Our joint annual convention has been the principal technical conference for Canadian earth scientists principally working in the petroleum industry. The purpose is to communicate, and stay informed about the latest developments in our profession, and network with fellow professionals. The three societies involved in GeoConvention are the Canadian Well Logging Society (CWLS), the Canadian Society of Petroleum Geologists (CSPG), and, of course our society, the Canadian Society of Exploration Geophysicists (CSEG).

Since 2007 the annual convention has been held jointly with the participation of all three societies. In 2012, the three societies recognized the need for a different approach to managing the annual convention; consequently, a new arm’s-length organization was created: the GeoConvention Partnership. After two years of negotiations, the GeoConvention Partnership was launched in May of 2014. GeoConvention 2015 was its maiden voyage.

Our annual convention has come a long way and it has been featuring high-calibre technical talks, posters, and short courses. Three of the four papers presented here received awards or special mentions in the geophysics category for GeoConvention 2015. The topics are varied and relevant to the challenges of modern geophysical practice in a context dominated by unconventional resources.

The first article, by E. Judith Elliott and Alexander Braun from Queen’s University, Kingston, Ontario, is entitled “Gravity monitoring of 4D fluid migration in SAGD reservoirs – forward modelling”. In this article, the authors examine the feasibility of time lapse gravity and gravity gradient monitoring of the depletion of an unconventional reservoir: a SAGD production scheme in the McMurray formation. The authors address two critical aspects of gravity and gravity gradient acquisition that are sources of uncertainty: the need for sub-microgal sensitivity and surface noise in the gravity signal. Through modelling, the authors demonstrate that the data fidelity is achievable to monitor a SAGD process in the McMurray oil sands using their proposed method and equipment.

The second article, written by Ben Bougher and Felix Herman, examines the application of the scattering transform to the problem of classification and interpretation of well logs from the Trenton-Black River carbonates of the Michigan Basin. The scattering transform is used to decompose gamma ray logs into “feature vectors” that are then classified. Output from this process is a set of interpreted well logs. The authors present an uncertainty analysis and recommendations for future work that may improve the accuracy of the method.

In “Reading Between the Lines II: A NEBC Shale Gas Quantitative Interpretation Case Study Incorporating Multi-Component Data,” Laurie Bellman and her co-authors extend previous work by demonstrating the utility of incorporating converted wave data to facies classification of poro-elastic properties of rocks from the Horn River Basin (N.E. British Columbia). These properties are estimated from the seismic inverse problem and compared to the same properties calculated from wire-line logs at wells. The authors demonstrate that with meticulous attention to detail and quality control, PS data can be combined with PP data to achieve improved facies classification.

The last paper presented in this FOCUS section of the RECORDER is by Andrea Crook. Her article is entitled “Cost-effective seismic exclusion zone mitigation using optimal station prediction (OSP) method”. The
author compares traditional methods of obtaining proper seismic imaging below surface exclusions, using under shooting, source/receiver skid and offsets to a new, novel method. This method involves optimizing station locations based on azimuth, offset requirements, and avoidance of redundancy of common offset vectors. Traditional methods can increase redundancy in receivers and shots, and consequently increase costs. This new method reduces or eliminates redundancies in both sources and receivers necessary to achieve a proper image.

These articles are only a small sample of the very interesting and innovative work that our colleagues are pursuing and presenting at GeoConvention. Please take the time to read each one of these interesting articles: a novel application of existing and “forgotten” technology, new methods and techniques, the extension of existing methods, and the improvement in cost effectiveness of data acquisition.

R.J. (Rob) McGrory has been a practicing geophysicist since 1993. He studied geophysics at the University of Toronto. Rob has a wide breadth of experience that covers acquisition, processing, reservoir characterization and oil and gas exploration and development in a wide variety of basins, structural and stratigraphic environments in both inside and outside of Canada. Rob is currently serving as a board member of GeoConvention Partnership on behalf of the CSEG. He has served JACC (GeoConvention predecessor) and GeoConvention since 2007 and was GeoConvention Partnership’s first Chairman. Currently Rob is working as a senior geophysicist with Crescent Point Energy Corp., where he is involved in development of large unconventional and conventional resources both in Canada and the United States. Rob also enjoys taking an actively role in mentoring younger professionals.