

DEPARTMENT OF GEOPHYSICS

HEILAND LECTURE SERIES

David Monk

Future of seismic acquisition technology

Abstract: The oil industry is interested in only one thing from seismic. The direct and accurate identification of commercially producible hydrocarbons. This has driven predictable changes in seismic acquisition techniques. The evolution follows trends that are common to all industries and technologies, and it is interesting to compare seismic acquisition technology with others as this (plus a look at the history of our industry) enables us to predict the changes we should expect in the future.

The future of seismic acquisition will involve small, autonomous devices responding



to a multitude of seismic sources at the same time enabling reliable, fast and efficient imaging of the subsurface. But while many of these ideas can be found today we will show that technology change can be slow and adaption of new techniques can take decades.

Finally, we will show that data volumes recorded in the field grow in a predictable way, and only the evolution

of computational capacity will enable the geophysicists of the future to process seismic data.

The future is exciting (!) and probably looks very different from what we think of today.



4-5 pm Wed February 6th
Coolbaugh Hall, Room 209

Reception
3 - 4 GRLA Annex 107



Dave Monk holds a PhD in Physics from Nottingham University in the UK, and is currently Director of Geophysics and a Distinguished Advisor at Apache Corporation. Having started his career on seismic crews in Nigeria he has subsequently been involved in seismic processing and acquisition in most parts of the world. Through all of this, he has retained his interest in developing innovative ways to acquire, process and utilize seismic data to improve final interpretation. Author of over 100 technical papers or articles and a number of patents, Monk has received "Best Paper" awards from the Society of Exploration Geophysicists (1992 and Honorable Mention in 2005), the Canadian SEG (2002), and was recipient of the Hagedoorn Award from the European Association of Exploration Geophysics (1994). Dave received honorary membership of the Geophysical Society of Houston in 2008 and Life membership of the SEG in 2009. He served as President of the Society of Exploration Geophysicists (SEG) in 2012-2013.