PlasTEP

plasma for environment protection

PlasTEP Summer School and Training Course in Vilnius/Kaunas

July 16th – July 27th, 2012
Programme

July 16th	**Opening**
16.00 – 17.00	Arrival and Opening Ceremony by official representatives of the Vilnius Gediminas Technical University (VGTU) Introduction of the project/ training courses/ participants Prof. Pranas Baltrenas / Prof. Saulius Vasarevičius, VGTU Alexander Schwock, Technology Centre Vorpommern
17.00 – 20.00	Visit the old town of Vilnius and Come Together
July 17th	**Overview about plasma processes and technologies**
09.00 – 10.30	Basics of plasma Lecturer: Dr. Indrek Jõgi / Dr. Matti Laan, University of Tartu
11.00 – 12.30	Plasma production Lecturer: Dr. Indrek Jõgi / Dr. Matti Laan, University of Tartu
12.30 – 13.30	Lunch break
13.30 – 16.30	Laboratory visit VGTU
July 18th	**Emissions and protection of ambient media**
09.00 – 10.30	Generation of different plasma sources / electrical background (Part 1) Lecturer: Michał Balcerak, West Pomeranian University of Technology
11.00 – 12.00	Generation of different plasma sources / electrical background (Part 2) Lecturer: Michał Balcerak, West Pomeranian University of Technology
12.00 – 13.00	Lunch break
13.00 – 14.30	Classification of relevant main pollutants and emissions sources as targets for plasma treatment (Part 1) Lecturer: Assoc. Prof. Dainius Paliulis, VGTU

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15.00 – 16:30 Classification of relevant main pollutants and emissions sources as targets for plasma treatment (Part 2)
Lecturer: Assoc. Prof. Dainius Paliulis, VGTU

July 19th **Treatment methods and experiments**

09.00 – 10.30 Comparison of different air treatment methods with plasma treatment
Lecturer: Prof. Saulius Vasarevičius, VGTU

11.00 – 12.30 Experiments (Part 1)
Vaida Šerevičienė/ Dovilė Vaitkutė, VGTU

12.30 – 13.30 Lunch break

13.30 – 15.00 Experiments (Part 2)
Vaida Šerevičienė/ Dovilė Vaitkutė, VGTU

July 20th **NOx /SOx reduction**

09.00 – 11.00 Overview on the application field of plasma technology for environmental protection
Lecturer: Prof. Hana Baránková/ Prof. Ladislav Bardos, Ångström Laboratory Uppsala University

11.00 – 12.00 NOx/SOx conversion chemistry in the plasma, particulate matter abatement (Part 1)
Lecturer: Prof. Hana Baránková/ Prof. Ladislav Bardos, Ångström Laboratory Uppsala University

12.00 – 13.00 Lunch break

13.00 – 14.00 NOx/SOx conversion chemistry in the plasma, particular matter abatement (Part 2)
Lecturer: Prof. Hana Baránková/ Prof. Ladislav Bardos, Ångström Laboratory Uppsala University

14.30 – 16.00 Electron beam as a special application for NOx/SOx reduction – basics and example
Lecturer: Dr. Andrzej Pawelec, Institute of Nuclear Chemistry and Technology

July 21st Social event

July 22nd Travel to Kaunas

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July 23rd	**Eco-Efficiency of plasma technologies**
09.00 – 10.30	Eco-efficiency assessment of plasma technologies Lecturer: Assoc. Prof. Dainius Martuzevičius, Kaunas University of Technology
11.00 – 12.30	Cost benefit analysis of plasma technologies Lecturer: Assoc. Prof. Andra Blumberga / Riga Technical University, Latvia
12.30 – 13.30	Lunch break
13.30 – 16.30	Laboratory experiments. Discharges and electrical measurements Michał Balcerak, West Pomeranian University of Technology
July 24th	**Removal of VOCs from ventilation air by plasma**
09.00 – 10.30	VOC-removal by means of non-thermal plasmas: plasma chemistry, techniques and examples Lecturer: Dr Ronny Brandenburg, Leibniz-Institute for Plasma Science and Technology
11.00 – 12.30	Selected fundamental aspects of VOC-removal by means of non-thermal plasmas Lecturer: Dr Ronny Brandenburg, Leibniz-Institute for Plasma Science and Technology
12.30 – 13.30	Lunch break
13.30 – 16.00	Laboratory experiments*. VOC destruction with low temperature plasma reactor Dr Ronny Brandenburg, Leibniz-Institute for Plasma Science and Technology Tadas Prasauskas, Kaunas university of Technology
18:00 - 21:00	Excursion/Social event
July 25th	**Plasma and Catalysts**
09.00 – 10.30	Combination of plasma with catalysis as special application Lecturer: Prof. David Cameron, Lappeenranta University of Technology
11.00 – 12.30	Thin film technologies for catalytic coatings Lecturer: Prof. David Cameron, Lappeenranta University of Technology
12.30 – 13.30	Lunch break
13.30 – 15.00	Synthesis of catalytic coatings in arc plasma jet Lecturer: Dr Viktorija Grigaitiene, Lithuanian Energy Institute

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15.30 – 17.00	Laboratory experiments*. Determination and generalisation of plasma source parameters during the process of mineral fiber formation Dr Romualdas Kėželis, Lithuanian Energy Institute
July 26th	**Water treatment**
09.00 – 10.30	Overview about plasma-based water treatment Lecturer: Prof. Mirosław Dors, Institute of Fluid-Flow Machinery, Polish Academy of Sciences
11.00 – 12.30	Concept for surface water cleaning Lecturer: Prof. Mirosław Dors, Institute of Fluid-Flow Machinery, Polish Academy of Sciences
12.30 – 13.30	Lunch break
13.30 – 16:30	Laboratory Experiments*. Water decontamination with low temperature plasma reactor. Prof. Mirosław Dors, Institute of Fluid-Flow Machinery, Polish Academy of Sciences Edvinas Krugly, Kaunas university of Technology
18:00 - 21:00	Excursion/ Social Event
July 27th	**Test and evaluation**
09.00 – 11.00	Test
11.00 – 13.00	Evaluation
13.00 – 14.00	Lunch break

* The laboratory experiments will be conducted by dividing participants into 3 sub-groups. Each sub-group will carry out the laboratory experiments separately during the period of July 24-26.

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