NSF I/UCRC CR Industry Advisory Board Meeting
October 8-9, 2019
Worcester Polytechnic Institute
Rubin Campus Center

Monday, October 7, 2019
12:30 p.m.  Company visit to Rebuilders Automotive Supply (RAS) Registration required

Monday, October 7, 2019 (EIAB Members Only)
6:00 p.m.  EIAB Meeting – Sports & Recreation Center, Kazin Conference Room, (2nd floor, one level down from main lobby)
8:00 p.m.  Dinner – The Fix Burger Bar, 108 Grove Street, Worcester (774) 823-3327

Tuesday, October 8, 2019
8:00 a.m.  Registration and Breakfast – Odeum A & B
Getting On-Line - Life Forms
8:45 a.m.  Welcome – Odeum A & B
B. Mishra
Opening Remarks: IAB
M. Bauer
CR NSF Assessment Coordinator’s Update
S. Shipp
CR Updates
B. Mishra

9:15 a.m.  Funded Project Updates – Odeum A & B
9:15 a.m.  A: Optimization of Concrete Mixtures for 3D Printing (KUL)
G. Beersaerts, Y. Pontikes
9:35 a.m.  B: Near Real Time Sub-ppm Detection of Elements in Metals (WPI)
S. Bong, Y. Wang

9:55 a.m.  Coffee Break

10:10 a.m.  Focus Group Sessions for A & B – Two parallel sessions
A: Optimization of Concrete Mixtures in 3D Printing (Umicore)
Hagglund Room
B: Near Real Time Sub-ppm Detection of Elements in Metals (East Penn)
Mid-Century Room

11:10 a.m.  Leveraged and Funded Project Updates – Odeum A & B
11:10 a.m.  C: Copper Separation from Steel (WPI)
H. Jin, B. Mishra
11:30 a.m.  D: Moisture Analysis of Heterogeneous Solid Material Flows (KUL)
R. Chukka, B. Blanpain

11:50 a.m.  Lunch – Odeum C
Presentation by Assistant Prof. Berk Calli on New NSF “Future of Work at the Human-Technology Frontier” Program Award Regarding Use of Robots in Material Recycling Facilities

1:00 p.m. **Focus Group Sessions for C & D – Two parallel sessions**
- C: Copper Separation from Steel (SMS)  
  *Hagglund Room*
- D: Moisture Analysis of Heterogeneous Solid Material Flows (Gopher)  
  *Mid-Century Room*

2:00 p.m. **Funded Projects Updates – Odeum A & B**
- 2:00 p.m. E: Alternative Fluxes for Lead Bullion Refining (CSM) - NEW  
  *T. Boundy, P. Taylor*
- 2:20 p.m. F: Optimized Sorting and Separation Technologies for Remanufacturing with Product Centric Recycled/Reclaimed Scrap (WPI)  
  *A. Gupta, B. Mishra*
- 2:40 p.m. G: Vacuum Distillation of Complex Lead Bullion – FINAL (CSM)  
  *E. Tshijik Karumb, P. Taylor*

3:00 p.m. **Coffee Break**

3:15 p.m. **Focus Group Sessions for E & F – Two parallel sessions**
- E: Alternative Fluxes for Lead Bullion Refining (Metallo Belgium)  
  *Hagglund Room*
- F: Optimized Sorting and Separation Technologies for Remanufacturing with Product Centric Recycled/Reclaimed Scrap (US ARL)  
  *Mid-Century Room*

4:15 p.m. **Funded Projects Update – Odeum A & B**
- 4:15 p.m. H: Paint Sludge (CSM)  
  *V. Vaccarezza, C. Anderson*
- 4:35 p.m. I: Electro-Oxidation of Metals & Inorganics in Metal Ops (KUL)  
  *P. Subramanian, J. Fransaer*

4:55 p.m. **Focus Group Session for H & I – Two parallel sessions**
- H: Paint Sludge (GM)  
  *Mid-Century Room*
- I: Electro-Oxidation of Metals & Inorganics in Metal Ops (Umicore)  
  *Hagglund Room*

5:55 p.m. **Adjourn**

6:15 p.m. **Reception and Dinner, Higgins House, WPI**

**Wednesday, October 9, 2019**

7:30 a.m. **Breakfast – Odeum A & B**

8:00 a.m. **Funded Project Update – Odeum A & B**
- J: Online Slag and Bullion Analysis by LIBS (KUL) - FINAL  
  *E. François, B. Blanpain*
8:20 a.m.  Focus Group Session for J
J: Online Slag and Bullion Analysis by LIBS (Umicore)
   *Hagglund Room*

9:00 a.m.  Final Review of 2020 Project Proposals prior to vote– *Odeum A & B*
20-00 Contactless Flow Measurement of Molten Materials (Gopher)
20-01E* Paint Sludge Recycling Project 1 Year Extension (GM/CSM)
20-02R* Recuperation of Energy from Molten Slags (Metallo)
20-03R* Effect of Cooling Speed on the Microstructure of Solid Slag (Metallo)
   *E – Extension; R – Resubmission*

9:45 a.m.  Coffee Break

10:00 a.m.  CR% Renewal – NSF Proposal – *Odeum A & B*
   *B. Mishra – Chair*

10:45 a.m.  IAB Meeting – Closed Session – *Odeum A & B*
   *M. Bauer – Chair*

10:45 a.m.  Center Directors Meet with CR% IAB Guests and Potential Members
   *Mid-Century Room*

12:15 p.m.  Lunch – *Odeum C*
Company Presentation by Anantha Desikan – Israel Chemical Ltd.

1:30 p.m.  Leveraged Project Presentations – *Odeum A & B*
   *1:30 p.m.*  GMR funded Red Mud Project based on licensed CR% patent (WPI)
   *B. Mishra*
   *1:50 p.m.*  Disintegration of Composite Materials for Recycling (U Tokyo)
   *G. Dodbiba*

2:10 p.m.  IAB Debrief with Directors – *Odeum A & B*

2:40 p.m.  Meeting Adjourns

**Optional Activities – Wednesday, October 9, 2019**

3:00 p.m.  Student/Industry Q&A Session
Informal setting for students to ask industry members questions / seek advice
   *Mid-Century Room*

4:30 p.m.  Tour of WPI R&D facilities led by WPI researchers
meet in front of Mid-Century Room

6:30 p.m.  Informal Get Together
Beer Garden
64 Franklin Street, Worcester, MA 01608
(774) 530-9000