



FACULTY
OF MATHEMATICS
AND PHYSICS
Charles University



International Seminar on Advanced Structural Materials

October 20 – 22, 2019
Prague, Czech Republic

Program

October 20 (Sunday)

- 10:00 - 12:00 Guided city tour, meeting on Hradčanské náměstí at large green lantern
14:00 - 17:00 Round-table discussion: Collaboration between Charles University and Kumamoto University

October 21 (Monday)

Faculty of Mathematics and Physics, Charles University, Ke Karlovu 3, 2nd floor (rear staircase), room M252

- 09:00 – 09:20 Prof. **Jan Trlifaj**, vice-dean of the Faculty of Mathematics and Physics, Charles University
Prof. **Yoshihito Kawamura**, director of Magnesium Research Center, Kumamoto University
Prof. **Robert Král**, head of Department of Physics of Materials, Faculty of Mathematics and Physics, Charles University
Welcome speech
- 09:20 – 09:45 Prof. **Yoshihito Kawamura** MRC, KU
Introduction of LPSO-type and C36-type Mg alloys developed at KU
- 09:45 – 10:10 Prof. **František Chmelík** DPM, CU
Exploring Thermal Loading of Hybrid and Ceramic Composites by the Acoustic Emission Technique

Coffee Break

- 10:30 – 10:55 Prof. **Shinji Ando** MRC, KU
Activity of non-basal slips in magnesium alloys
- 10:55 – 11:20 Prof. **Patrik Dobroň** DPM, CU
Acoustic Emission Study of Active Deformation Mechanisms in Mg Alloys
- 11:20 – 11:45 Prof. **Kristián Máthis** DPM, CU
Synergy of in-situ methods in study of deformation mechanisms of Mg alloys

Lunch Break Restaurant Legenda, Legerova 1820/39, Praha 2



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- 14:00 – 14:25 Prof. **Michiaki Yamasaki** MRC, KU
Ongoing research for the LPSO-typed Mg alloys in Japan
- 14:25 – 14:50 Dr. **Klaudia Horváth-Fekete** DPM, CU
Investigation of the effect of the LPSO-content on the deformation mechanisms in Mg-Y-Zn magnesium alloys by in-situ methods
- 14:50 – 15:15 Prof. **Tsuyoshi Mayama** MRC, KU
Numerical study on development of intra-granular misorientations during compression of LPSO Crystals
- 15:15 – 15:40 Dr. **Takao Tsumuraya** MRC, KU
First-principles study on the origin of phase stability of Mg alloys with long-period stacking ordered structure

Coffee Break

- 16:20 – 18:00 Panel discussion, present and future of magnesium alloys development

- 18:00 *Dinner / Welcome party*
Klášteří pivovar Strahov (Sv. Norbert),
Strahovské nádvoří 301/10, 118 00 Praha 1

October 22 (Tuesday)

Faculty of Mathematics and Physics, Charles University, Ke Karlovu 3, 2nd floor (rear staircase), room M252

- 10:00 – 10:25 Prof. **Zuzanka Trojanová** DMP, CU
Anisotropy of Mechanical and Physical Properties of Magnesium Alloys and Composites
Prepared by SPD Methods
- 10:25 – 10:50 Dr. **Hiromoto Kitahara** MRC, KU
Structure and mechanical properties of Zinc deformed by SPD process
- 10:50 – 11:15 Dr. **Tomáš Krajňák** DPM, CU
Microstructure, texture and mechanical properties evolution in ECAP processed AX41 alloy
- 11:15 – 11:40 Dr. **Michal Knappek** DPM, CU
Mechanical properties of novel Mg alloys prepared by Spark Plasma Sintering

- Lunch Break* Restaurant Legenda, Legerova 1820/39, Praha 2



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- 13:00 – 13:25 Prof. **Donald Shih** MRC, KU
Potential Usage of Advanced Mg Alloys in Aerospace - Methodology to accelerate the R&D result transition
- 13:25 – 13:50 Dr. **Daria Drozdenko** MRC, KU
Optimization of mechanical properties of rapid solidified Mg-Zn-Y alloys
- 13:50 – 14:15 Dr. **Peter Minárik** DPM, CU
From corrosion resistance measurement towards biodegradable magnesium-based materials
- 14:15 – 14:40 Dr. **Shinichi Inoue** MRC, KU
Improvement of flammability in LPSO-type Mg alloys

Coffee Break

- 15:20 – 18:00 **Laboratory tour**
Department of Physics of Materials, Faculty of Mathematics and Physics, Charles University, Ke Karlovu 5, Praha 2
- 19:00 **Dinner / Sayonara party**
Restaurant Legenda, Legerova 1820/39, Praha 2