



10-13 JULY

ISFR 2017

OSTRAVA, CZECH REPUBLIC

9th INTERNATIONAL SYMPOSIUM ON FEEDSTOCK RECYCLING OF POLYMERIC MATERIALS



PROGRAM

MONDAY 10, JULY 2017

- 8:00 - 9:00 **Registration at VŠB – Technical University of Ostrava (VŠB – TU Ostrava) (Building NA)**
- 9:00 - 9:45 **Conference Opening**
- 9:45 - 10:30 **Keynote Lecture** (Chairman: T. Čermák)
- 10:30 - 11:00 **Coffee Break**
- 11:00 - 12:40 **Session 1: Recycling of polymers** (Chairman: B. Strnadel)
- 12:40 - 14:00 **Lunch Break**
- 14:00 - 15:00 **Session 2: Biomass and solid waste** (Chairman: M. Olazar)
- 15:00 - 16:00 **Coffee Break**
- 16:00 - 17:00 **Session 3: Poster Session** (Chairman: P. Kolat)
- 17:00 - 20:00 **Welcome Party**

TUESDAY 11, JULY 2017

- 8:00 - 9:00 **Registration at VŠB – Technical University of Ostrava (Building NA)**
- 9:00 - 9:45 **Keynote Lecture** (Chairman: J. Zajíc)
- 9:45 - 10:25 **Session 4: Catalytic processes I** (Chairman: J. Zajíc)
- 10:25 - 11:00 **Coffee Break**
- 11:00 - 12:00 **Session 5: Catalytic processes II** (Chairman: M. Bauer)
- 12:00 - 13:30 **Lunch Break**
- 13:30 - 14:15 **Keynote Lecture** (Chairman: T. Yoshioka)
- 14:15 - 14:55 **Session 6: Pyrolysis, gasification and other energy processes I** (Chairman: P. Kolat)
- 14:55 - 16:00 **Coffee Break**
- 16:00 - 17:00 **Session 7: Pyrolysis, gasification and other energy processes II** (Chairman: H. Yasuda)
- 17:00 - 18:30 **Banquet**

WEDNESDAY 12, JULY 2017

- 10:45 - 15:30 **Technical Tour – Alternative I: Lower Vitkovice**
- 6:15 - 14:45 **Technical Tour – Alternative II: Auschwitz, Poland**
- 19:30 **Gala Dinner** (Final conference speech: T. Čermák)

THURSDAY 13, JULY 2017

- 10:00 - 11:40 **Young researcher section (Additional section)**
- 11:40 **Lunch**

MONDAY 10, JULY 2017

8:00 - 9:00 Registration at VŠB – Technical University of Ostrava (Building NA)

9:00 - 9:45 Conference Opening

Manager of Centre ENET and Rector emeritus, VŠB – TU Ostrava

Prof. Dr. Tomáš Čermák

Vice-Rector for science and research, VŠB – TU Ostrava

Prof. Dr. Petr Praus

Dean of Faculty of Mechanical Engineering, VŠB – TU Ostrava

Assoc. Prof. Dr. Ivo Hlavatý

Director of Centre ENET, VŠB – TU Ostrava

Prof. Dr. Stanislav Mišák

Director of Centre for Advanced and Innovative Technologies,
VŠB – TU Ostrava

Prof. Dr. Bohumír Strnadel

Vice-President of Research Association for Feedstock Recycling
of Plastics, Japan

Prof. Dr. Akio Kamimura

9:45 - 10:30 Keynote Lecture (Chairman: T. Čermák)

Recycling of natural polymers Wales

K. Kolomazník

10:30 - 11:00 Coffee Break

11:00 - 12:40 Session 1: Recycling of polymers

Chairman: B. Strnadel

11:00 - 11:20 “Sink or float” - Density separation of post-consumer plastics
for feedstock recycling

