



DIVISION NEWSLETTER

FALL 2020

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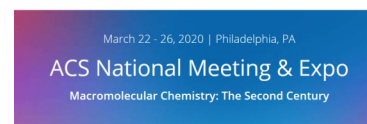
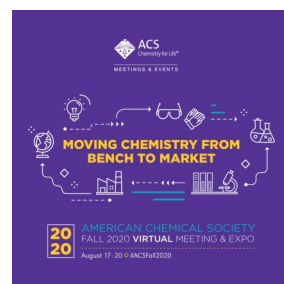
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MESSAGE FROM THE CHAIR

Greetings GEOC Division Members,

The GEOC Division has had quite a year. The Spring 2020 meeting in Philadelphia was ready to go with almost 300 abstracts to be presented in 13 Symposia over the entire 5 days of the meeting. We had an exciting mix of Symposia covering topics such as 40 Years of NMR, Materials of the Universe, Environmental Challenges in Oil & Gas, and Engaging Students in Geochemistry for Career Pathways. We also awarded Student Travel Grants to 5 graduate student presenters vying for the Best Student Presentation Award. You can check out the names and affiliations of our awardees later in the Newsletter. With a public health crisis in full swing, cancellation of the meeting was inevitable. The good news is that the theme for this meeting “*Macromolecular Chemistry: The Second Century*” will be revived for the Spring 2021 meeting in San Antonio. Get your Symposia and abstract resubmissions ready!

Following the cancellation of the Spring meeting, the Fall meeting marked new territory for the ACS with the decision to go completely virtual. Working through the challenges of doing this for the first time, GEOC hosted 26 abstracts and even managed to hold a virtual social! The plan for the Spring 2021 meeting is still undecided but will most likely retain a virtual component. More details to follow.

In other new developments GEOC initiated a Strategic Planning process supported by an ACS Innovative Project Grant. The survey sent out earlier this year collected valuable input from the membership to help direct the process. Thank you to all who participated! The results from the survey and more details about the planning process are described in the Newsletter.

In closing, I want to acknowledge the GEOC Executive Committee Members who volunteer their time and energies to make sure we are run smoothly and fulfill the needs of the membership and the ACS. If you are interested in volunteering, scroll through the rest of Newsletter for open leadership positions and other volunteer opportunities. Finally, I would like to thank all GEOC members for your contributions to the Division. Hosting symposia, submitting abstracts, presenting and participating in ACS Meetings and Division activities is what keeps GEOC going! Thank you all for your contributions. It was my pleasure to serve as Division Chair in 2020. See you in San Antonio!

Ashaki Rouff
Division Chair

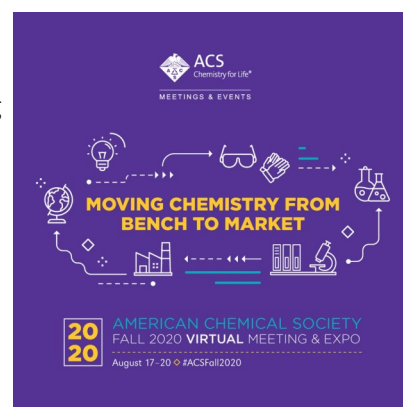


ACS 2020 MEETINGS: RECAP

Due to COVID-19, the Spring 2020 National Meeting (Philadelphia, PA) was postponed till Spring 2021, and the Fall 2020 National Meeting (San Francisco, CA) was held virtually. This was the first virtual national meeting held by ACS, and the conference organizers have received much feedback from the program chairs, symposia organizers, speakers, and audience. ACS is still deciding on the mode of the Spring 2021 Meeting in San Antonio, TX, for which virtual delivery will be an important component. We look forward to continue sharing exciting science on geochemistry, hopefully in a live platform.

Fall 2020 Sessions

- Metals & Isotopes: From Modern Biogeochemical Processes to Ancient Environments
- Biotic/Abiotic Redox Processes of Manganese in Natural & Engineering Systems
- Cycling of Intermediate Species Across Redox Transitions
- Kinetic Studies & Mathematical Models to Investigate Biogeochemical Reaction Mechanisms in Complex Systems
- Structure, Reactivity & Energetics of Layered Earth Materials
- Emerging Technologies & Cutting Edge Science: Navigating within a Regulatory Framework
- Iron Oxides: Their Phase Transformations, Structures, Kinetics, & Applications
- General Geochemistry



Congratulations to our Geochemistry Student Travel Award Winners

2020 ACS Spring meeting:

Bonnie McDevitt, Pennsylvania State University

Seonyi Namgung, Yonsei University

Ruiyu Wang, Temple University

Jinshu Yan, Washington University in St. Louis

Sean Zigah, Georgia State University

ACS SPRING 2021: CALL FOR ABSTRACTS

2021 ACS Spring National Meeting

March 21–25, 2021

San Antonio, TX

Macromolecular Chemistry: The Second Century

You are invited to submit abstracts for the following GEOC symposia:

