Advanced Electronics to Replace Traditional Mechanical Geophones: Research Opportunities

Date: Tue. 24th Sept.
Time: 1:10 pm
Location: Building 59, Room 2016

Speaker:

Dr. Hussain A. Alzaher
Professor EE Department
KFUPM

Abstract:

Coil based geophones are a proven technology that has been used for a long time by the industry for seismic surveys. Implementing a new geophone based on new technology and test this geophone on seismic data in Saudi Arabia will be vital for the local industry. KFUPM and Saudi ARAMCO are taking the lead in such a project. Recent advances in Micro-Electro-Mechanical Systems (MEMS) sensors to provide adequate sensitivity, low noise, and dynamic range to be applicable to seismic acquisition. However, more complex electronic circuits and systems solutions are to be incorporated. The seminar presents the potential advantages and challenges for this technology transformation.

Bio:

Dr. **Hussain A. Alzaher** is a full professor with the electrical engineering department, King Fahd University of Petroleum and Minerals (KFUPM), Dhahran, Saudi Arabia. He received the Ph.D. degree from The Ohio State University, USA, in 2001.

His research interest is in the area of mixed (Analog-digital) VLSI circuits and systems. Practical applications include fifth generation (5G) mobile phone and biomedical instrumentation systems. He is the author and co-author of more than 80 journal and conference papers. He has 16 US patents. Dr. Alzaher is the recipient of the 1994/1995 Prince Muhammed bin Fahd award for Excellence in Scientific Achievement. He is also the recipient of the 2003 Showman award for the best Arab Researchers. In addition, he is the recipient of Prince Saud bin Nayef award for Scientific Achievement, 2018. Dr. Alzaher is a member of the Saudi Scientific Society for Electrical Engineering (SSSEE).