*Markus Bauer, Markus Lehner, Daniel Schwabl, Helmut
Flachberger, Lukas Kranzinger, Roland Pomberger, Wolfg. Hofer*

11:20 - 11:40 Influence of interfacial adhesion between recycled carbon fiber
and resin by different recycling processes

Yuichi Tominaga, Daisuke Shimamoto, Yuji Hotta

- 11:40 - 12:00 Optimization of a thermochemical process to increase metal-recycling from WEEE
Peter Hense, Jonathan Aigner, Matthias Franke, Katharina Reh, Andreas Hornung
- 12:00 - 12:20 The damage evaluation of recycle carbon fiber from CFRP made with epoxy resin
Toshihira Irisawa, Kento Ujihara, Reika Aratake, Sarasa Kobayashi, Yohsuke Fujiyasu, Shunsuke Ueda, Hiroshi Kawazoe, Yasuhiro Tanabe
- 12:20 - 12:40 Sustainable recycling of polyurethanes by means of green glycerol
Diego Simón Herrero, Ana María Borreguero Simón, Antonio de Lucas Martínez and Juan Francisco Rodríguez Romero
- 12:40 - 14:00 Lunch Break**
- 14:00 - 15:00 Session 2: Biomass and solid waste**
Chairman: M. Olazar
- 14:00 - 14:20 Conversion of waste plastics into porous carbon nanosheets via a template carbonization method
Jie Liu, Jiali Ma, Lipeng Zhang, Yanliang Wen, Jiang Gong, Tao Tang
- 14:20 - 14:40 Activated carbons from waste biomass for phenolic compounds removal from water
Ewa Lorenc-Grabowska, Piotr Rutkowski
- 14:40 - 15:00 Chemical recycling of plastic wastes in high temperature fluids
Hideyuki Tagaya, Nozomi Sakuma, Takuya Takahashi, Taichi Sugeno
- 15:00 - 16:00 Coffee Break**
- 16:00 - 17:00 Session 3: Poster Session**
Chairman: P. Kolat
Flash Presentations of 20 posters 2-3 min each
- 17:00 - 20:00 Welcome Party**
Poster discussion and others...

TUESDAY 11, JULY 2017

8:00 - 9:00 Registration at VŠB – Technical University of Ostrava (Building NA)

9:00 - 9:45 Keynote Lecture (Chairman: J. Zajíc)

Is ionic liquids good solvent to convert polymeric materials?

A. Kamimura

9:45 - 10:25 Session 4: Catalytic processes I

Chairman: J. Zajíc

9:45 - 10:05 Thermal decomposition of municipal solid waste using different catalysts

Zoltán Sebestyén, Emma Jakab, Norbert Miskolczi, Eszter Barta-Rajnai, Bhaskar Thallada, Zsuzsanna Czégény

10:05 - 10:25 High value carbon nanotubes and hydrogen rich gas produced from waste tyres by pyrolysis catalytic gasification

Yeshui Zhang, Chunfei Wu, Mohamad A. Nahil, Paul T. Williams

10:25 - 11:00 Coffee Break

11:00 - 12:00 Session 5: Catalytic processes II

Chairman: M. Bauer

11:00 - 11:20 H₂-rich syngas recovery and toxic HCN removal from N-containing plastics using Ni catalysts

Shogo Kumagai, Tomoyuki Hosaka, Tomohito Kameda, Toshiaki Yoshioka

11:20 - 11:40 Application and Characterization of Iron and Steel Making Slag to Catalytic Liquefaction Process of Waste Plastics

Haruki Tani, Yuto Kurono, Masahiro Hirasawa, Masao Yukumoto (Hatilo Tani)

11:40 - 12:00 Catalytic co-pyrolysis of biomass and polymer waste as a pathway towards improved bio-oil production

