: a case study

16:00 **R. Pražan, J. Čedík, I. Gerndtová, J. Neřold, M. Pexa**

Comparison of three sets of drive tractor tyres with respect to traction properties

16:15 **P. Prikner, J. Volf**

Contact pressure distribution in tyre tread pattern

16:30 **R. Zewdie, P. Kic**

Microclimate in drivers' cabin of combine harvesters

18:30 Reception at Faculty Brewery "Suchdolský Jeník" - Round Hall, Faculty of Engineering



Thursday

Faculty of Engineering, Round Hall

Session RKU II

15:00

Coffee break

Chairmann: Dr. A. Jasinskas

15:30 M. Růžička, D. Marčev, D. Topol

The parking generation at supermarkets and its influence on planning

15:45 V. Šleger, M. Müller, J. Zavrtálek

Low-cyclic fatigue of adhesive bonds reinforced with fibres

16:00 P. Valášek, A. Ruggiero, R. D'Amato, J. Machado

Two-body abrasion of fe-based particle epoxy composites - experimental approach

16:15 J. Volf, V. Novák, V. Ryzhenko, D. Novák

Measurement of pressure distribution in knee joint replacement

16:30 V. Vozárová, A. Petrović, J. Csillag, M. Božiková, L. Híreš, M. Valach

Dynamic viscosity and pour point of hydraulic oils

18:30 *Reception at Faculty Brewery "Suchdolský Jeník" - Round Hall, Faculty of Engineering*



Thursday
17:00 - 18:00

Faculty of Engineering, Round Hall

Poster session

Chairmann: O. L. Akangbe

No.	
1	D.T. Abilzhanov, T. Abilzhanuly, F. Kumhála, A.S. Alshurina, A.S. Adilsheev <i>Parameters justification of pickup mechanism for forage harvester</i>
2	R. Adamovský, P. Neuberger, D. Adamovský <i>Energy extraction from rock mass using vertical heat exchangers</i>
3	B. Badalíková, J. Novotná, V. Altmann, I. Balada <i>Effect of diffrect doses of compost on soil properties</i>
4	S. Borowski, L. Knopik, M. Markiewicz-Patalon, A. Brzostek <i>Assessment of transport substrates for selected agricultural biogas plant</i>
5	M. Božíková, P. Hlaváč, M. Valach, L. Híreš, L. Krišťák, M. Malínek, T. Regrút <i>Selected thermal and rheologic parameters of liquid fuels</i>
6	M. Brožek <i>Wood wear resistance to bonded abrasive particles</i>
7	A. Brunerová, M. Brožek <i>Optimal feedstock particle size and its influence on final briquette quality</i>
8	V. Bulgakov, O. Adamchuk, S. Ivanovs <i>Theoretical investigations of mineral fertiliser distribution by means of an inclined centrifugal tool</i>
9	Š. Dvořáková, J. Zeman <i>Tidal effects on small catchments</i>
10	G. Gürdil, B. Demirel, Y. Baz, Ç. Demire <i>Pelleting hazelnut husk residues for biofuel</i>
11	P. Heřmánek, A. Rybka, I. Honzík, D. Hoffmann, B. Jošt, J. Podsedník <i>Construction and verification of an experimental chamber dryer for drying hops</i>
12	M. Janošíková, B. Chalupa <i>Influence of depigmentation on mechanical parameters of horsehair of Old Kladruber horse</i>
13	O. Kabas, İ. Ünal <i>Effects of different conversation tillage systems on soil physical properties in West Mediterranean in Turkey</i>
14	J. Kaszkowiak, E. Kaszkowiak, M. Markiewicz-Patalon <i>Impact of alcohol addition to fuel on the noise level of small combustion engines</i>
15	S. Konno, H. Shindo, M. Katahira, M. Natasuga <i>Fuel consumption of agricultural machines on paddy fields</i>
16	J. Kosiba, J. Jablonický, R. Bernát, P. Kuchar <i>Effect of ecological hydraulic fluid on operation of tractor hydraulic circuit</i>
17	J. Krupička, P. Šařec <i>Measurement of electrical conductivity of fertilizer LAD 27</i>
18	A. Nováková, M. Brožek <i>Properties of fuel briquettes after three years storage</i>
19	T. Otake, M. Sato, H. Shindo, M. Honjo, M. Saito, M. Katahira, S. Koide, M. Natsuga <i>Power farming systems for welsh onion cultivation</i>
20	M. Petrů, O. Novák, M. Syrovátková <i>Mechanical properties of jute fibres reinforced plastics</i>
21	Z. Poláková, M. Polák <i>Centrifugal pump in turbine mode for small hydropower</i>
22	V. Roubík, B. Chalupa, P. Kouřím <i>Yield comparison of north- and south-facing photovoltaic panels</i>
23	A. Rybka, P. Heřmánek, I. Honzík, D. Hoffmann, K. Krofta <i>Analysis of the technological process of hop drying in belt dryers</i>
24	J. Řezníčková, K. Řasová <i>Verification of the functionality of the diagnostic of a system with many attenuation elements</i>



- 25 **J. Sedláček, J. Zeman**
The temperature response of mammals to a step change of the external temperature
-
- 26 **H. Shindo, M. Saito, S. Keiji, S. Konno, M. Katahira**
Semi-crawler tractor effectiveness for laser levelling
-
- 27 **M. Skřontová, L. Šimková, K. Jelen**
Relationship between the medulla and the diameter of ferret hairs
-
- 28 **J. Souček**
Assessment of linseed harvest efficiency
-
- 29 **A. Swietochowski, A. Lisowski, M. Dabrowska - Salwin**
The effect of particles sizes on the density and porosity of the material
-
- 30 **O. Šařec, P. Šařec**
Results of fourteen-year monitoring of technological and economic parameters of oilseed rape production in selected farm businesses
-
- 31 **M. Šedřová**
Ground massif as a heat source for heat pump
-
- 32 **T. Ūksas, R. Čingienė, V. Kučinskas, A. Sirvydas**
Solar energy conversion in plant leaf stomata as leaf temperature changes
-
- 33 **Ī. Ūnal, Ő. Kabas, S. Çetin, M. Topakci**
Estimation of soil penetration resistance using generalized regression neural networking
-
- 34 **O. Vlášek, P. Konvalina, K. Suchý, B. Machková**
Tools for evaluation of weed competitiveness of wheat
-
- 35 **Z. Votruba**
Reliability of security system integration from the perspective of the integration solution
-
- 36 **E. Yesiloglu, D. Yildirim, Y. B. Oztekin**
Effect of loading position and storage duration on the mechanical properties of abate fetel pear variety
-
- 37 **M. Zastempowski, A. Bochat**
Innovative constructions of cutting and grinding assemblies of agricultural machinery
-
- 38 **M. Sato, D. Tanabe, M. Katahira, M. Natsuga**
Establishment of a power farming system in an upland field converted from paddy field– green soybean growth and yields in an upland field during the first year after conversion from paddy field cultivation
-
- 39 **J. Mašek, J. Chyba, J. Kumhřlová, P. Novák, A. Jasinskas**
Effect of soil tillage technologies on soil properties in long term evaluation
-