

2017-18 CSEG Distinguished Lecture Tour



The national tour is sponsored by the Canadian Society of Exploration Geophysicists (CSEG) Foundation and presented by a distinguished member of the society. The goal of the tour is to promote the science and application of geophysics and to highlight a topic of current interest.



Doug Schmitt **2017-18 CSEG Distinguished Lecturer**

Doug Schmitt is currently a Professor of Geophysics and Physics at the University of Alberta. Doug leads the Experimental Geophysics Group, a hands-on team that conducts a variety of field and unique laboratory rock physics and geomechanics experiments. Notably, numerous scientific drilling projects have sought out this expertise; and his team has now worked on over a dozen projects on six continents in environments ranging from the equator to both the Arctic and Antarctic. Doug is a graduate of the University of Lethbridge and the California Inst. of Technology, and has worked as an exploration geophysicist in Calgary and as a postdoctoral researcher at Stanford University. He recently completed two terms as a Canada Research Chair Tier 1 in Rock Physics. After

29 terrific years at the U of Alberta, in early 2018 Doug joins Purdue University as the inaugural Stephen and Karen Brand Professor in Unconventional Resources.

Adventures in Scientific Drilling: A Geophysicist's Perspective



For over 15 years, the Experimental Geophysics Group at the University of Alberta has contributed Geophysics, Rock Physics, and Geomechanics expertise to a wide variety of scientific drilling programs reaching all of the continents save South America. Broadly, the research has focussed in three themes: 1. Geomechanics related to crustal stress determination and faulting (Alberta, Antarctica, New Zealand, India, Idaho) 2. Geophysics of Large Meteorite Impacts (Ghana, Yucatan, Alberta), and 3) Determination of seismic anisotropy from borehole and laboratory studies (Finland, New Zealand, Alberta). The local community can select the theme based on their interest. However, a task of the lecturer is also to inspire prospective new geoscientists! So, each of these talks will also describe on-the-rig experiences with specific drilling programs presenting not only the science but also giving impressions about what it is like to work with great groups of diverse and highly collaborative geoscientists on tense, time and resource limited projects.

Drilling platform for the ICDP/IODP Expedition 364 off the coast of Yucatan, Mexico in spring 2016 – this project successfully drilled into the peak-ring mountain of the Chicxulub impact structure. The Experimental Geophysics Group was primarily responsible for acquiring the Vertical Seismic Profile that tied the seismic lines and confirmed the exceptionally low seismic wave speeds in the highly damaged crustal rocks displaced during the impact event.