- 40 Years of High-Resolution NMR Spectroscopy of Inorganic Solids
- Fundamental Reactions Driving Macroscopic Geochemical Processes
- Crystallization Pathways: New Perspectives on Nucleation, Growth & Dissolution of Natural & Synthetic Materials
- Biogeochemical Transformation in the Underground Environment – Natural Processes and Engineered Implementations for Contaminant Abatement
- The Evolution of Macromolecular Carbon through Space and Time
- Interfacial Reactions under Nano-scale Confinement
- Molecular Processes at Mineral-Water Interfaces
- Engineered Nanomaterials and Synthetic Macromolecules in the Environment: Fate, Behavior, and Effects
- Reactivity & Transformation of Manganese Oxides in Natural and Engineering Systems
- Reactive Transport Modeling: A Cutting-Edge Tool for Investigating Coupled Processes
- Materials of the Universe: The Final Chemical Frontier
- General geochemistry

Please submit your abstracts using the ACS Meeting Abstracts Programming System (MAPS) at <http://maps.acs.org>. Abstracts submission deadline is TBD.

For questions about specific symposia, please contact the organizer directly.

General information about the conference can be found at www.acs.org/meetings.

For general questions about the Geochemistry Division symposia and activities, please contact Yuanzhi Tang (yuanzhi.tang@eas.gatech.edu).

Yuanzhi Tang

Geochemistry Division Program Chair

yuanzhi.tang@eas.gatech.edu

CALL FOR NOMINATIONS**Geochemistry Division****Fall 2020 Election**

ACS Geochemistry Division is currently seeking nominations for two officer positions, Program-Chair Elect and Secretary, who will assume their roles in January 2021. A brief description of each role is provided below.

Program-Chair Elect (4-year term): This officer will serve as Program-Chair Elect in the first year, shadow the Program Chair, and assist the Division Chair with the direction and management of the Division. In the second year, the candidate will serve as Program Chair and organize the symposium at the fall and spring national meetings. In the third year, the candidate will serve as Division Chair, and finally as Immediate Past Division Chair in the fourth year.

Secretary (3-year term): This officer is responsible for supporting a broad range of Division's activities. These duties include to keep a record of the minutes of the meetings of the Division and of the Executive Committee, to maintain a list of members and affiliates, to send to members and affiliates such notices as the business of the Division may require, to submit a report to the Division at its annual meeting, and to carry out the duties required by the Constitution and Bylaws of the SOCIETY and elsewhere in these by-laws.

Note:

- Self-nominations and consensual nominations of colleagues are encouraged.
- Per GEOC Bylaws, all nominations must be accompanied by **at least 10 signatures of support from current ACS GEOC Members (including current Division Committee members)**.
- All nominees must have been a Member of the Division for **at least one year at the time of nomination**.
- Nomination and the signatures of support must be submitted by **October 15**.

Please submit the nomination or any questions to:

Sang Soo Lee

ACS Geochemistry Division Secretary

sslee@anl.gov

CALL FOR NOMINATIONS**ACS Geochemistry Division Medal**

To be awarded for outstanding contributions in any area of the field of geochemistry.

The Division of Geochemistry of the American Chemical Society is currently soliciting nominations for the 11th awarding of the Geochemistry Division Medal. The Geochemistry Division medal is awarded biennially to an individual for outstanding accomplishment in any field of geochemistry.

Previous GEOC medal winners include: Frank J. Millero (2001), John M. Hayes (2003), Patrick G. Hatcher (2005), Robert C. Aller (2007), Fred T. MacKenzie (2009), John A. Tossell (2011), George W. Luther III (2013), Donald Sparks (2015), Susan L. Brantley (2017), and Everett L. Shock (2019).

The award consists of a bronze medallion plus \$2000. The awardee will receive an allowance for travel to the award ceremony, as well as registration costs for the ACS meeting at which the award will be conferred. The 11th Geochemistry Division Medal will be presented at the Fall 2021 ACS National Meeting & Exposition to be held in Atlanta, Georgia, August 22-26, 2021.

Letters of Nomination and supporting materials should be sent to the Geochemistry Division Secretary, Dr. Sang Soo Lee, at sslee@anl.gov, by **December 15, 2020**.

Nominations should be sent electronically and should include: (1) a nomination letter (2 to 5 pages in length) describing the nominee's outstanding accomplishments, (2) the nominee's current CV with up-to-date publication list, (3) two supporting letters from individuals other than the nominator, and (4) at the discretion of the nominator, any other supporting information. Nominators should confirm, prior to submission of the nomination, that the nominee is willing to be considered for the award. Nominees are considered for two award cycles. Thus, new nominations, reviewed for the 2019 award and who are not successful, will be automatically reconsidered in the next award cycle (nominators will be contacted and invited to submit additional or updated information).

