

13-14 April 2016

KNRTU-KAI, Kazan, Russia

Consortium Meeting

TEMPUS MMATENG

“Modernization of two cycles (MA, BA) of competence-based curricula in material engineering according to the best experience of Bologna Process”

AGENDA

Tuesday, 12.04.2016

Arrival of participants to Kazan.

Wednesday, 13.04.2016

Address of the venue: 1st Building of KNRTU-KAI (Address: 10, K.Marx Str.), Dept. of Material Science

09.00 – 09.30	Registration of the consortium meeting participants
09.30 – 10.00	Welcome and opening of the consortium meeting by: Dr. Alexey Lopatin, Director of Institute of Aviation, Land Vehicles and Energetics of KNRTU-KAI Prof. Engel Galimov, Head of Dept. of Material Science of KNRTU-KAI Dr. Ing. Peter Arras, Project Coordinator Dr. Alexander Snegurenko, Local Coordinator
10.00 – 11.30	Overview of the project outcomes: Dr. Ing. Peter Arras (KU Leuven) Consortium meeting
11.30 – 12.30	Masterclass: “Anisotropy in Metals and Plate Forming”, Prof. Jan Ivens (KU Leuven)
12.30 – 13.30	Lunch
13.30 – 15.00	Masterclass: “Next-Generation Strengthening Technologies of Materials Treatment”, Prof. Oleksandr Cheyliakh (PSTU)
15.00 – 15.15	Coffee break
15.15 – 16.15	Masterclass: “The Basic of Knowledge About Biocomposites and Biodegradable Materials”, Dr. Stanisław Kuciel (CUT)
16.15 – 17.30	Campus tour

Thursday, 14.04.2016

09.00 – 10.30	Masterclass: “Introduction to Business Plan - Useful Tools for Support Market Analysis, Scheduling and Estimation”, Ms. Kinga Korniejenko & Prof. Janusz Mikula (CUT)
10:30 – 10:45	Coffee break
10:45 – 12.15	Masterclass: Thin Films for Solar Cells , Dr Ruslan Muydinov, (TUB)
12.15 – 13.00	Lunch
13:00 – 14:00	Masterclass: „Surfacing Techniques” , Prof Tatiana Ilinkova, (KNRTU-KAI)
14.00 – 15.00	Masterclass: „The Influence of Reinforcement Architecture on the Static and Dynamic Behaviour of Composites”, Assoc. Prof. Katleen Vallons (KU Leuven)
15.00 – 15.15	Coffee-break
15.15 – 16.30	Consortium meeting
Free evening or departure.	

Friday, 15.04.2016

Departure of participants.

Overview of masterclasses:

“The Basics of Knowledge about Bio-composites and Biodegradable Materials”, Dr. S.Kuciel

The main objective of the course is to present new trends and knowledge in the field of environmentally-friendly engineering materials. It is primarily focused on biopolymers and their composites (natural and synthetic or modified) obtained from various kinds of biomass feedstock.

“Introduction to Business Plan - Useful Tools for Support Market Analysis, Scheduling and Estimation “, Ms. Kinga Korniejenko & Prof Janusz Mikula

- Business planning
- Market analysis (Elements of market analysis, Methods of market research, SWOT analysis, Porter’s 5 Forces, PEST analysis)
- Scheduling and estimation (Create budgets, Methods of time management, Schedules - Gantt chart)

“Surfacing Techniques”, Prof. Tatiana Ilinkova

- Overview of classical surfacing technologies
- Overview of advanced surfacing technologies
- Materials for coatings

“Thin Films for Solar Cells”, Dr Ruslan Muydinov

- Overview of thin films' preparation techniques
- Overview of classical thin film solar cell technologies
- Emerging solar cell technologies

“Next-Generation Strengthening Technologies of Materials Treatment” , Prof O.Cheyliakh.

It integrates the variety of new strengthening technologies, based on application of different physical and chemical phenomena and processes, like thermal, chemical and thermal, mechanical, magnetic, creation of high and super-high impact actions and pressures, material’s exposure to sources of highly concentrated energy (plasma, laser or electron beams) ionic flows and also their combinations. Mastering of this course is to help students to come to know very well the particulars of numerous existing technologies, make their right selection and efficiently apply them for strengthening and improving not only mechanical but also exploitation properties, judging by the specific exploitation conditions.

“Anisotropy in Metals and Plate Forming”, Prof. Jan Ivens

The forming limits of metal plates are determined by the anisotropy factor r and the strain hardening coefficient n . This lecture focuses on the definition of both parameters, the experimental determination and their link to the forming limit diagrams. The effect of the material history on the forming will also be defined.

„The Influence of Reinforcement Architecture on the Static and Dynamic Behaviour of Composites”, Assoc Prof Katleen Vallons

The seminar will give an overview of the different types of reinforcement architectures available for composites. The effect of the fabric geometry on the behaviour of a composite laminate under static and fatigue loading conditions will be discussed, as well as the differences in the development of damage that result from the reinforcement architecture.