

# Newsletter

of the  
International Association of  
GeoChemistry

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## A letter from the two Editors-in-Chief of *Applied Geochemistry*

Yes, you read that right, there are two EiC's for *Applied Geochemistry* as of July 1<sup>st</sup>. This is the major news for our journal. The decision to divide the ever-increasing workload of >800 submissions per year onto the two shoulders EiCs was made unanimously by the IAGC publication committee. Moreover, since one third of all submissions now come from Asia, we deemed it suitable to locate the 2<sup>nd</sup> EiC in that part of the world. So let's introduce first our new EiC, Zimeng Wang, who has been officially approved by Elsevier to serve in this role. He is a professor of environmental geochemistry at Fudan University, Shanghai, China. He studied and then worked in the U.S. from 2009 to 2018 (Washington University St. Louis, Stanford University, then Louisiana State University) before returning to his *alma mater* as a full professor. Zimeng joined the AG board as an associate editor in January 2019, and his diligent service to the journal has been widely recognized. His engagement with the journal as our new EiC is expected to attract more high-quality geochemical research papers from China and Asia. He won the IAGC Ebelmen Award in 2020 (profiled in this Newsletter issue and [here](#)).

Now for another journal update. We've managed to keep the impact factor (IF) at 2.9 (Clarivate

Analytics, Thomson Reuters, June 2020). Though not bad, we failed again to stay above our desired hurdle of 3.0. This is a bit disappointing given the great job our Editorial Board and publishing team has done, and warrants some thoughts about new strategies to improve our international visibility, (e.g. in social media). Nonetheless, we are grateful for your interest to support and publish your important work by our esteemed journal. Thank you all – take care!

Best Regards,

Michael Kersten  
Zimeng Wang



Michael Kersten, Johannes Gutenberg University Mainz,  
Germany



Zimeng Wang, Fudan University, China

## 2021 PhD Student Research Grant Applications

We receive great interest in our Elsevier/IAGC PhD Student Research Grants each year, and they have become a high-profile recruiting tool for the organization. We will post instructions for applying for the PhD Student Research Grant program on 1 October, 2020. Applications will be due on 1 December. Keep an eye on our website and Facebook page for the announcement:

[www.iagc-society.org/phd\\_grants.html](http://www.iagc-society.org/phd_grants.html)

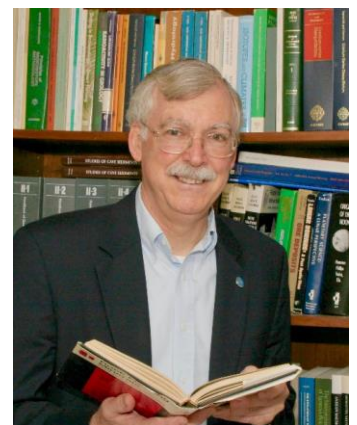
[www.facebook.com/IAGCSociety/](https://www.facebook.com/IAGCSociety/)

## 2020 IAGC Awards

We are pleased to announce our Society Awards for 2020. Congratulations to the recipients, and thank you for your service to the IAGC and the geochemical community!

## IAGC Fellows

**Russell Harmon** retired as Director of the International Research Office of the US Army Corps of Engineers Engineer Research and Development Center in 2017 and presently is an Adjunct Associate Professor in the Department of



Marine, Earth, and Atmospheric Sciences at North Carolina State University. A geochemist who has worked at the NASA Manned Spacecraft Center, the Scottish Universities Research and Reactor Centre, and the UK-NERC Isotope

Geosciences Laboratory, he has held faculty positions at Michigan State University and Southern Methodist University. He is a Fellow of the Geological Society of America and National Speleological Society, past Chair of the Geological Society of America Division of Mineralogy, Geochemistry, Petrology, and Volcanology and a Past-President of the International Association of GeoChemistry. He holds a BA from the University of Texas, MS from the Pennsylvania State University, and PhD from McMaster University.

### **Bernhard Mayer**

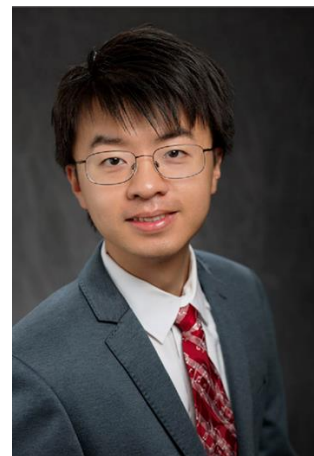
received his PhD in Geochemistry from the Ludwig-Maximilians University of Munich (Germany). After an 18 month postdoctoral fellow at the University of Calgary (Alberta Canada), he returned to Germany as an Assistant of Dr. Jan Veizer at the Ruhr-University Bochum.