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GEOC STRATEGIC PLANNING

Overview

The Division has embarked on a Strategic Planning (SP) exercise to set areas of priority for the next 5 years. Through this process, the Division aims to reinforce the vision, mission and core values, address current and future needs of the discipline and membership, and align priorities with the ACS Strategic Plan.

The ACS Core Values include global impact; member focus; professionalism, safety, ethics; diversity & inclusion. Select GEOC challenges, within the context of the ACS SP goals are to:

- Disseminate geochemical **solutions** for local, national and global issues.
- Increase **member** participation in division/society activities; grow the membership.
- Outreach and **education** for all learners.
- Communicate** with the public and policy makers.

GEOC will convene a SP committee of 10 to identify goals, objectives and priorities for the next 5 years, establish actions and consolidate resources necessary to achieve goals and design and implement mechanisms to evaluate attainment of goals. The intended outcomes are:

1. A SP document, **GEOC 2021 and Beyond**, modeled on the ACS SP and focused on mission, values and goals
2. An implementation strategy, including proposed resources, actions and mechanisms to achieve goals and an implementation timeline
3. An evaluation strategy, including mechanisms to assess the impact of interventions

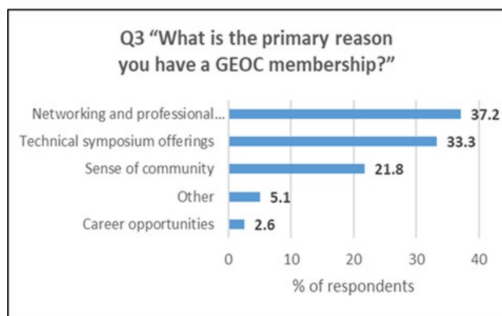
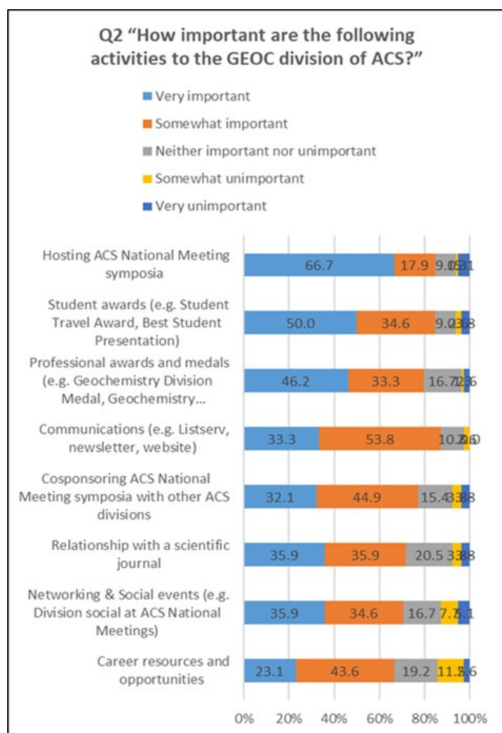
Strategic Planning Process

As the first step in the SP process, the membership was invited participate in a survey earlier this year. Results from the survey are reported on the next page.

Currently the GEOC is at the SP Retreat stage of the process. The SP Retreat was scheduled to take place at the end of ACS Spring 2020 Meeting in Philadelphia, but is now delayed until 2021. Stay tuned for future updates. In the meantime, send questions or comments to: ashaki.rouff@rutgers.edu

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Member Survey Results



Q4. What is the most important action GEOC can take to improve the value of your division membership?



Q5. In your opinion, what is the most important action GEOC can take to attract new members to the division?



Q7: GEOC performance for Division-related activities:

- ⇒ Highest-rated: provision of high quality, topical symposia at ACS National Meetings
- ⇒ Lowest-rated: recruiting and engaging new members

Q8 The following three activities are the most important for GEOC to undertake in the future:

- ⇒ Collaborate with an ACS journal
- ⇒ Provide career resources, network opportunities and professional development beyond ACS offerings
- ⇒ Increase member participation in division activities

DIVISION OFFICERS & COMMITTEES

Division Chair

Dr. Ashaki Rouff is an Associate Professor of Geochemistry at Rutgers University, Newark NJ. Her research uses laboratory-based model systems, field work, and advanced molecular-scale techniques; as applied to the areas of contaminant geochemistry, urban geochemistry and sustainable geochemistry. Dr. Rouff has been a member of the Geochemistry Division and an American Chemical Society member since 2002.



