Center for Environmental Kinetics Analysis
"All Hands" 5th Annual Meeting
AGENDA

Wednesday September 30

4:00 pm ***George Luther***- *Determining the in situ kinetics and dynamics of biogeochemical processes in the field with voltammetric solid state (micro)electrodes.* ***(301 Steidle)***

Thursday October 1

(Talks on Thursday and Friday are held in 117 Earth and Engineering Sciences Building)

8:00-8:30 **Breakfast outside of 117 EES**
8:40-9:00 **Opening Words from Sue Brantley**

Section 1 -- Precipitation Science (9:00-11:00) --117 EES

9:00 ***Masoud Aryanpour*** *Quantum calculations on nanoparticles based on ferrihydrite and goethite crystal structures*
9:20 ***Stephen Ajayi*** *Al-substituted phase transformation kinetics of β-FeOOH to α- Fe_2O_3 from condensed ferric hydroxide gel.*
9:40 ***Enid Martinez*** *Nano-goethite (α-FeOOH) crystallization in the presence of aluminum: rates, mechanisms, and structural arrangement of Al atoms*
10:00 ***Peter Heaney*** *Keeping thermodynamics safe in soil environments: A perspective on the precipitation of metastable minerals*

10:20-10:40 **Discussion of Section 1 talks**
10:40-11:00 **Break (Refreshments on first floor)**

Section 2 -- Dissolution Science (11:00-12:15) --117 EES

11:00 ***Becky Sanders*** *Probing clay mineral surface reactivity across scales using solid-state nuclear magnetic resonance*
11:20 ***Lixin Jin*** *What do we know about the controls and rates of shale weathering at Susquehanna Shale Hills Observatory?*
11:40 ***James Kubicki*** *What do we need to know to better link molecular and field scale weathering rates?*

12:00-12:15 **Discussion of Section 2 talks**
12:15-2:00 **Lunch and Poster Session**

Section 3-- Looking to the future (2:00-3:50) --117 EES

2:00 ***Brian Dempsey*** *Fe(II)/Fe(III) systems – challenges, anomalies, research opportunities*

2:20	***William Burgos***	*Research opportunities for the remediation of coal mine drainage*
2:40	***Kamini Singha***	*Can electrical geophysics help quantify reaction rates in situ?*
3:00	***Li Li***	*Effects of physical and chemical heterogeneities in biogeochemical processes and implications for uranium bioremediation*

3:00-3:30	**Discussion of Section 3**
3:50-4:10	**Break**
4:10-5:00	**Travel to Lake Raystown and Princess Cruiser (leave from EES parking lot promptly at 4:15)If you plan to drive, directions can be found at : http://tinyurl.com/cekaboattrip**
5:00-7:00	**Princess Cruiser Boat tour w/ Dinner**
8:00	**Arrive on campus**

Friday October 2

8:30- 9:00	**Breakfast- Served on first floor**
9:00-10:00	**External Advisory Committee Meeting (217B)**
9:00-10:00	**Discussion on future directions led by Sue Brantley (117)**
10:00-10:20	**Break**

Section 4 -- Bioreaction Science (10:20-12:00) --117 EES

10:20	***Ming Tien***	*Summarizing five years of the Bioreactions Interest Group*
10:40	***Tiffany Yesavage***	*Understanding the distribution of dissimilatory iron-reducing bacteria in the Shale Hills watershed of centralPA*
11:00	***Yufeng Qian***	*Identification of iron binding sites of Shewanella oneidensis MR-1 by metal-catalyzed protein oxidation*
11:20	***Brendan Puls***	*Structural and functional characterization of microbial iron reduction mediators*

11:40-noon	**Discussion of Section 4 talks**
Noon -1:00	**Lunch (Served on 2nd floor)**
1:15- 1:45	**Presentation by Advisory Committee --117 EES**
1:45-2:30	**Discussion of future directions from morning with Advisory Committee--117 EES**
2:30-3:00	**Break**
3:00-4:00	**Advisory Committee Report and Discussion--117 EES**
5:00-?	**Dinner and BBQ at Ming Tien's house**