In 1997, Dr. Mayer accepted a professorial appointment at the University of Calgary. His Applied Geochemistry research group in the Department of Geoscience at the University of Calgary combines aqueous, gas and isotope geochemical approaches to determine the sources, the transport and the fate of nutrients and contaminants in surface and subsurface systems. His work spans a wide variety of geochemical topics including the quality of groundwater and surface waters, and the environmental impact of fossil fuel development, including shale gas exploitation, geologic CO<sub>2</sub> sequestration, and oilsands recovery. Since 2016, Dr. Mayer serves as the head of the Department of Geoscience in the Faculty of Science at the University of Calgary and was recently awarded a Killam Professorship.

### **Ebelmen Award**

**Zimeng Wang** is a professor in the Department of Environmental Science and Engineering at Fudan University. He received a B.S. from Fudan University in 2009, and a Ph.D. from Washington University in St. Louis in 2013, followed by postdoctoral research at Stanford University. He was a faculty member at Louisiana State University, before returning to the faculty of his alma mater. At Fudan, he teaches soil chemistry courses and directs an environmental geochemistry program. With an expertise on mineral-water interfaces, he is interested in diverse aspects of aquatic geochemical processes, from fundamental aqueous speciation of heavy metals and radionuclides to pollution characterization and remediation at field sites. He received an “Excellence in Review” Award by Environ. Sci. Technol., and the Li Foundation Heritage Prize for Excellence in Creativity. He is an active member in the Association of Chinese-American Professors of Environmental Engineering and Science (CAPEES) and now serves as its China Liaison Officer. He also serves on various technical committees under Soil Science Society of China. As of July 1, he is also the second Editor-in-Chief of the IAGC’s official journal, *Applied Geochemistry*, covering Asia.



## Kharaka Award

**Abhijit Mukherjee** graduated from the University of Kentucky (USA) and completed postdoctoral work at the University of Texas at Austin (USA). He also served as the Physical Hydrogeologist at the Alberta Geological Survey in Canada. He is currently an Associate Professor at the Department of Geology and Geophysics, and the School of Environmental Science and Engineering at the Indian Institute of Technology Kharagpur (IIT Kharagpur), India. His main research areas are physical, chemical and isotope hydrogeology and geochemistry, including modeling and contaminant transport, as well as water resource management and the effects of climate change on the hydrosphere. He has served as an Associate Editor for *Applied Geochemistry*, *Journal of Hydrology*, and presently serving in editorial role in *Scientific Reports* and *Journal of Earth System Sciences*. He has also served as advisor to various Government of India ministries and departments. He has been recipient of many awards, including the National Geoscience Award by the President of India.



## Hitchon Award

The Hitchon Award is given annually to a paper of significance published in the IAGC journal, *Applied Geochemistry*. The award is given to the *Applied Geochemistry* paper from 5 years ago (to allow for time to make an impact) that has the most citations according to SCOPUS. All authors will receive recognition here in the IAGC Newsletter and on the IAGC website, as well as a complimentary 1-year membership.

This year's recipient of the **Hitchon Award** is **Nadine Piatak's** 2015 paper "Characteristics and environmental aspects of slag: A review" with

190 citations since its publication in 2015. *Full Citation:*

Piatak, N.M., Parsons, M.B., Seal, R.R. (2015) Characteristics and environmental aspects of slag: A review. *Applied Geochemistry*, 57, 236-266

**Nadine Piatak** is a research geologist at the U.S. Geological Survey in Reston, Virginia. She holds undergraduate and MSc degrees in geology from The Ohio State University. Since joining the USGS in 2001 her research has focused on geochemical processes that control the source, transport, and fate of trace elements associated with mineral deposits, including environmental characterization of mine waste and metallurgical slag. Nadine also studies life cycles of byproduct critical elements including Ga, Ge, and Te examining their enrichment in ore deposits and how mineralogical hosts and speciation influence recovery efficiencies during ore-processing and refining. Her publications include multiple journal articles and a book chapter on mineralogy, chemistry, and reuse of slag. In addition to her work on slag in *Applied Geochemistry*, she is currently co-editing and contributing to a book on slag to be published by the Royal Society of Chemistry.



