

European Association of Geochemistry



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JIM MCQUAID'S EASTERN ADVENTURE

When I was first told that I had the honour of being the 2018 European Association of Geochemistry (EAG) Distinguished Lecturer, I did wonder how I would present atmospheric science to geochemists. It turned out to be much easier than I thought. I originally did a chemistry degree and then moved into atmospheric chemistry, so I am a chemist "by birth". My current research involves a great deal of geochemistry, part of it studying the ability of minerals to produce clouds high up in the atmosphere, and I work with geochemists investigating the interactions between minerals, airborne pollution (black carbon) and microbes on the surface of the Greenland ice sheet. So, the links are all there. It only needed a small introduction to make the link across to the primary science of the EAG.



Jim grabs the audience's attention at Jagiellonian University in Krakow (Poland).



Audience at the University of Bucharest (Romania)



At the University of Zagreb (Croatia) for the final lecture of the tour.

Just two weeks before the first lecture of my European tour, I was taking part in a fell race in the Black Mountains in South Wales when I fell and broke my ankle. Fortunately, after a discussion, we were able to push on with plans, and my first port of call was Krakow (Poland). I had only visited Warsaw previously, so it was interesting to learn about the industrial past of Krakow and the challenges that face those studying the environment as we move into times where we consider our impact on our surroundings rather than just how we can benefit from it ... or exploit it, as some might say. I had a "deck" of four possible lectures to choose from that I had put together, and the group at the Jagiellonian University (Krakow) selected "Geoengineering the Climate" and "High Altitude Mineral Dust and Ice Clouds". I love using analogies to illustrate the science I am presenting, the more bizarre the better is my mantra. One of my favourites is using stout (the beverage) to explain scattering of solar radiation by aerosols and cloud droplets. I won't explain in detail here (you'll just have to watch the video!), but I will say that a slide showing nothing but a glass of beer always gets people's attention!

From Poland, I moved on to Hungary and the city of Budapest to give another pair of talks, this time on volcanoes coupled with high-altitude mineral dust and ice clouds. Often, there are members of the audience much more knowledgeable in a subject than I, and I was already in the habit of opening a talk about mineral dust to a room full of geochemists to warn them of this. This was certainly the case in Krakow and again in Budapest, but it always means that I get to learn lots of new and interesting angles on my talk that I hadn't considered previously.

Science is all about collaboration, talking to lots of different people and creating new links. During the evening meal, as the group introduced their own particular area of research, I had one of those lightbulb moments: "Do you guys know Marek at Jagiellonian University in Krakow?" The topic had turned to nanospheres of iron, a subject I had been discussing just a couple of days before in Poland. So, I happily did an e-mail introduction to the groups in Poland and Hungary, hoping that this would prove to be fruitful in the future. The research group I joined for supper in Budapest was probably the most geographically diverse I have spent time with. Over the years, I have done a lot of fieldwork with many international colleagues, but in this group of eight, there were seven nationalities! This is a great aspect of doing science. So few people have the opportunity to spend time with people from so many different backgrounds and cultures, and I like to think that there are no borders in science, or very few at least.

Veszprém (Hungary) was my next destination. I admit this was a city that I had not heard of before, so I did a little bit of research. It turns out that Veszprém is a city built on seven hills, just like Rome. I am originally from Sheffield (UK), a city with the same claim, so this particular fact stuck in my memory. The venue for my lecture was Veszprém Castle, the home of the Regional Centre of the Hungarian Academy of Sciences. The audience was more general than those for my previous two talks: a public lecture ending with different, but no less interesting, questions about geoengineering. The venue was also to be my overnight accommodation. I'd never stayed in a castle before, and I think it might be some time before I repeat that feat!

The last visit on this part of my tour took me to Bucharest (Romania), which I discovered was so far east that I had entered a new time zone. Having forgotten to change my watch on arriving, the phone call from Victor Nicolae the following morning, who lives close to the hotel and had kindly offered me a ride to the University of Bucharest, was a little unexpected! After a very interesting tour of the remote sensing facilities, including some impressive lidars at the institute, Victor took me back to the airport. He is proud of his home and in heavy rain took me past the Palace of the Parliament, which is a simply immense building, where immense really means very big indeed! Being the second largest building in the world after the Pentagon, it took some time to drive round it, I'll tell you that!

My final tour stop was in Zagreb (Croatia), where I gave a pair of lectures that were possibly the most closely linked: one on geoengineering the climate, and one on the role of atmospheric mineral dust in modifying surface albedo and cloud radiative properties. This pairing reinforced how much science is interconnected and that disciplines need to step out of their own little silos and talk to each other. Often this starts with a cup of coffee and just evolves naturally. I feel that one of the most important roles of learned societies, such as the EAG, is to facilitate these discussions. We must never lose sight of this. I would like to thank the EAG and its outreach committee and all those who hosted me and helped with my travel plans. It all worked out very smoothly, despite my injury!

Jim McQuaid (University of Leeds, UK)

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Recognizing the contributions made by scientists from across the generations is an important role for the EAG, and we rely on the help of the whole community to identify and select the most deserving geochemists. Send in a nomination for one of the 2020 EAG awards by **15 November 2019** or by **31 October 2019** for the Geochemistry Fellows Award. Full details are available at www.eag.eu.com/awards/ nomination.



The **Urey Award** recognizes outstanding contributions that have advanced geochemistry over a career.

The **Science Innovation Award** recognizes scientists within 30 years from the start of their PhD (for the 2020 award, candidates should have started their PhD in 1989 at the earliest) for recent important and innovative breakthroughs they have made in geochemistry. The 2020 award will honor Werner Stumm and recognize scientists in low-temperature and surface geochemistry.



The **Houtermans Award** recognizes a single exceptional contribution to geochemistry, published as a single paper or a series of papers on a single topic, and is bestowed to scientists within 12 years from the start of their PhD (which must be completed). Hence, candidates for the 2020 award should have started their PhD in 2007 at the earliest.

geochemical society

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