WORKSHOP PROGRAM
Just because something doesn’t do what you planned it to do doesn’t mean it’s useless

Thomas Edison

Program of the Workshop

Hydrogen production. Waste + energy to X approach

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Official Workshop Language

English

Registered workshop participants

1. Dr. Maksym Buryi (Head of the Plasma Chemical Technologies, Institute of Plasma Physics of the Czech Academy of Sciences, Czech Republic). Organizer (Chair)
2. Dr. Tomáš Chráska (Head of Plasma Chemistry and Materials Division, Institute of Plasma Physics of the Czech Academy of Sciences, Czech Republic)
3. Dr. Alan Mašláni (Deputy Head of the Plasma Chemical Technologies Department, Institute of Plasma Physics of the Czech Academy of Sciences, Czech Republic). Organizer (Deputy Chair)
4. Dr. Brenda Natalia Lopez Niño (Plasma Chemical Technologies Department, Institute of Plasma Physics of the Czech Academy of Sciences, Czech Republic). Organizer (Committee member)
5. Tomášová Zdeňka (Plasma Chemical Technologies Department, Institute of Plasma Physics of the Czech Academy of Sciences, Czech Republic). Organizer (Committee member)
6. Dr. Oldřich Živný (Plasma Chemical Technologies Department, Institute of Plasma Physics of the Czech Academy of Sciences, Czech Republic). Organizer (Committee member)
8. Dr. Jiří Jeništa (Plasma Chemical Technologies Department, Institute of Plasma Physics of the Czech Academy of Sciences, Czech Republic)
9. Dr. Shelja Sharma (Plasma Chemical Technologies Department, Institute of Plasma Physics of the Czech Academy of Sciences, Czech Republic)
10. Prof. Bohuslav Rezek (Faculty of Electrical Engineering, Czech Technical University in Prague, Czech Republic)
11. Dr. Tomáš Mates (HVM Plasma Ltd., Prague, Czech Republic)
12. Dr. Ivan Souček (Director of the Czech Chemical Union, Prague, Czech Republic)
13. Dr. Karel Šíma (ASEKOL a.s., Prague, Czech Republic)
14. Dr. Jiří Štefanica (ÚJV Řež, a.s., Czech Republic)
15. Lukáš Polák (ÚJV Řež, a.s., Czech Republic)
16. Nikita Streltsov (ÚJV Řež, a.s., Czech Republic)
17. Jan Kulas (ÚJV Řež, a.s., Czech Republic)
18. Jan Štrobl (Spolchemie group, Joint-Stock Company, Czech Republic)
19. Prof. Mikhail Brik (Vinča Institute for Nuclear Sciences, University of Belgrade, Serbia). Online
20. Vladislavs Bezrukovs (Engineering Research Institute "Ventspils International Radio Astronomy Center" (VIRAC), Ventspils University of Applied Sciences, Latvia). Online
21. Dr. Thomas Höhne (Institute of Fluid Dynamics, Computational Fluid Dynamics, Helmholtz Zentrum Dresden Rossendorf, Germany)
22. Dr. Dirk Lucas (Institute of Fluid Dynamics, Computational Fluid Dynamics, Helmholtz Zentrum Dresden Rossendorf, Germany)
23. Dr. Hamid Resa Yousefi (Plasmaair AG, Weil der Stadt, Germany). Online
24. Dr. Bernd Glocker (Plasmaair AG, Weil der Stadt, Germany). Online
25. Dr. Nicola Lisi (Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA - Agenzia nazionale per le nuove tecnologie), Italy). Online
Workshop program

Monday 01.07.2024

10:30-11:00 Meeting at the Workshop Venue (Za Slovankou 1782/3, 182 00, Prague, Czech Republic. https://www.google.com/maps/d/u/0/viewer?hl=cs&hl=cs&mid=1LawXCHq5uAdQEuCMwVbpB18a0zJR8&ll=50.12310486313127%2C14.46512403942565&z=17). There will be the sign reading “Workshop “Hydrogen production. Waste + energy to X approach” at the entrance and the arrows inside the building showing the way to the conference room. The doors to the building (internally it is called the SHB building) are locked. Therefore, you should ring the bell to your right when standing at the entrance door. When the receptionist pick up the intercom – tell him/her the word “Workshop”. The door will be unlocked (you will hear buzzing) and then you can enter the building.

