

Special Issue on  
**Goelectric Surveying in Environmental Study**

# CALL FOR PAPERS

Goelectrics is one of the oldest methods in geophysical investigation, which goes back to the early 1912 by Conrad Schlumberger works. Many significant efforts have been achieved by geophysicists with advances in electronics, computer sciences, and software development during the nineties, when first commercial 2D inversion of resistivity codes and multielectrode systems became available. This development has made this goelectrical method possible to collect and process large number of datasets. Resistivity determination in goelectric surveying mainly depends on parameters that are intimately related to various processes, that is, pore fluid conductivity, porosity, clay content, saturation, tortuosity of current parts, and temperature. Induced polarization, the determining goelectrical parameter, is used to determine the electrical chargeability. For resistivity examples, slope monitoring which related to landslide occurrences can be triggered by change in saturation due to the precipitation process; changes in temperature and porosity can be predicted in permafrost observation; CO<sub>2</sub> monitoring and, in geothermal application, changes in porosity and temperature are of importance. For induced polarization example, subsurface material such as ore can be identified by the electrical chargeability parameter. This special issue represents a contribution to disseminating the recent application and novel development in goelectrical method for environmental study. Goelectrical method is used and related to environmental issues such as pollution monitoring, hydrological, landslide (slope) monitoring, hazard mitigation time-lapse, and 4D inversion. Recently, many researchers have taken efforts to enhance the reliability and prove the technical merit of this goelectrical method in environmental perspective. These efforts include development of new algorithm in data processing and enhancement in data acquisition technique. To date, researchers have put their interest in joint-inversion technique to enhance the data interpretation. These efforts have given a new perspective in geophysical data analysis.

This special issue will highlight and define goelectrical surveying with related issues, finding, innovation, challenges, and development with the aim of bringing together researchers and experts to share their recent research on goelectric surveying in environmental study. Interested authors are encouraged to submit their unpublished contributions or works from goelectric topic related to environmental study.

Potential topics include but are not limited to the following:

- ▶ Electrical resistivity tomography
- ▶ Time-lapse and 4D inversion
- ▶ Induced polarization tomography
- ▶ Self-potential
- ▶ Slope monitoring
- ▶ Pollution monitoring
- ▶ Hydrological monitoring
- ▶ Active and capable faulting investigation
- ▶ Anthropogenic and natural hazard mitigation
- ▶ Joint-inversion modelling
- ▶ Recent development on goelectrics

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ijge/gmss/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

**Lead Guest Editor**

Andy A. Bery, Universiti Sains Malaysia,  
Penang, Malaysia  
[andersonbery@yahoo.com.my](mailto:andersonbery@yahoo.com.my)

**Guest Editors**

Djoko Santoso, Institut Teknologi  
Bandung, Bandung, Indonesia  
[dsantoso78@yahoo.com](mailto:dsantoso78@yahoo.com)

Noer El Hidayah Ismail, University of  
Malaya, Kuala Lumpur, Malaysia  
[noerelhidayah@um.edu.my](mailto:noerelhidayah@um.edu.my)

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