European Association of Geochemistry

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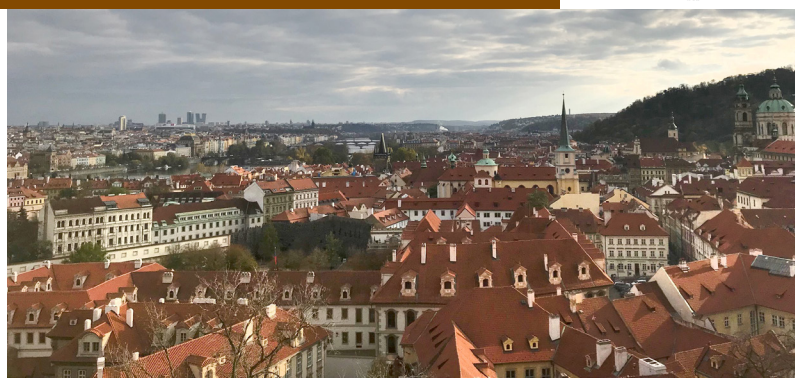
2017 EAG DISTINGUISHED LECTURE PROGRAM: LENNY WINKEL'S TOUR OF CENTRAL AND EASTERN EUROPE

I was honoured to hear that I had been selected as the 2017 EAG Distinguished Lecturer. As I love both research and teaching, I was thrilled about the opportunity to talk about emerging research areas in geochemistry to students and scientists at research institutions in Eastern and Central Europe. My research focuses on global biogeochemical cycling of trace elements and on predicting the effects of climate and environmental changes on trace element distributions. As my work involves working across disciplines, I was happy to have been invited to four institutions with very different research foci.

Oxides and hydroxides of some of my favourite elements (As, S, Se, Te and I) at the impressive mineral collection at Eötvös Loránd University (Hungary).

I started the tour in Budapest (Hungary), where I was very professionally and kindly hosted by Prof. Csaba Szabó from the Institute of Geography and Earth Sciences at Eötvös Loránd University, which was, I learned, founded in 1635 and is Hungary's oldest university. I gave two lectures there: in the morning I talked about arsenic in groundwater, and in the afternoon I discussed the work done by my group at ETH Zurich (Switzerland) on the global selenium cycle. Before my first lecture, Prof. Tamás Weiszburg gave me and a small group of PhD students a tour of the university's mineral and rock collection, which contains around 1,000 different mineral types. After my talks, there were a lot of questions and a lively discussion with the students, which continued during the afternoon in a smaller round with international students from at least three different continents.

Discussions with students at Eötvös Loránd University about science and academic life.



View from Prague Castle (Czech Republic).

Unirii Square and St. Michael's Church in Cluj-Napoca (Romania).

The next destination on my tour was Babes-Bolyai University in Cluj-Napoca, located in Transylvania (Romania). I was welcomed by my excellent host Prof. Călin Baciu from the Faculty of Environmental Science and Engineering, who I had already met when doing my postdoctoral research in the Marie Curie Research Training Network called AquaTRAIN. Călin showed me the labs and introduced me to motivated PhD students and other staff in his group. In the afternoon, I gave my lecture on arsenic in groundwaters to an interested audience of staff and students. After the talk there were again many questions, and I was impressed by the knowledge of the audience on arsenic in groundwater.

After a small tour in the beautiful historic part of Cluj, and enjoying some delicious local food, I continued my journey in heavy rains via Bucharest to Prague (Czech Republic) where I was welcomed by Dr. Eva Přechová from the Czech Geological Survey. Eva was a fantastic host: she took me for an excellent walk to Prague Castle on a cold, but beautifully sunny, afternoon. I learned that, in contrast to what its name suggests, Prague Castle is not a single castle but a huge complex of impressive buildings of different architectural styles and is on the UNESCO World Heritage list. Eva told me a lot of interesting details about the castle's history and triggered my interest in learning more about the fascinating history of Prague. I also visited the City of Prague Museum where I saw Antonín Langweil's Model of Prague, an extraordinarily realistic, and extensive, paper model of Prague, which dates from 1826–1837.

The following day, Dr. Martin Novák (of the Czech Geological Survey) picked me up and we travelled by tram to the Czech Geological Survey's office in the Barrandov Neighbourhood – a very appropriate location for a geological institute because the name "Barrandov", Martin explained, is derived from Joachim Barrande (1799–1883), the French geologist and palaeontologist who was one of the first researchers to describe trilobites. The institute is situated above a valley with beautiful rock formations and just opposite the famous Barrandov film studios. After my lecture, which was attended by a small but very interested audience

Lenny Winkel and host Daniel Petráš in the historic town of Český Krumlov (Czech Republic).

of scientists, I had discussions with Martin about his many projects and with Dr. Jana Kotková (of the Czech Geological Survey and Masaryk University, Czech Republic), who told me about her fascinating research on the provenance of the "Bohemian diamond", Europe's oldest real diamond. In the afternoon, I got a tour of the survey's laboratories and was impressed by how the technical staff kept older instruments up and running perfectly.

