Forest Resources Building
University Park, PA

20th Annual Environmental, Chemistry, and Microbiology Student Symposium

Schedule

Friday, April 21st

2:00 – 3:30 PM Registration, Presentation Upload, and Poster Setup

3:30 – 4:50 PM Oral Presentations, Session I

Time slot	Presenter	Title
3:30 – 3:50	Wei Zhi	Metal transport enhanced by Dissolved Organic Carbon (DOC) at the watershed scale
3:50 – 4:10	Michael Schmidt	A combined in situ ATR-FTIR/XPS study of the DNA-goethite interface
4:10 – 4:30	Angela Possinger	Soil organic matter stabilization via mineral interactions in forest soils with varying saturation frequency
4:30 – 4:50	Sarah Cronk	The importance of iron oxide and organic carbon associations during aerobic biodegradation of peatland soils

4:50 – 5:00 PM Break

5:00 – 6:00 PM Keynote Address: **Dr. Margaret Torn**

"Three Perspectives on the Global Carbon Cycle: Soil, Atmosphere, and Energy"

6:00 – 7:00 PM Catered Dinner & Networking

Saturday, April 22nd

8:00 – 9:00 AM Catered Breakfast and Late Registration

9:00 – 9:10 AM Opening Remarks

9:10 – 10:30 AM Oral Presentations, Session II

Time slot	Presenter	Title
9:10 – 9:30	Madhu Singh	Characterizing soot from vehicle emissions
9:30 – 9:50	Zhang Cai	Impact of mineral spatial distribution patterns on the reactive transport of Marcellus shale waters in natural aquifers
9:50 – 10:10	Moses Ajemigbitse	Reducing the environmental impact of the petroleum industry by waste to resource recovery
10:10 – 10:30	Uyen Nguyen	The influence of pressure on hydrocarbon biodegradation in shallow and deep Gulf of Mexico sediments

10:30 – 10:40 AM Break

10:40 – 12:00 PM Oral Presentations, Session III

Time slot	Presenter	Title
10:40 – 11:00	Sydney Stewart	Explaining the reaction rates between iron oxide-associated ferrous iron and nitrobenzene
11:00 – 11:20	C.M. Ndoun	Characterization and evaluation of carbonaceous materials via the hydrothermal carbonization of unwanted waste pharmaceuticals
11:20 – 11:40	Maliheh Safari	Evolution of a partitivirus in peppers and its effect on aphid behavior
11:40 – 12:00	Emma Clement	Does a clean bed filtration theory properly predict removal of model microbes in a moringa-coated sand filter?

12:00 – 1:30 PM Poster Presentations (with catered lunch)

1:30 – 2:30 PM Keynote Address: **Dr. Monroe Weber-Shirk**

"Creating Community-Scale, People and Planet Friendly, Water Treatment Technologies"

2:30 – 2:40 PM Break

2:40 – 4:00 PM Oral Presentations, Session IV

Time slot	Presenter	Title
2:40 – 3:00	Leah Hall	*Cryptosporidium* genotypes in a suburban river watershed in southeastern Pennsylvania
3:00 – 3:20	Blake Wadsworth, Andrew Le Clair, & Steven Elgin	Correlating phenotypic/genotypic expression of MDRO's in sewage and surface waters using an amended IDEXX enterolert DST and duplex PCR
3:20 – 3:40	Ehsan Mahdinia	Optimization of *Bacillus subtilis natto* growth parameters in glycerol-based medium for MK-7 (Vitamin K) production in biofilm reactors
3:40 – 4:00	Zena Cardman	Microbial architects of anastomosing cave wall patterns in Frasassi, Italy

4:00 – 4:15 PM Break

4:15 – 5:15 PM Keynote Address: **Dr. Arup SenGupta**

"Development and Globalization of Hybrid Ion Exchange Nanotechnology (HIX-Nano): Mitigating Fluoride and Arsenic Crisis in Water"

5:15 – 5:20 PM Break

5:20 – 5:45 PM Awards Ceremony and Concluding Remarks

5:45 – 6:00 PM Poster Removal

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Poster Presentations (Saturday 12:00-1:30 pm)		
Poster #	**Presenter**	**Presentation Title**
1	Emma Clement	Does a clean bed filtration theory properly predict removal of model microbes in a Moringa-coated sand filter?
2	Worlasie Djameh	Low Cost Solar Resource Measurement Instruments using Additive Manufacturing and Microcontrollers
3	Samantha Dutton	Investigation of Bat Guano (Myotis lucifugus) from a Maternity Colony and the Associated Internal Prokaryotic Microbiome
4	Melissa Finley	A Genetics Approach to Understanding the Host-Pathogen Parasitic Relationship of Apple and Erwinia amylovora
5	Jenelle Fortunato	A Flavin-based flow battery that recharges with waste heat or CO2 emissions
6	Prachi Joshi	Using NaCl as a model system to study stable mineral recrystallization
7	Faith Kibuye	Impact of Land Use and Drinking Water Treatment Processes on the Occurrence of Pharmaceuticals and Personal Care Products (PPCPs) in the Susquehanna River Basin
8	Ehsan Mahdinia	Strain and plastic composite support (PCS) selection for Vitamin K (Menaquinone-7) production in Biofilm Reactors
9	Bonnie McDevitt	A Hydrogeological Investigation of Oil and Gas Wastewater Disposal Causing Salinization of Western U.S. Rivers
10	Andrew Murtha	Communication Between *Vibrio fischeri* Populations within the Squid Light Organ
11	Briana M. Nuñez	Characterization of a Natural Vibrio fischeri Isolate
12	Mohammad Rahimi	Converting low-grade waste heat into electricity using a silver ammonia battery
13	Kara Schelb	Investigating the Microbiome of Myotus lucifugus Populations and Potential for Prokaryotic Isolates as Biocontrol Agents of White Nose Syndrome
14	Arupananda Sengupta	Flow-through capacitive deionization to treat brackish water for irrigation
15	Caroline Steingard	Investigation of codependent strain characteristics in polyclonal *V. fischeri* infections
16	Jonathan Stephens	Maize Nitrogen Fertilization for Dairy Production in Sardinia will Make You Feel Warm
17	Travis Tasker	Impact of Spreading Oil & Gas Wastewater as Road Treatments on Groundwater Quality
18	Nicole Urban	Acidogenic digestion of duckweed using mixed anaerobic cultures to maximize carboxylic acid yields
19	Katherine Van Sice	Elevated Radium Activities in Sediments from Oil and Gas Wastewater Disposal
20	Boya Xiong	Chemical Degradation of Polyacrylamide during Hydraulic Fracturing
21	He Yuting	Observing and Simulating Spatial Variations of Forest C Fluxes and Stocks in Complex Terrain
22	Huaibin Zhang	Anion Uptake by Clays Intercalated with Poly (diallydimethyl ammonium) (PPDA) Cations