Past Division Chair

Nadine Kabengi is an associate professor of Geochemistry at Georgia State University where she holds joint appointments at the Geosciences and Chemistry departments. Her research involves measuring the energetics and thermodynamic properties of surface reactions, focusing on mineral-water interfaces and surface reactivity. In her free time, she enjoys binge-watching TV and internet series.



Program Chair

Yuanzhi Tang is an associate professor of geochemistry at Georgia Institute of Technology. Her research focuses on revealing the kinetics and mechanisms of biogeochemical reactions occurring at mineral-water interfaces, as well as the applications of advanced synchrotron techniques.



Program Chair-Elect

Dr. Adam Wallace is an associate Professor of geochemistry in the Department of Earth Sciences at the University of Delaware. His research uses computational and experimental approaches to investigate molecular scale processes at mineral-water interfaces.



SEE DETAILS IN THE DIVISION WEBSITE

<https://www.acs.org/geoc>

DIVISION OFFICERS & COMMITTEES

Treasurer

Dr. Taillefert is a geochemist interested in environmental chemistry and chemical oceanography problems in sediments and subsurface environments. His research centers around redox processes and metal transformations at redox interfaces and combines field work in both marine and freshwater environments, laboratory manipulation of natural samples, and fundamental studies in well-defined conditions. Dr. Taillefert has been an ACS member for 25 years and has been involved in the Geochemistry Division between 2011 and 2014, including as Division Chair in 2013. He has also served on the Geochemistry Medal committee in 2014.



Secretary

Sang Soo Lee is a staff scientist at Argonne National Laboratory. His research focuses on in situ and real-time observations of molecular-scale processes at mineral–water interfaces in geochemical systems primarily using synchrotron-based X-ray scattering and spectroscopic techniques. He has been an ACS member since 2010, and has served as the Membership Chair (2015-2017) for the ACS GEOC division.



Councilor

Anastasia Ilgen is a staff scientist at Sandia National Laboratories. She is an experimental geochemist, specializing in molecular-level processes at mineral-water interfaces, with emphasis on ion adsorption-desorption rate and mechanisms, chemical controls on mineral growth and dissolution, and surface-mediated redox reactions. She volunteered with the Division since 2013, and became a Councilor in 2019.



Alternate Councilor and Awards Committee Chair

Sebastien Kerisit received his PhD in computational chemistry from the University of Bath and is now a Senior Research Scientist at the Pacific Northwest National Lab. His research interests cover a wide range of topics relevant to the geochemistry community including the chemistry of mineral-water interfaces, carbon capture and sequestration, the aqueous corrosion of glasses, the mechanisms of mineral nucleation and growth, and the redox properties of natural systems. He has been a member of Geochemistry Division since 2006, and served a four-year rotation as Program Chair-Elect (2013), Program Chair (2014), Division Chair (2015), Past Division Chair (2016), and Treasurer (2017-2019) of Division. Most recently, Sebastien served as Chair of the Geochemistry Division Medal Committee.



Webmaster

Juliane Weber is an associate staff scientist at the Lunar and Planetary Laboratory at the University of Arizona. She received her PhD from the RWTH Aachen, Germany and conducted her experimental work at the Forschungszentrum Juelich. Prior to her move to University of Arizona, she was a postdoctoral researcher at Oak Ridge National Laboratory. Her research is focused on understanding the role of microstructure on mineral reaction rates, utilizing high-resolution microscopy and X-ray/neutron scattering techniques.



Newsletter Editors

Dr. Yandi Hu is an associate professor in the College of Environmental Science & Engineering at Peking University. Her research utilized advanced nanoscale interfacial characterization techniques to probe reactions at solid-liquid interfaces, as applied to better understand mineral nucleation and growth which are related to the fate and transport of aqueous contaminants and scale formation in many natural and engineered systems.

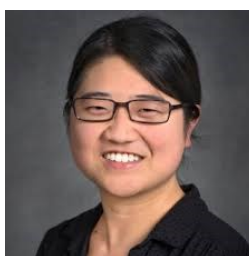


Ning Deng is a Ph.D. candidate at the University of Houston, majoring in environmental engineering. He works in Dr. Yandi Hu's group and studies the nucleation and growth of solid solutions at environmentally relevant interfaces.



Membership Chair

Hang Deng is a research scientist at Lawrence Berkeley National Lab. She received her PhD degree from Princeton University. Her research utilizes a suite of experimental tools and reactive transport models to investigate mineral-fluid interactions, addressing scientific questions at the center of pressing energy and environmental challenges.



Membership Chair-Appointee

Qingyun Li is a postdoc at SLAC National Accelerator Laboratory, and will join the Department of Geosciences at Stony Brook University in Fall 2021 as an Assistant Professor. She uses experimental approaches, geochemical modeling, and synchrotron X-ray techniques to study water-rock interactions in porous media for energy and environmental applications.