For the participants ONLINE, the link is here: https://us02web.zoom.us/j/81481938495?pwd=sMVcLMoBdWpLpEzW2GuFfRxZbMxO9.1

11:00-11:30 Maksym Buryi. Welcome speech. Potential and perspectives of the energy + waste to X approach

11:30-12:00 Session I. Analysis of solid phase, an output of chemical technologies. Chairperson: Prof. Bohuslav Rezek

11:30-11:45 Maksym Buryi. Electron Paramagnetic Resonance as a unique tool for the solid, liquid and gaseous phases study

11:45-12:00 Prof. Mikhail Brik (online). Density Functional Theory in Computational Materials Science: Perspective and Challenges

12:00-13:30 Lunch

13:30-14:15 Session II. Modelling in plasma chemical technologies. Chairperson: Maksym Buryi

13:30-13:45 Dirk Lucas. CFD-modelling in the Euler-Euler framework at HZDR

13:45-14:00 Jiří Jeništa. Modelling of gasification of organic waste in thermal-plasma chemical reactors

14:00-14:15 Oldřich Živný. Thermodynamic equilibrium calculations for CFD modelling

14:15-14:30 Coffee break


14:30-14:45 Jiří Štefanica. Life Cycle Assessment of Hydrogen Technologies

14:45-15:00 Lukáš Polák. Hydrogen research activities in UJV Rez
15:00-15:15 Vladislavs Bezrukovs (online). Development of Hydrogen Hydraulic Compression Technology for Hydrogen Fuelling Stations

15:15-15:30 Coffee break

15:30-16:30 Session IV. Plasma technologies for hydrogen production. Chairperson: Shelja Sharma

15:30-15:45 Alan Mašláni. Hydrogen production and thermal plasma

15:45-16:00 Jafar Fathi (online). Methane microwave pyrolysis for hydrogen and graphene production

16:00-16:15 Tomáš Mates. Plasma Gasification of Medical Waste

16:15-16:30 Bernd Glocker (online). Thermal arc heated plasma generators as heat source for the electrification of high temperature processes

16:30-16:45 Coffee break

16:45-17:45 Session VI. Input and output materials of plasma pyrolysis/gasification and their investigation and modification. Chairperson: Brenda Natalia Lopez Niño

16:45-17:00 Karel Šíma. Plastic waste unusable by conventional means

17:00-17:15 Prof. Bohuslav Rezek. Nanodiamond films and particles for energy conversion

17:15-17:30 Shelja Sharma. Illuminating the Future: The Multifaceted World of Carbon Dots in Science and Technology

17:30-17:45 Nicola Lisi (online). Plasma Chemistry for energy conversion and CO₂ valorisation at ENEA

17:45-18:15 Excursion to laboratories. Depending on the number of participants – there could be two groups running in parallel. Guides: Maksym Buryi and Alan Mašláni

18:15-20:30 Coffee and networking. The workshop venue
Tuesday 02.07.2024

10:00-18:30 Social Program (Networking and excursion to Plzen). Discussions on future cooperation

09:50-10:00 Meeting at the Workshop Venue (Za Slovankou 1782/3, 182 00, Prague, Czech Republic. https://www.google.com/maps/d/u/0/viewer?hl=cs&hl=cs&mid=1LawXCHq5uAdQEUC-pBM18a0zJR8&ll=50.12310486313127%2C14.46512403942565&z=17) in front of the building.

10:00 Ride to Plzen.

12:30-13:30 Lunch

13:30-14:30 Sightseeing

14:30-16:00 Discussions on future cooperation

16:00 Returning to Prague

18:30 Workshop closing.