## Honorable Mentions

Nordstrom, D.K., Blowes, D.W., Ptacek, C.J. (2015) Hydrogeochemistry and microbiology of mine drainage: An update. *Applied Geochemistry*, 57, pp. 3-16.

### Cited 132 times

Lindsay, M.B.J., Moncur, M.C., Bain, J.G., Jambor, J.L., Ptacek, C.J., Blowes, D.W. (2015) Geochemical and mineralogical aspects of sulfide mine tailings. *Applied Geochemistry*, 57, pp. 157-177.

### Cited 100 times

Ettler, V. (2015) Soil contamination near non-ferrous metal smelters: A review. *Applied Geochemistry*, 64, pp. 56-74.

### Cited 89 times

## Elsevier PhD Student Research Grant Winners

The IAGC is happy to announce the recipients of the 2020 Student Research Grants, sponsored by Elsevier and the IAGC. This is a competitive award, with a funding rate of only 12% for 2020. The success of these grantees demonstrates the extremely high caliber of their research. Congratulations to our grantees!

New this year, we are directing non-earmarked donation funds to support a sixth proposal from a low and middle income country. If you would like to support our efforts to fund geochemistry students in these countries, visit our donation page: <http://www.iagc-society.org/donate.html>

**Alexandre Ribeiro Cardoso** – “*Spatial and temporal evolution of complex arid systems: the Cretaceous Areado Group, Sanfranciscana Basin, SE Brazil*”

Alexandre Ribeiro Cardoso graduated with a BSc in geology (2016) and a MSc in geology and geochemistry (2019) from the Federal University of Pará (Brazil), in the Amazon region. He is

currently conducting his PhD research in the Department of Geology and Natural Resources of the State University of Campinas (Brazil). His main goals are to investigate the sedimentology and geochemistry of arid systems, especially focusing on paleoenvironmental and paleoecological



reconstructions of Mesozoic greenhouse states, their relations with mass mortality events and exceptional preservation of vertebrate fossils. In his PhD dissertation, Alexandre applies facies analysis and petrographic techniques coupled to X-ray diffraction, stable isotopic geochemistry, paleoredox proxies and Raman spectroscopy, aiming to build a source-to-sink framework to correlate to continental records in Brazilian sedimentary basins. This study will be useful to upgrade stratigraphic reconstructions, and guide climatic simulations and biological responses in conditions akin to the current global warming trends.

**Ciara Asamoto** – “*Uncovering the role of microbial physiology on the isotopic effects of nitrate reduction*”

Ciara Asamoto received her BSc in Biology from Western Washington University (USA) in 2015. During her time at Western she studied phytoplankton community dynamics in response to seasonal hypoxia in Bellingham Bay. Ciara is currently a



PhD candidate at the University of Colorado Boulder (USA), studying how microbial physiology influences the isotopic biosignature of nitrate reduction. The major aim of this work is

to better understand how microorganisms can modulate isotopic signals in response to their environment, improving our ability to fingerprint particular nitrogen cycling processes in nature. She is using a combination of continuous (chemostat) culturing and molecular biology alongside stable isotopic measurements to carry out her research. To obtain precise measurements of both nitrogen and oxygen stable isotopes, Ciara uses the denitrifier method, a technique that relies on bacterial conversion of sample nitrate to nitrous oxide gas. The converted nitrate is then analyzed on an isotope ratio mass spectrometer.

**Amar Karaoui** – *“Stratigraphy, facies analysis and petrography of Neoproterozoic meta-sediments, magmatic bodies and volcanoclastic deposits in Skoura inlier (Central High Atlas, Morocco)”*

Karaoui Amar graduated with BSc in Earth and Universe science from the University of Moulay Ismail (Morocco) in 2015 and a MSc in Geosciences, Mineral Resources and Geomaterials from Sidi Mohamed ben Abdellah university (Morocco) in 2017. He became involved in research related to the late Proterozoic rocks in south of Morocco, where he studied the volcano-sedimentary successions in the Imiter mine. Amar’s current PhD work at Moulay Ismail University (Morocco) is focused on the Proterozoic rocks outcropped in the Skoura inlier (Central High Atlas, Morocco). His research focuses on the characterization of the Late Proterozoic Skoura rocks. He is interested in the geochemical characterization of the plutonic bodies and their tectonic context. Whole-rock and mineral geochemistry provide useful genetic information of the magmas and



can be used to correlate these rocks with the similar neighboring facies. His dissertation aims to understand the geodynamic context of the Skoura inlier and its possible connection with the Peri-Gondwana terrane of the northern West African Craton.

