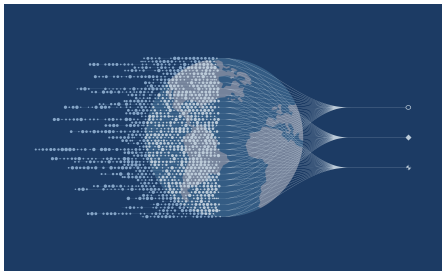

ID: **P3.1-711** Type: **E-poster**

field monitoring systems compared to systems based on seismic and infrasound for monitoring active volcanoes.

In this work, a monitoring system has been developed to measure the variations in the magnetic field produced at the Chiles volcano, located in Ecuador on the northern border with Colombia. Additionally, an array composed of twelve one-component sensors arranged in various geometric configurations has been implemented in order to detect seismic and infrasound signals. The system refers to a compact and highly reliable prototype used in volcanic monitoring applications. It is composed of magneto-metric sensors and makes use of long-range wireless transmission technology known as LoRa (Long Range). Furthermore, it has a controller developed on an Arduino platform that has two serial communication interfaces.Lastly, as a complement to this magneto-metric system, a seismic station is used that has an embedded system that is responsible for the acquisition, digitization, and continuous storage of seismic and infrasound signals captured by the array of twelve sensors. The data collected from the variables under study, i.e., magnetic field variation and seismic signals, have been subjected to rigorous statistical correlation analysis. As a result of this analysis, we have identified several anomalies in the magnetic field in the geothermal zones of the aforementioned volcano.

E-mail

wenriquez@igepn.edu.ec

In-person or online preference

Primary author: Mr RUIZ ROMERO, Mario Calixto (Instituto Geofísico de la Escuela Politécnica Nacional (IGEPN))

Presenters: ENRIQUEZ LOPEZ, Wilson (Instituto Geofísico de la Escuela Politécnica Nacional (IGEPN)); Mr RUIZ ROMERO, Mario Calixto (Instituto Geofísico de la Escuela Politécnica Nacional (IGEPN))

Session Classification: P3.1 Seismic, Hydroacoustic and Infrasound Technologies and Applications

Track Classification: Theme 3. Monitoring and On-Site Inspection Technologies and Techniques: T3.1 Seismic, Hydroacoustic and Infrasound Technologies and Applications