



Letter from the editor

Our first issue of 2018 is available now. We have 9 articles in this issue, in topics ranging from soil characterization, petrophysical properties of rocks, signal processing of images and GNSS station to asteroid impact effects.

Mechanical soil properties in sandy-pebble soil are studied as a function of grain size content in **Lu et al.** Satellite-derived soil moisture estimation is discussed in **Thanabalan and Vidhya**, based on a semi-empirical approach and backscattering images.

Macroscopic mechanical characteristics of rocks depend on a number of factors, including microstructure damage. Under changing temperature conditions (freeze-thaw) rock samples studied by **Jiang** show significant strength decrease, which has important consequences in engineering. Advanced signal processing methods are used in **Zeng et al.** for image retrieval applied to remote sensing data, using a Bayesian network approach. Similarly, **Oktar and Erdogan** use linear trend and wavelet analysis to continuous GNSS data showing both displacements due to tectonic as well as atmospheric and hydrologic effects.

Debris flows can in some cases become serious hazards because they can block river flow as a debris flow dam. **Chen et al.** propose a method to identify the formation of such dams, with an example from the Er river in Taiwan.

Mamaseni et al. study the petrophysical properties of three formations in the Duhok Basin, northern Iran, based on well-log data. Results suggest a significant thickness with good moveable hydrocarbons in the study area.

Methane adsorption and gas content are strongly influenced by shale composition. **Zhu et al.** show that Total Organic Content has a stronger influence on methane adsorption and gas content than the mineral composition, studying samples from the southern Sichuan Basin.

Our last contribution in this issue discussed a large asteroid impact in eastern Colombia. The impact would have affected the environment and landscape, but the degree of the effect depends on a number of parameters including size of the impactor, angle of impact, type of rocks in the crust, and much more. A model is proposed by **Hernandez and Alexander**, that can predict both ejecta deposit distance as well as seismic shaking, and of course thermal radiation. Results of this study provide additional tools for searching for evidences of direct impact craters.

Germán Prieto

Editor in Chief