**Lauren Kancle** – *“Piecing Together the Past: Reinterpreting Traditional Views One Life History at a Time”*

Lauren Kancle earned her BA in Classics from the University of Pittsburgh (USA) in 2006 and went on to earn a Doctor of Pharmacy degree (PharmD) from the University of Pittsburgh School of Pharmacy (USA) in 2010. After working as a pharmacist for five years, she decided to attend University College Cork (Ireland) where she completed a Higher Diploma in Archaeology in 2016, then a MSc in Palaeopathology in the Department of Archaeology at Durham University (UK) in 2018 where she conducted research into human diets using stable carbon and nitrogen analysis of incremental dentine collagen and bulk bone collagen. She was subsequently awarded the Durham Doctoral Studentship at Durham University. Her PhD will continue her isotopic research to investigate the lives of past individuals through investigating the extent of mobility in Anglo-Saxon individuals from several sites in northern England (c. 5<sup>th</sup> to 7<sup>th</sup> century AD), who are traditionally thought of as sedentary farming populations. Her PhD project will create a comprehensive set of isotopic profiles for each individual, including carbon ( $\delta^{13}\text{C}$ ), nitrogen ( $\delta^{15}\text{N}$ ), and sulfur ( $\delta^{34}\text{S}$ ) stable isotope ratios of incremental tooth dentine collagen and bulk bone collagen. These isotopic signatures will provide information on diet resources and farming practices. In addition,



tooth enamel strontium ( $^{87}\text{Sr}/^{86}\text{Sr}$ ) and oxygen ( $\delta^{18}\text{O}$ ) isotopes will be analyzed to determine the provenance of each individual.

**Amaury Bouyon** – *“Redox variations as seen through Selenium and Sulfur isotope geochemistry”*

Amaury Bouyon earned a BSc in chemistry at Ecole Normale Supérieure de Lyon (France) and a MSc in geology at Institut de Physique du Globe de Paris (France). He began his PhD program in 2016 at IPG Paris focusing on the use of Selenium and Sulfur multi-isotopic composition to understand past redox conditions. He is currently a Fulbright fellow at the University of Maryland to investigate sulfur isotopes. One of the goals in his PhD is to understand the origin and evolution of carbonatitic magmas through time and investigate a potential contribution from sediments recycled in the mantle. He uses selective chemical extraction of the different pools of sulfur in carbonatites, such as acid volatile sulfides, pyrite and barite before measuring their different isotopic signatures on a gas source mass spectrometer. This will help decipher the rocks complex origin and bring new insights on the generation and evolution of such magmas.



**Christopher T. Conwell** – *“Island arc weathering as a driver of Ordovician climate”*

Christopher T. Conwell is a fourth-year PhD student in the School of Earth Sciences at Ohio State University studying with Dr. Matt Saltzman. Before coming to Ohio State, he



received his B.S. in geology from Temple University. For his dissertation work, Chris is investigating the links between tectonic uplift, Ca-silicate mineral weathering, and climate during the Middle–Late Ordovician (~470–450 Ma) greenhouse–icehouse transition. Chris uses the record of seawater Sr and Nd isotopes ( $^{87}\text{Sr}/^{86}\text{Sr}$  and  $\epsilon_{\text{Nd}}(T)$ , respectively) preserved in marine carbonate rocks and bioapatite to reconstruct patterns of continental weathering. For this work, he has sampled Ordovician carbonate strata in remote canyons of central Nevada and the beautiful countryside of Sweden. Chris’ non-scientific interests are rock climbing, photography, and his cat (Little Bird).

## Jin Jingfu Memorial Lecture at the IAGC International Conference



This new memorial lecture is established to commemorate Professor Jin Jingfu's intellectual legacy and encourage early career scientists to pursue rigorous sciences in geochemistry. The lecture is to be presented at an IAGC International Conference. The lecture is on any subject of water-rock interaction geochemistry and the selected lecturer can be based in any country.

The Lecturer is selected and nominated by the Jin Jingfu Memorial Lecture Committee and then endorsed by the IAGC Council. The lecture committee should consist of three IAGC members. The members will be selected from the IAGC membership by the IAGC Council, serve a term of five years, and no more than two committee members shall be from the same country.

