

Magnesium Workshop Agenda
Sponsored by the Hopkins Extreme Materials Institute
April 3 – 4, 2017
Location: Glass Pavilion, Johns Hopkins University

Monday, April 3, 2017

Time Event (Presenters)

7:30 Registration and Continental Breakfast

8:15 Welcome by Workshop Chairs and the Whiting School of Engineering Dean T.E. Schlesinger

Session I: Experiments

Chair: Evan Ma, *Johns Hopkins University*

8:25 **Development of heat-treatable wrought magnesium alloys with excellent room temperature formability**
Taisuke Sasaki, NIMS, Japan

9:05 **Using the crystal plasticity approach to parse the effects of alloying and aging on themechanical behavior of wrought Mg alloys – on the road to Mg ICME**
Sean Agnew, Univ. of Virginia, USA

9:45 Break

10:00 **Precipitates and Lattice Defects in Mg Alloys**
Jianfeng Nie, Monash University, Australia

10:40 **Observing and Characterizing the Deformation of Mg and Its Alloys at High Strain Rates**
Tim Weihs, Johns Hopkins University, USA

11:20 Break

11:35 Session I Panel Discussion

12:15 Lunch

Session II: Processing

Chair: Zhigang Xu, *North Carolina A&T State University*

1:30 **Processing of Wrought Magnesium Alloys**
Dietmar Letzig, Helmholtz-Zentrum Geesthacht, Germany

2:10 **Severe Plastic Deformation Processing of Magnesium Alloys: Past and Current Practices**
Laszlo Kecskes, ARL, USA

3:00 **Twin-roll Casting of Mg Alloys**
Byeongchan Suh, NIMS, Japan

3:40 Break

3:55 Session II Panel Discussion

4:30 **Poster Session and Reception**

6:30 Dinner (on your own)

Tuesday, April 4, 2017

Time Event (Presenters/Lead)

7:45 Registration and Continental Breakfast

Session III: Modeling and Simulation

Chair: Oana Cazacu, *University of Florida*

8:30 **Exact theory of vacancy-mediated solute transport in magnesium**
Dallas Trinkle, UIUC, USA

9:10 **A few surprising consequences of crystallographic anisotropy in magnesium and its alloys**
Kaushik Bhattacharya, Caltech, USA

9:50 Break

10:05 **Grain neighbor effects on twin transmission in Mg and its alloys**
Irene Beyerlein, UCSB, USA

10:45 **Efforts to Strategize Mesoscale Modeling of Twinning beginning with the Atomistic Scale**
Christopher Barrett, Mississippi State University, CAVS, USA

11:25 Break

11:40 Session III Panel Discussion

12:20 Lunch

Session IV: Design

Chair: Somnath Ghosh, *Johns Hopkins University*

1:35 **Understanding the stacking faults and long periodic stacking ordered phases in Mg alloys**
Zi-Kui Liu, Penn State University, USA

2:15 **Opportunities and Challenges for Implementing Magnesium to Reduce Weight in Transportation Applications**
Alan Taub, Univ. of Michigan, USA

2:55 Break

3:10 **Magnesium Alloy Design**
Norbert Hort, Helmholtz-Zentrum Geesthacht, Germany

3:50 **Magnesium Alloy Design and Process Development Using Integrated Computational Materials Engineering (ICME) Approaches**
Alan Luo, The Ohio State University, USA

4:30 Session IV Panel Discussion

5:10 Closing Remarks by Workshop Chairs

5:20 Adjourn