**Optional Short Course:** Recycling Metals from Industrial Waste
June 26-28, 2018


Cost for CR³ members: $230 (1 Attendee per CR³ Member). Non-Members: $1500

*Note: The short course is scheduled to run until 11:15 a.m. June 28th*

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**Agenda**

**NSF I/UCRC CR³ Industry Advisory Board Meeting**
June 28-29, 2018
Colorado School of Mines
Marquez Hall, 1600 Arapahoe Street, Golden, CO

**Thursday, June 28, 2018**

8:00 a.m.  Breakfast and Registration - Atrium
            Getting On-Line - Life Forms

8:30 a.m.  Welcoming Remarks – Marquez Hall, Room 326
            *C. Anderson, D. Apelian*
            Opening Remarks: IAB
            *M. Bauer*
            CR³ NSF Assessment Coordinator’s Update
            *S. Shipp*
            CR³ Updates
            *B. Mishra*

9:20 a.m.  Funded Project Updates – Marquez Hall, Room 326

9:20 a.m.  A: Innovative Refining Technologies for Sb Recovery (WPI)
            *Q. Wang, Y. Wang*

9:40 a.m.  B: Waste Water Treatment Sludge & High Value Grinding Swarf Recycling (WPI)
            *H. Lee, B. Mishra*

10:00 a.m. Coffee Break

10:20 a.m. Focus Group Sessions for A & B – Two parallel sessions

A: Innovative Refining Technologies for Sb Recovery (Umicore)
   Marquez Hall, Room 335

B: Waste Water Treatment Sludge & High Value Grinding Swarf Recycling (GM)
   Marquez Hall, Room 326
11:20 a.m.  Funded Project Updates – Marquez Hall, Room 326
11:20 a.m.  C: Pretreatment Processes of Waste PCBs (University of Tokyo)
            *J. Ponou, T. Fujita*
11:40 a.m.  D: Online Slag and Bullion Analysis by LIBS (Umicore)
            *E. François, B. Blanpain*

12:00 p.m.  Focus Group Sessions for C & D – Two parallel sessions
            C: Pretreatment Processes of Waste PCBs (JX Nippon)
                Marquez Hall, Room 335
            D: Online Slag and Bullion Analysis by LIBS (Umicore)
                Marquez Hall, Room 326

1:00 p.m.  Lunch - Atrium

2:00 p.m.  Center Presentation for CSM Short Course Guests followed by Q&A – Marquez Hall,
            Room 326 - *Center Directors, Guests and IAB*

3:00 p.m.  New 2018 Projects – Overview and Initial Focus Group Formation/Meeting
            Marquez Hall, Room 326
            • Copper Separation from Steel – Marquez Hall, Room 326 – *B. Mishra*
            • Optimization of Concrete Mixtures Containing Metallurgical Process Residues for
              3D Printing – Marquez Hall, Room 204 – *Y. Pontikes*

3:30 p.m.  Coffee Break

3:45 p.m.  Funded Projects Updates – Marquez Hall, Room 326
3:45 p.m.  E: Vacuum Distillation of Complex Lead Bullion (CSM)
            *E. Tshijik Karumb, P. R. Taylor*
4:05 p.m.  F1: Auto-Al Scrap Material Flow Analysis with Compositional Projections (WPI) - FINAL
            *S. Kelly, D. Apelian*
4:20 p.m.  F2: Sorting of Wrought Aluminum Scrap for Automotive Manufacturing (WPI)-FINAL
            *S. Zummar Ghazaleh, D. Apelian*

4:35 p.m.  Focus Group Sessions for E & F – Three parallel sessions
            E: Vacuum Distillation of Complex Lead Bullion (Umicore)
                Marquez Hall, Room 335
            F1: Auto-Al Scrap Material Flow Analysis with Compositional Projections (Steinert)
                Marquez Hall, Room 326
            F2: Sorting of Wrought Aluminum Scrap for Automotive Manufacturing (Steinert)
                Marquez Hall, Room 326

6:30 p.m.  Reception and Dinner
            Golden Vista Room / Golden Hotel
            800 Eleventh Street / Golden, CO
Friday, June 29, 2018

8:00 a.m.  Breakfast – Marquez Hall, Room 108

8:30 a.m.  Funded Projects Update – Marquez Hall, Room 326

8:30 a.m.  G: Paint Sludge (New) (CSM)
            *V. Vaccarezza, C. Anderson*

8:50 a.m.  H: Recovery of Valuable Metals from Flue Dust and Other Fines from Mechanical Treatment of e-Scrap (WPI)
            *H. Lee, B. Mishra*

9:10 a.m.  I.: Electro-Oxidation of Metals & Inorganics in Metallurgical Operations (New) (KUL)
            *P. Subramanian, J. Fransaer*

9:30 a.m.  Focus Group Sessions for G, H – Three parallel sessions

9:30 a.m.  G: Paint Sludge (GM)
           Marquez Hall, Room 108

9:30 a.m.  H: Recovery of Valuable Metals from Flue Dust and Other Fines from Mechanical Treatment of e-Scrap (Aurubis)
           Marquez Hall, Room 335

9:30 a.m.  I.: Electro-Oxidation of Metals & Inorganics in Metallurgical Operations (Umicore)
           Marquez Hall, Room 326

10:30 a.m. Coffee Break

10:45 a.m. Initial Review of 2019 Project Proposals and Collaboration Discussion
           Marquez Hall, Room 326
           *M. Bauer and IAB*

12:00 p.m. Lunch – Marquez Hall, Room 108

12:00 p.m. Presentation

12:00 p.m. Nicholas Jian, East Penn Manufacturing

1:00 p.m.  2019 Project Proposal Collaboration Discussion (continued)
           and Planning of Future CR3 projects – Marquez Hall, Room 326
           *M. Bauer and IAB*

2:00 p.m.  IAB Meeting – Closed Session- Marquez Hall, Room 326
           *M. Bauer – Chair*

2:00 p.m.  Center Directors Meet with CR3 IAB Guests and Potential Members – Marquez Hall, Room 335

3:30 p.m.  IAB Debrief with Directors – Marquez Hall, Room 326

5:00 p.m.  Meeting Adjourns

6:30 p.m.  Optional (Self-Pay) Dinner Event
           Barrels and Bottles
           600 12th Street
           Golden, CO