A call for nominations from the IAGC Membership shall appear in the IAGC Newsletter at least 12 months before the IAGC international Conference at which the lecture would be presented. The nominees should be early-career scientists, who have received their PhD less than 10 years before the IAGC conference at which the

lecture is presented. A nomination requires nominee's CV (up to 4 pages), a list of publications, a list of recent presentations, and a nomination letter from the nominator and a 1-page support letter from an IAGC member. The nominator must present a compelling case of the nominee's contribution on a single geochemical research topic through one or a series of publications, which have resulted in a measurable impact in her or his discipline.

A special fund for the lecture is established from the donation and managed by the IAGC Treasurer. The principle of the funds cannot be used for any other purpose. The income from the fund, derived from investment, will help defray the selected Lecturer's travel if the selected Lecturer economically-challenged research situation and the cost for a framed certificate.

### **Professor Jin Jingfu (1932-2003)**

Professor Jin Jingfu was a geochemist and economic geologist, and most of all a great teacher and mentor. He was born in Jinlin, China and was an ethnic Korean. He graduated from Peking University. His research interests ranged from uranium ore deposits to the genesis of granites. For decades, Professor Jin taught at Chengdu University of Technology (formerly Chengdu College of Geology) and China University of Geosciences, China. He was known for as a demanding teacher and compassionate mentor for his students. Numerous students who have had the fortune to know him were influenced by his intellect and passion for geology. Part of his legacy is that many of his former students have become prominent geochemists working in China and other countries.

*The Jin Jingfu Memorial Lecture was made possible by generous donations by Chen Zhu Agnes Zhu, Gregory Zhu, and W. Berry Lyons. To donate to the fund, visit <http://www.iagc-society.org/donate.html>*



## Charitable Giving

Members can make a charitable gift to the IAGC, either for general fund support or for special initiatives (such as the new Jin Jingfu Lecture) during online membership renewal. You may donate at any time online, either during your membership renewal or separately. You can also donate right now through the IAGC web site ([www.iagc-society.org/donate.html](http://www.iagc-society.org/donate.html))

*IAGC is a 501(c)3 non-profit organization and donations to the Society are tax-deductible in the U.S. (EIN: 48-0943367).*

The following members donated while renewing their membership dues for 2020. Thanks for your generosity and for supporting the IAGC and our mission!

Stuart Simmons  
Robert Langford  
Joel Moore  
Dirk Kirste  
Radomir Petrovich  
W. Berry Lyons  
Stuart Winchester  
Robert Zielinski  
Patrice de Caritat  
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Suzanne Anderson  
Rona McGill  
Nancy Hinman  
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Jim Finley  
Guido Deissmann  
Carl Palmer

## 2021 Meetings

As is the case with all international meetings this year, our conferences are currently in a state of flux. Keep an eye on the websites below and IAGC emails for updated information about GES-12 and the 2<sup>nd</sup> IAGC International Conference.

### GES-12

As we've previously announced, the 12<sup>th</sup> **International Symposium on the Geochemistry of the Earth's Surface (GES-12)** was postponed due to the COVID-19 crisis and **rescheduled for 25-30 July 2021:**



**ETH zürich**

**ETH Zurich (Switzerland), 25-30 July 2021**  
[www.ges12.com](http://www.ges12.com)

GES-12 brings together world-leading scientists in all fields of surface geochemistry and environmental geochemistry. The conference has a strong focus on interactions between the Earth's spheres: the lithosphere, hydrosphere, atmosphere and biosphere, and how these interactions respond to changing environmental and climate conditions. The overarching theme of GES-12 is **Earth system interactions on a changing planet.**

The conference aims to strengthen connections between research disciplines and to establish new

networks. It features invited plenary talks covering a wide range of cutting-edge research themes. GES12 presents eight themes at the forefront of research and features a list of excellent speakers from prestigious research institutions such as Caltech, MIT, NASA and Harvard. The extensive poster and networking sessions give ample opportunities to discuss newest research highlights and innovations and to visit the exhibitions.

## **2<sup>nd</sup> IAGC International Conference (WRI-17 and AIG-14)**

**Sendai, Japan  
2-8 August, 2022**

The 2<sup>nd</sup> IAGC International Conference will be held in Japan, hosted by Secretary General Noriyoshi Tsuchiya (Tohoku University). Like the previous meeting in Tomsk, it will combine two of our most popular working groups, Water-Rock Interaction and Applied Isotope Geochemistry.

**Watch our website for further details**  
[www.IAGC-Society.org](http://www.IAGC-Society.org)

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