



# The Clay Minerals Society

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## THE PRESIDENT'S CORNER



Paul Schroeder

### Taking Risks

Taking a risk is part of everyone's day. Some risks are big and some small. For those who don't know me, I've broken so many bones related to motorcycle, skiing, and other racing sports, my wife stopped counting when the number reached double digits. So speaking from experience, taking a big risk can result in a big failure. The flip side is big reward. Finding the balance between reward and failure is really the way clay science advances.

I begin by thanking all CMS members in industry, government, and academia who are willing to risk their time and resources to mentor new clay scientists (in my case it was Taylor Loop, Larry Doyle, Harry Dahl, Bob Reynolds, and Bob Berner). This is my last President's Corner, so I'd like to share some ideas that might be considered, with the realization that there are associated risks.

Our initiative to create a Distinguished Lecturer program is moving forward. Tentatively, each year the Distinguished Lecturer will deliver a talk designed to broaden and advance ideas in clay science. The target audiences will include large groups assembled at a public forum, such as colloquia held at colleges/universities, special events, or societal meetings not normally focused on clay science. The subject will be at the discretion of the Distinguished Lecturer; however its content will be crafted in a way to reach a broad range of scientific interests beyond clay science. Topics will be appreciated by a variety of audiences, ranging from first-year undergraduates to seasoned researchers. Here's the risk. CMS agrees to pay travel transfer expenses for the Lecturer, with a limit of \$3000 per year. The host organization agrees to pay local transfers, accommodations, and meals for the Distinguished Lecturer (i.e. the risk is shared). If this fails, we have lost the money. The reward however is the ambassadorship of ideas, resources, and knowledge that clay scientists have developed and the hope they may be used to benefit medical science, environmental cleanup, agricultural productivity, materials development, or natural resource sustainability.

Clever CMS members are already taking risks as I write, and here are a few ideas I suspect are already in the works to be delivered with great reward. Industry: In addition to selling bulk and filler clays at hundreds of dollars per ton, clays will be modified on-site and sell at tens of thousands of dollars per ton. At that rate, students could be hired, plants modernized, and energy efficiency increased. Government: Regulate with reason, monitor our environment in real time, and educate the public (and our elected officials) about sustaining clay resources. This includes developing soils, fossil fuels, and clay deposits in a way that considers people living 10 generations from now. Yes, I know that's a long time from now. Academics: Success rates for submissions to competitive grant programs are seemingly below 10% (at least for me!). This prospect hinders enthusiasm to advance novel ideas. The risk of failure is not in having your funding proposal declined but in failing to learn something new when formulating your proposal; so keep submitting. Also, continue to put time into student mentoring; don't ever attempt to predict the outcome of a student on the first day you meet them. I've often been wrong (in a good way).

Finally, I wish the best to my presidential successor, David Laird. If we were on Broadway, I'd say, "Break a leg," but I've already done that several times and it's not fun. Take a risk with your clay science today. Now that's fun!

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## 2011 CMS AWARDEES

The following awards were presented at the CMS annual meeting in South Lake Tahoe, USA. Details of the awardees' presentations will appear in the December issue of *Elements*.



Sridhar Komarneni

The Marilyn and Sturges W. Bailey Distinguished Member Award was presented to **Dr. Sridhar Komarneni**, Distinguished Professor of Clay Mineralogy, Department of Crop and Soil Sciences and Materials Research Institute, The Pennsylvania State University. Dr. Komarneni has made fundamental contributions to the field of clay mineralogy through his investigations of the atomic architecture and nanostructure of clay minerals using a variety of techniques, including solid-state nuclear magnetic resonance spectroscopy and transmission electron microscopy. He has shown

creative excellence in the design and synthesis of novel clays, which are expected to have a tremendous impact on providing clean drinking water worldwide through filtration and soil remediation. Dr. Komarneni has also designed and synthesized new nanocomposites of clays with oxides and metals, which are useful as desiccants and catalysts, respectively.



Douglas McCarty

The Marion L. and Chrystie M. Jackson Mid-Career Clay Scientist Award was presented to **Dr. Douglas McCarty**, Senior Staff Geologist, Chevron Energy Technology Company. Dr. McCarty has developed new methodologies for studying clay-bearing sedimentary rocks, clays, and other rock-forming minerals. His research combines a knowledge of geology, petrology, and mineralogy with contemporary experimental methods. Dr. McCarty's research involves studies of the structural and crystal-chemical features of clay minerals, including periodic and defective structures, which have led to the discovery of mechanisms for structural and phase transformations of these minerals in various natural processes. In addition, he has greatly improved the practice of quantitative mineral analysis, having been one of the founders of the Reynolds Cup competition.



Glenn Waychunas

The Pioneer in Clay Science Lecture was delivered by **Dr. Glenn Waychunas**, Senior Scientist, Geochemistry Department, Lawrence Berkeley National Laboratory. Dr. Waychunas was one of the first to use synchrotron X-ray absorption spectroscopy to study mineral interfaces, including arsenate uptake on ferrihydrite. This work has sparked investigations of mineral-water interfaces at several synchrotron facilities. In 2005 he helped to form the Berkeley Nanogeoscience Center for studying nanoparticle structure, formation, aggregation, and transformations.