



# The Clay Minerals Society

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## THE PRESIDENT'S CORNER



Lynda B. Williams

Poet and Pulitzer Prize-winner Rita Dove spoke at the 2018 graduation ceremony at my Alma Mater, Smith College (Northampton, Massachusetts, USA). Her closing comments to the Class of 2018 caught my attention. She spoke of a simple path to wisdom: "Start with what you know; then, as you venture into the world ... apply what you've learned along the way, never forgetting that the key to the kingdom of knowledge is linked to curiosity and appreciation."

Such a path was exemplified by the life and achievements of Robert (Bob) C. Reynolds (Dartmouth College, New Hampshire, USA), my first mentor in clay science and one of clay science's pioneers. At Bob's memorial service (2004) it was said that if Bob wanted to know what time it was, he would build a clock. Bob always approached science from the most fundamental of perspectives. On his office desk was one lone pad of yellow lined paper and a pencil. He used the basic principles of physics, combined with observation, to derive and predict X-ray diffraction patterns of oriented preparations of clay minerals. For one of his hobbies, he built his own shotgun and made his own bullets in order to kill a varmint that had been destroying his garden.



Sampling dike—Pierre Shale contacts near Walsenburg, Colorado  
Drawing by Merit Hobb

The sketch of Bob, featured above, was from his work with PhD student Paul Nadeau on the Pierre Shale near Walsenburg (Colorado, USA). When Bob bought his first Kawasaki 1200cc he took his class out to do experiments and to make acceleration curves for his new motorcycle. Later that week he broke a rib when the motorcycle fell on him in his driveway. Bob was fascinated by the science of life and never missed an opportunity to derive knowledge from his curiosity. For example, he is perhaps best known for his probability theory for interpreting the ordering of mixed-layered illite-smectite. He told me that he started to derive this physical relationship when his wife, RoseAnn, made him go with her to the opera. Sitting in the balcony, he noticed patterns in how people seated themselves, male/female/male/male, just like many patterns in clays he had seen; illite/smectite/illite/illite. And, thus, he began looking into the theory of 'nearest neighbor' ordering.

It was many years later that Bob met Victor Drits (Moscow, USSR). Drits had made many of the same discoveries that Bob had, but across the world and during the cold war. Their mutual appreciation for clay science led to years of collaboration with each other's students, the fruits of which are now some of the world's premier clay scientists working today.

The Clay Minerals Society is an international community of people with knowledge, curiosity and appreciation of worldwide contributions to science. We all seek a path to wisdom. Join us and meet the many other fascinating personalities that have shaped, and continue to shape, our organization.

Student membership is only US\$35 per year and qualifies you for travel and research grants up to US\$3,000, including a subscription to *Elements* magazine and on-line access to **Clays and Clay Minerals**. Visit [www.clays.org](http://www.clays.org)

**Lynda B. Williams**, Arizona State University  
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President, The Clay Minerals Society

## 2018 CMS PROFESSIONAL AWARD RECIPIENT SPOTLIGHT



Dr. G. Jock Churchman

The 2018 Marilyn and Sturges W. Bailey Distinguished Member Award was presented to **Dr. G. Jock Churchman** at the 55<sup>th</sup> Clay Minerals Society Annual Meeting at University of Illinois at Urbana-Champaign (USA) in June. Jock Churchman is Adjunct Senior Lecturer at the University of Adelaide (Australia) and Adjunct Associate Professor at the University of South Australia. He obtained degrees in chemistry from Otago University in his native New Zealand. He studied the physical chemistry of halloysite for

his PhD, under a fellowship from the New Zealand pottery and ceramics industry, and carried out research for this industry for a short time before beginning a two-year post-doctoral fellowship in soil science at the University of Wisconsin (USA). He has continued working on halloysite all of his career, while pursuing many other research topics on clays. These topics include the following: the surface chemistry of clays; the effect of clays on the physical properties of soils; clay-organic complexes in soils; environmental uses of clays, especially bentonites; weathering and soil formation. He has published nearly 150 papers and coedited four books, most recently *The Soil Underfoot: Infinite Possibilities for a Finite Resource* (CRC Press, 2014) and *Natural Mineral Nanotubes: Properties and Applications* (CRC Press, 2015). He has received awards from the New Zealand Society of Soil Science, Soil Science Australia, the Association Internationale pour l'Étude des Argiles (AIPEA). He was employed in the New Zealand Soil Bureau, Department of Scientific and Industrial Research, for 16 years and in the Commonwealth Scientific and Industrial Research Organisation's Division of Soils (later Land and Water) for 14 years. He has also held visiting fellowships for one year at Reading University (UK) and for six months at the University of Western Australia. He is a former Editor (now Emeritus) of *Applied Clay Science*. In 2005, he completed a BA (Hons) in philosophy with a thesis on the philosophical status of soil science and has published papers on this topic.

## INDUSTRY RECOGNITION FOR DR. PRAKASH MALLA



Dr. Prakash Malla

Dr. Prakash Malla, Director of the Research & Development at Thiele Kaolin Company (based in Sandersville, Georgia, USA) and 2015–2016 CMS President, was recently named the Technical Association of the Pulp and Paper Industry (TAPPI) Fellow. Fellow is an honorary title bestowed upon a small percentage of TAPPI's membership and given to individuals who have made outstanding technical or service contributions to the industry and/or the association. During his 25 years at the Thiele Kaolin Company, Dr. Prakash Malla and

his team have been involved in improving and developing kaolin products and in developing processes for improved paper coating and filling, as well as other industrial applications. He has served TAPPI in a variety of leadership roles, including Chairman of the Coating Division. Dr. Malla is a prolific author and the holder or co-holder of 15 US patents. The award was conferred during the annual PaperCon conference in Charlotte (North Carolina, USA). More information on the TAPPI Fellows program can be found at <https://www.tappi.org/fellows/>. Congratulations, Dr. Prakash Malla!