

REGISTRATION FORM

Flotation Short Course & SME Local Section Dinner

Confirmed Date: April 29, 2017	Please Email or Fax this Completed Form to: (one form per registrant please)
Registrants Information: (Please Print Clearly in Dark Ink)	<u>Karen Holland</u> Montana Tech Fax: <u>406-496-4664</u> 1300 West Park Street Office: 406-496-4341 ELC 208 Email: <u>kholland@mtech.edu</u> Butte, MT 59701 www.mtech.edu/academics/mines/metallurgy

Attendee Name _____ Title _____
 Company _____ Address _____
 City _____ State/Province/County _____
 Zip Code _____ Your E-mail _____
 Your Phone _____ Fax _____
 Contact Name (Payments only) _____ Phone _____
 If you are an SME member, what is your number? _____

Payment Information:	Payment accepted by check, Visa, MC or Discover Sorry, we cannot accept American Express
To register, please e-mail or fax this completed form to Karen Holland. An invoice will be generated and emailed or faxed back to the contact name listed. Payment instructions are listed below:	
To Pay by Check, please make it payable to: Montana Tech of The University of Montana Attn: Flotation Short Course/SME MT Section Please remit to: Montana Tech Metallurgical and Materials Engineering 1300 West Park Street, ELC 208 Butte, MT 59701	To Pay by Credit Card (other than American Express): Please Call: Montana Tech Business Office: Joan McNabb (406) 496-4253 or Pam Hogart (406) 496-4250 Please mention your invoice number and Index No. B01120. Thank you!
Registration Fees (Due April 20):	See Attached Pages For Details
Please Mark Below For Charges	

Flotation Short Course Only (Saturday, April 29, 8am-5pm)

SME Member\$ 50.00 _____
 Non-Member\$ 60.00 _____

SME Montana Section Dinner Only (Saturday, April 29, 6pm-9:30pm)

SME Member\$ 30.00 _____
 Non-Member\$ 40.00 _____

Flotation Short Course AND SME Montana Section Dinner (Saturday, April 29, 8am-9:30pm)

SME Member\$ 70.00 _____
 Non-Member\$ 90.00 _____

Seating is limited. Must have headcount by April 20 to preorder lunch and dinner. Late orders add \$10/event!

SME Montana Section Officers Selection Discussion (Saturday, April 29, 5pm-6pm) FREE _____



MontanaTech
 THE UNIVERSITY OF MONTANA

***Flotation Short Course and
SME Montana Local Section Meeting
Student Union Building, Montana Tech
Saturday, April 29, 2017***

Course Instructors:

Dr. Dariusz Lelinski, FLSmidth, 7158 FLSmidth Dr., Midvale, UT

Dr. Charles Andress, NALCO Water, 14810 Park Alameda Dr., Houston TX

SME Guest Speaker:

Mrs. Keri St. John, FLSmidth, 7158 FLSmidth Drive, Midvale, UT

Host:

Dr. Courtney Young, Metallurgical & Materials Eng, Montana Tech, Butte, MT

Flotation Short Course
Kelly-Steward, Student Union Building (SUB)

**No breakfast items served except
Coffee, Water, Tea and Soda served throughout
Q&A are expected throughout as well**

WELCOMING, Kelley-Stewart Room

8:00 a.m. - 8:05 a.m.

- ♦ Introductions by Dr. Courtney Young

8:05 a.m. – 9:30 a.m. – Instruction by Dr. Dariusz Lelinski

- ♦ Basic Flotation Concepts
 - Particle Size Distribution, Liberation, Grade-Recovery
 - Power Consumption
- ♦ Types of Flotation Machines
 - Forced Air
 - Self-Aspirated
 - Hydrodynamic Differences

BREAK

10:00 a.m. - 11:30 p.m. – Instruction by Dr. Dariusz Lelinski

- ♦ Industrial Installations
- ♦ Scale-up and Sizing
- ♦ Industrial Operation
- ♦ Industrial Testing



11:30 a.m. – 12:30 p.m. – Lunch (Pre-ordered Sandwiches)

12:30 p.m. - 12:35 p.m.

- ♦ Introductions by Dr. Courtney Young

12:35 p.m. – 1:45 p.m. – Instruction by Dr. Charles Andress

- ♦ Froth and Frothers – Definitions
- ♦ Frother Components including Industrial Applications (Nonmetallic and Sulfide)
- ♦ Major Frothers and Basic Chemistries including Discussions based on Literature
- ♦ How Frothers fit into “Klimpel” Diagrams

BREAK

2:00 p.m. - 3:15 p.m. – Instruction by Dr. Charles Andress

- ♦ Equipment and Reagent Factors
- ♦ Flotation Kinetics
- ♦ Blending Frothers

BREAK

3:30 p.m. - 5:00 p.m. – Instruction by Dr. Charles Andress

- ♦ Laboratory Testing Methods
- ♦ Conducting Field Trials
- ♦ Applications to Cu/Mo Byproduct Flotation

THANK YOU TO ALL SPONSORS!





**Door Prizes
50/50 Raffle**

SME Montana Local Section Meeting **Copper Lounge, Student Union Building (SUB)**

Check-in begins at 6:00 p.m.
No Host Bar until 9:00 p.m.

6:00 p.m. – 7:00 p.m. – Check-In and Welcoming

7:00 p.m. – 7:45 p.m. – Dinner (Southern Brisket BBQ)

7:40 p.m. – 7:45 p.m.

- ♦ Introductions by Dr. Courtney Young

7:45 p.m. – 8:30 p.m.

- ♦ Guest Speaker Presentation:

“FLSmidth Flotation Advancements: Design and Testing of the NextSTEP Mechanism and 660 m³ SuperCell”

Keri St. John, Technical Manager, FLSmidth, 7158 FLSmidth Drive, Midvale, UT

Abstract: *Through FLSmidth's commitment to provide superior minerals processing equipment, a series of projects were launched to improve the froth flotation cell product line. Included in this endeavour were projects to improve the efficiency of the Dorr Oliver rotor/stator mechanisms and build and test the largest flotation cell in the world.*

Over the course of several years FLSmidth undertook the task of improving the mixing mechanisms of both the forced air flotation cells. Initial university work focused on fundamental aspects which led to laboratory testing of rapid prototyped designs. From this stage, the most promising designs were tested at a pilot scale and finally in several industrial applications. For the forced air machine, the nextSTEP rotor and stator showed superior performance throughout the entire testing process and has been proven to increase recovery while reducing power consumption.

The economies of scale are forcing flotation cells to continue getting bigger – and more efficient. Until recently, the FLSmidth 300 Series SuperCell™, developed in 2009, was the largest in the world with a capacity of 350m³. But in 2011, FLSmidth decided to take this product line to the next level and started the development process of the new generation of flotation cells. The 600 Series SuperCells™ has a maximum volume of 660m³. Concentrators are now being designed for very high capacities and having new trends in flotation plant design. Other than new, large throughput plants, these cells are especially attractive in a situation when there is limited room for expansion in existing large capacity plants.

