



## Call for Papers

### Redox & Interfacial Dynamics Among Coupled Biogeochemical Cycles of Fe, S, Minerals & Organic Matter: Implications to Multiscale Behaviors of Contaminants, Carbon & Nutrients

Submission Portal: <https://callforpapers.acs.org/nola2018>

Abstract Due: October 9<sup>th</sup>, 2017

In redox-dynamic environments (e.g., wetlands, sediments, root-soil interfaces, groundwater-surface water interaction zones), transport and transformation of contaminants, carbon and nutrients are governed by a wide spectrum of redox and interfacial processes with the cycles of Fe, S, minerals and organic matters highly coupled. Fe is an abundant and microbially redox-sensitive element with diverse mineralogy and interfacial/colloidal properties. Immediately following Fe in the thermodynamic ladder, S is commonly found in aquatic systems, dictating many biogeochemical processes through both inorganic and organic, biotic and abiotic pathways. Although much is known about the individual cycles of Fe and S, very limited knowledge has been obtained in the interplay between these two cycles, their respective coupling with organic matter and minerals, and the subsequent roles on multiscale behaviors of contaminants, carbon and nutrients. Key knowledge gaps include, but not limited to, the molecular processes affecting Fe, S and contaminant/nutrient speciation, characterization of redox-active products and intermediates (e.g., radical and metastable phases), mechanistic factors controlling the mass transfer (dissolved or solid-associated) in heterogenous media, correlation between microbial community dynamics and active abiotic-biotic coupled pathways controlling the biogeochemical processes, incorporation of the molecular, nano/micro/pore scale processes into local, reach and watershed scale models, optimization of remediation technologies for contaminate sites.

The symposium invites papers on redox and/or interfacial processes that couple two or more of the key players (Fe, S, organic matter, minerals), and address one or more spatial scales of interest (molecular, nano/micro/pore, and up to watershed scale). The highlighted research will embrace the convergence of the interests of biogeochemists, engineers, hydrologists and reactive transport/ecosystem modelers.

#### Invited Speakers (to be updated)

[Kenneth Kemner](#), Argonne National Laboratory  
[Stefan Peiffer](#), University of Bayreuth, Germany  
[Fangbai Li](#), Guangdong Institute of Soil Science  
[Chongxuan Liu](#), SUSTech, PNNL

[Scott Fendorf](#), Stanford University  
[Dongqiang Zhu](#), Peking University  
[Thomas Borch](#), Colorado State University

#### Symposium Organizer

[Zimeng Wang](#), Louisiana State University  
[Teng Zeng](#), Syracuse University

[Yandi Hu](#), University of Houston  
[Jose Cerrato](#), University of New Mexico