Mineralogical Society of Poland
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## 2018 CMS PROFESSIONAL AWARD RECIPIENT SPOTLIGHT

The **2018 George W. Brindley Lecture Award** was bestowed on **Dr. Cliff T. Johnston.** He received the award and gave a talk titled "Probing the Hydrophobic/Hydrophilic Nature of Clay Minerals at the Mesoscale Scale" at the 55th CMS Annual Meeting held at the University of Illinois at Urbana-Champaign (USA) in June. Cliff Johnston is Professor of Soil Chemistry in the Departments of Agronomy and Earth, Atmospheric and Planetary Sciences at Purdue University (USA). His expertise is at the intersection of clay mineralogy, soil and water science, and environmental chemistry. The focus of his research program is directed at understanding clay–water and clay–organic interactions as they relate to the fate and transport of contaminants in the environment. He has expertise both in inorganic (As, $^{137}$Cs, Pb, Cr, Cd) and organic contaminants such as dioxins, polychlorinated biphenyls, polycyclic aromatic hydrocarbons, and pesticides. During the last 10 years, he has worked closely with environmental chemists and toxicologists at the Michigan State University (USA) to assess the bioavailability of contaminants bound to soils. In addition, he has projects focused on soil organic matter, biochar (charcoal used as a soil amendment), greenhouse gas emissions from soils, and the interaction of nutrients in soils. He has active research collaborations in China, Japan, Taiwan, South Korea, Australia, Germany, Italy, Spain, Belgium and Brazil. He teaches the following graduate and undergraduate courses: Soil Chemistry, Soil Biogeochemistry, Introduction to Environmental Science, and Soil Physical Chemistry. He has served as President of the Clay Minerals Society, presently serves as the Curator of the Source Clay Repository, and is a member of the Association Internationale pour l'Étude des Argiles (AIPEA). Dr. Johnston is also a recipient of the 2001 CMS Marion L. and Chrystie M. Jackson Mid-Career Clay Scientist Award and the 2002 Marion L. and Chrystie M. Jackson Mid-Career Soil Science Award. He is a Fellow of the Soil Science Society of America.

## STUDENT RESEARCH SPOTLIGHT

Congratulations to **Yayu Li** (University of Connecticut, USA) for winning the 2018 CMS Student Research Grant!

Yayu Li's work uses **$^{23}$Na NMR spectroscopy to study cation adsorption on montmorillonite.** Montmorillonite plays a critical role in cation retention in soils, which is directly related to soil health and safety. The cation adsorption process in montmorillonite is complex, because the clay is expansive. The interlayer spacing of montmorillonite is influenced by the cations residing in it, which will, in turn, affect its cation adsorption ability. The adsorption strength of $Na^+$ on montmorillonite increases in the presence of $Cs^+$, an ion that is widely known to cause clay collapse. According to the nanopore inner-sphere enhancement effect (which states that cations tend to dehydrate in constrained adsorption sites), the enhanced adsorption strength of $Na^+$ on montmorillonite in the presence of $Cs^+$ likely results from the dehydration of $Na^+$ in the collapsed interlayer space. Yayu will determine the hydration state of adsorbed $Na^+$ by using nuclear magnetic resonance spectroscopy. This study will help improve our understanding of the cation adsorption mechanisms on montmorillonite.

### CMS MEMBERSHIP RENEWAL

DON'T FORGET TO RENEW YOUR MEMBERSHIP FOR 2019!

## 10th INTERNATIONAL CONFERENCE ON THE OCCURRENCE, PROPERTIES, AND UTILIZATION OF NATURAL ZEOLITES

Participants of the excursion to the Wieliczka Salt Mine.

The conference was co-organized by the Mineralogical Society of Poland (MSP) and took place 24–29 June 2018 at the Faculty of Materials Science and Ceramics in the AGH University of Science and Technology in Krakow (Poland). The organizers of the conference were Wojciech Franus (Lublin University of Technology, Poland), Tomasz Bajda (AGH University of Science and Technology) and Magdalena Wdowin (Polish Academy of Sciences, Warsaw). The honorary patronage over the conference was taken by the Rector of the AGH University of Science and Technology, Tadeusz Słomka.

The conference was attended by 140 participants from 26 countries, representing both the scientific community and industry. Forty-six oral presentations and 43 posters were presented. In the thematic sessions, the current state of knowledge on natural zeolites was presented in terms of their occurrence and formation; their mineralogy; the functionalization of their surfaces; and their applications in catalysis, engineering and environmental protection, construction, and medicine.

A meeting of the International Natural Zeolite Association (INZA) was held during the conference, where the organizer for the 2022 conference was selected: Alessio Langella (Ischia, Italy). Also, the new president, vice-president and members of the INZA board were chosen. The new president is Athanasios Godelitsas (University of Athens, Greece).

The last day of the conference was a technical field trip to the zeolite deposit in Nižný Hrabovec (Slovakia) and an excursion to the awe-inspiring Wieliczka Salt Mine. More information and memories can be found at http://zeolite2018.org/.

**Magdalena Wdowin**, PAS

## RECENT ARTICLE PUBLISHED IN *MINERALOGIA*

In the paper entitled "Polymetamorphic Evolution of Pelites inferred from Tourmaline Zoning – The Rędziny Hornfels Case Study at the Eastern Contact of the Karkonosze Granite, Sudetes, Poland", Jarosław Majka and co-authors studied of zoned tourmalines that were discovered in hornfels rocks located around a granitic intrusion in the northern part of the Bohemian Massif. The zoned tourmalines record at least two stages of crystallization. The authors suggest that the cores and mantles of the tourmaline crystals formed during regional metamorphism, whereas the distinctively Al- and Ca-enriched rims grew during subsequent contact metamorphism caused by the intrusion of the Karkonosze Granite, which is dated to ~315 Ma. This case study shows that tourmaline can be used as a reliable petrogenetic indicator. Additionally, the authors speculate on the pressure–temperature conditions of the contact metamorphism and the emplacement depth of the neighbouring granite. If you would like to see more details of this study, please visit the website of *Mineralogia* (link to the article: https://content.sciendo.com/view/journals/mipo/ahead-of-print/article-10.2478-mipo-2018-0003.xml).