Andrew C. Dyer, P. Williams, M. Nahil

12:00 - 13:30 Lunch Break

- 13:30 - 14:15 Keynote Lecture** (Chairman: T. Yoshioka)
Valorization of waste plastics by pyrolysis and in-line upgrading of volatiles
M. Olazar, M. Artetxe, I. Barbarias, M. Amutio, G. Lopez and J. Bilbao
- 14:15 - 14:55 Session 6: Pyrolysis, gasification and other processes I**
Chairman: P. Kolat
- 14:15 - 14:35 Gasification of sawdust in a two-stage gasifier with a coal-based activated carbon and an activated carbon filter
Ji-Ho Ko, Young-Kon Choi, Joo-Sik Kim
- 14:35 - 14:55 A kinetic lumping approach for solvent-based LDPE cracking
Teresa Schubert, Markus Lehner, Wolfgang Hofer
- 14:55 - 16:00 Coffee Break**
- 16:00 - 17:20 Session 7: Pyrolysis, gasification and other processes II**
Chairman: H. Yasuda
- 16:00 - 16:20 Physical regeneration method of recycle plastics
Aya Tominaga, Nozomi Takenaka, Natsumi Yamasaki, Ryoko Nakano, Hiroshi Sekiguchi, Eiich Tanatori, Shigeru Yao
- 16:20 - 16:40 Pyrolysis of plastic waste in tubular reactor using modified zeolite catalysts producing valuable products
N. Miskolczi, J. Sója, L. Gombor,
- 16:40 - 17:00 Use of microturbines for cogeneration of energy using biogas
Jiří Míka, Sylva Kyselová
- 17:00 - 18:30 Banquet**

WEDNESDAY 12, JULY 2017

10: 45 - 15:30 Technical Tour - Alternative I: Lower Vitkovice

10:45 Start at Tourist Information Centre under "Bolt Tower" at Lower Vitkovice

How to get there?

The Meeting point is cca 100 m from the Bus / Tram Public Transport Station "Vitkovice vysoke pece" in front of the building Tourist Information Centre under "Bolt Tower".

GPS: [N 49.8206750 E 18.2792931](#)

11:00 - 12:30 Excursion to Lower Vitkovice – Part I

12:30 - 13:30 Lunch

13:45 - 15:30 Excursion to Lower Vitkovice – Part II

6:15 - 14:45 Technical Tour - Alternative II: Auschwitz, Poland

6:15 Start at VŠB – TU Ostrava by Bus

Place of departure:

Bus station „Rektorát VŠB“ before main building VŠB – TUO, cca 50 m from Tram station „Rektorát VŠB“

GPS: [N 49° 50' 01.1" E 18° 09' 56.2"](#)

8:00 - 11:30 Excursion to Auschwitz

11:30 - 12:30 Lunch

12:45 - 14:45 Journey from Poland to VŠB – TU Ostrava

19:30 Gala Dinner (Final conference speech: T. Čermák)

Adress:

Zámek Zábřeh, U zámku 42/1

700 30, Ostrava Zábřeh

GPS: [N 49° 48,417'E 018° 14,418'](#)

Public transport:

Tram stations: „Karpatská“, „Horymírova“

Bus stations: „Karpatská“, „Závoří“

THURSDAY 13, JULY 2017

10:00 - 11:40 Young researcher section (Additional section)

10:00 - 10:20 Issue of shock compression and expansion by compressors

Zdeněk Šmída

10:20 - 10:40 Decreasing energy disipation in the process of storing of two liquids with different temperatures

Ondřej Štukavec

10:40 - 11:00 Research of biochar properties

Helena Hladká

11:00 - 11:20 Preparation of sorbents from the tar deposits

Adrian Pryszcz

11:20 - 11:40 Reduction of Hg emissions from fossil fuel combustion

Zuzana Vávrová

11:40 Lunch

POSTER PROGRAM (July 10)

Study on solidification / molding technology of seedling soil for cell molding using biomass-derived polymer