The next day I took the train from Prague and travelled to the last destination on my tour, the historic town of České Budějovice (Czech Republic), also known as Budweis, in beautiful South Bohemia. After arriving in the old town and enjoying a traditional lunch in a micro-brewery, I was picked up by Dr. Jiří Kaňa from the Biology Centre of the Czech Academy of Sciences and the University of South Bohemia. Jiří took me to the 16th century Black Tower, where we had a wonderful view over the town, including the impressive Přemysl Otakar II square, one of the largest in the country. At the Biology Centre, I met Dr. Daniel Petráš who hosted my talk on predictions of trace-element distributions over large spatial scales. Again, the audience asked many questions, and Daniel and I continued the discussion over – of course – a glass of locally brewed beer. The next day, Daniel took me to another gem of Czech history, the UNESCO World Heritage town of Český Krumlov, which was the last cultural highlight and the end of my tour.

I would like to thank all my hosts for taking time to show me around their cities and institutions and for introducing me to their colleagues and students. I had very stimulating discussions not only about science, but also about academic career paths and their challenges and opportunities. Meeting so many enthusiastic and talented young researchers was a highlight of the tour. I am also very grateful to the EAG, and the Training and Outreach Committee in particular, for giving me the opportunity to go on this lecture tour. Last but not least, I would like to thank Marie-Aude for all her logistical support and help with organizing the visits.

Lenny H.E. Winkel (ETH Zurich)

Note: Videos of the three lectures – "Arsenic Contamination of Groundwaters", "Global Biogeochemical Cycling of Selenium", and "Predicting Broad-Scale Environmental Distributions of Trace Elements" – are available at www.eag.eu.com/outreach/dlp.

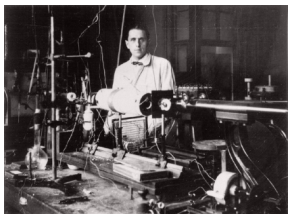
2018 DISTINGUISHED LECTURER

Jim McQuaid

Jim McQuaid (University of Leeds, UK) has been selected for this year's edition of the Distinguished Lecture Program and will present a series of lectures in the field of atmospheric composition and climate science.

If your institution is located in Central or Eastern Europe and you wish to invite Jim McQuaid to present some lectures, please contact the EAG Office (office@eag.eu.com).

LIVES OF THE GREAT GEOCHEMISTS: FRITZ HOUTERMANS



Fritz Houtermans, Göttingen University, 1927. Source: Physik Journal

The EAG Houtermans Award for young scientists is named after him, but how many of us geochemists really know who Friedrich Georg "Fritz" Houtermans (1903–1966) was or how adventurous his life had been?

Houtermans undertook a PhD in nuclear physics in Göttingen (Germany) with James Franck in 1927, but only in 1952, when he arrived in Bern (Switzerland) to become Full Professor did he make his outstanding contributions to geochronology. He first started developing the precision methods and instrumentation to date rocks back in Göttingen in 1947. In 1953, he took Clair Cameron Patterson's lead measurements from troilite in the Cañon Diablo meteorite and, using his newly proposed isochron method, estimated the age of the Earth to be 4.5 Ga. In that same year, Patterson would make a similar analysis and get the same result and in 1956 would publish the currently accepted value. Houtermans also established the thermoluminescence method and the precision techniques for K–Ar and Re–Os dating. A skilled experimentalist, Houtermans' contributions to science are less celebrated than they deserve. After his PhD, he collaborated with George Gamow (1904–1968) on decay theory and, in 1929, he worked with Robert d'Escourt Atkinson (1898–1982) to make the discovery that nuclear fusion is what makes stars shine.

Born in Zoppot near Gdansk (then in West Prussia, now in Poland) on 22 January 1903, Houtermans moved to Vienna (Austria) with his mother at the age of three. Having a rebellious and witty character, he formed friendships with members of the German Communist Party. His political views and quarter Jewish ancestry forced him to move to England in 1933, following Hitler's rise to power. Working for EMI, he submitted the patent for inventing the electron microscope with Knoll and Schulze (1934). His idealistic views of the Soviet Union determined his move to the new physics institute in Kharkov (Ukraine) in December 1934, when Bolshevik leader Sergey Kirov was murdered in Leningrad (modern Saint Petersburg, Russia) setting the stage for the Great Purge by Josef Stalin. By 1937, his fellow institute physicists were starting to be arrested and charged with treason. Houtermans ran with his family to Moscow (Russia), where he was arrested by the NKVD (People's Commissariat for Internal Affairs). His wife managed to escape with their children out of the USSR to Riga (Latvia). Houtermans was interrogated and tortured in NKVD prisons until 1940, when he was handed over to the Nazis. He was held prisoner by the Gestapo in Berlin until Max von Laue released him from what would have been certain death. Houtermans would later return to Kharkov with the Nazis to run his former institute for one month, during which time he tried to protect former colleagues from the invaders. After the war, having held several positions, he arrived in Bern where he made his name in geochemistry. Houtermans died of lung cancer in 1966.

Further reading

Physics in a Mad World: Houtermans/Golfand, by Misha Shifman (2015, WSPC/Now Publisher).

The Adventurous Life of Friedrich Georg Houtermans, Physicist (1903-1966), by Edoardo Amaldi (2012, Springer Briefs in Physics: Springer-Verlag Berlin and Heidelberg GmbH & Co. K).

Mário Gonçalves (EAG Communications Committee)