Kohei Sakai, Takayuki Tsukegi, Yukito Fuji, Norio Nagasawa, Yoshihiko Usui, Tomomi Ozawa (+Osamu Yoshimura)

Relationship between the inner structure and the mechanical properties of recycled plastic

Aya Tominaga, Hiroshi Sekiguchi, Ryoko Nakano, Shigeru Yao, Eiichi Takatori

Dehydrochlorination of PVC with Subcritical Water

Naohisa Yanagihara, Yusuke Kashiwakura, Yoshiki Satoh, Kousuke Takeuchi, and Tomoya Kumakura

Tailoring of porous texture of polyfurfuryl alcohol based activated carbons and its ability to adsorb

Ewa Lorenc-Grabowska, Piotr Rutkowski

Air gasification of dried sewage sludge in a three-stage gasifier without electrostatic precipitator

Young-Kon Choi, Ji-Ho Ko, Seung-Jin Oh

Study on interfacial shear strength of recycled CF / PP with iPP-PAA

Takayuki Tskukegi, Keisuke Sakakibara, Kouhei Sakai, Osamu Yoshimura, Kiyoshi Uzawa, Daisuke Sasaki

The Industrial Recycling of Laminated Film Wastes Containing Al

Nobuya Sugaya, Mayuko Ishita, Hideyuki Tagaya

The Effects of Solvent on the De Composition of Polymeric Materials

Daisuke Yamashita, Kazuki Usui, Takuya Takahashi and Hideyuki Tagaya

Pyrolysis of PVC in a continuous two-stage pyrolysis process: Effects of temperatures and additives

Oh Seung-Jin, **Park Ki-Bum**, , Choi Gyung-Goo, Kim Joo-sik

Advanced recycle process of waste container and packaging plastic

Natsumi Yamasaki, Aya Tominaga, Misako Nakamura, Ryoko Nakano, Hiroshi Sekiguchi, Eiichi Takatori, Shigeru Yao

Catalytic liquefaction process of waste plastic using granulated blast furnace slag

Kaede Tejima, Kaori Teramachi, Masao Yukumoto, Haruki Tani

Hydrothermal carbons from waste biomass

Ewa Lorenc-Grabowska, Piotr Rutkowski,

Design and fluid simulation of a sink float separation tank for mechanical recycling using waste plastics

Masao Yukumoto, Kaede Tejima And Hisatoku Hirate

Calorimetric analysis of oil extracted residues of microalgae desmodesmus sp.

Naoto Kobayashi, Masao Yukumoto

Characterization of the solid residues of a hydrothermally treated Azolla biomass

Bence Babinszki, Emma Jakab, Eszter Barta-Rajnai, Zoltán Sebestyén, Bhaskar Thallada, Jitendra Kumar, Zsuzsanna Czégény

Upgrading of Pyrolysis Vapours from the Recycling of Carbon Fibre Composites Waste Coming from The Aerospace Industry

N. Gastelu, A. López-Uriónabarrenechea, E. Acha, C. Martínez and I. de Marco

Effects of functional groups and higher-order structure of polymers on sensibility "Kansei"

Akika Tojo, Nobuyuki Watanabe, Ikuhiro Tanida, Satoshi Osawa

Study of Sulphate Ion Concentration Changes in a Closed Cooling System of Power Plant

P. Regucki, **Z. Szeliga**, R. Krzyżyńska

Valorisation of mixed plastics by two-step pyrolysis-reforming process

I. Barbarias, G. López, M. Amutio, M. Artetxe, L. Santamaria, M. Cortazar and M. Olazar

Hydrogen production from biomass pyrolysis and in line catalytic steam reforming: Effect of CO₂ Addition on Ni/Al₂O₃ Catalyst

L. Santamaria, A. Arregi, J. Alvarez, M. Artetxe, M. Amutio, G. Lopez, and M. Olazar

CONTACTS

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Right for potential changes in the final programme reserved.

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SKUPINA ČEZ

