# BUILDING STRONG CONNECTIONS



ASSOCIATION OF PROFESSIONAL GEOSCIENTISTS OF ONTARIO

## Join Us!

## **APGO Networking Event in Sudbury**

Hosted by Tafa Gomwe, P.Geo., APGO Councillor-at-Large In partnership with the Sudbury Geological Discussion Group



November 29, 2017, 5:30 p.m. to 8:30 p.m. Lexington Hotel & Conference Centre, Conference Lounge 50 Brady Street, Sudbury

Online Registration: https://www.apgo.net/apgo-events

#### Guest Speaker Dr. Pablo Sobron, Ph.D., SETI Institute

Dr. Pablo Sobron is a research scientist with strong interests in robotic space exploration and comparative analogue science – the study of environments on Earth compared to analogous environments on other planets and moons.

He received his Ph.D in Physics in 2008 by the University of Valladolid, Spain. He has lead or collaborated on over 20 European Space Agency, Canadian Space Agency, and NASA funded projects focused on the development of instruments and data processing tools for missions to explore the Solar System

Pablo is a world expert in sensing technologies in robotic Earth and planetary exploration and has led or taken part in 20+ mission level technology demonstrations in Arctic, Antarctic, Atacama, Andes, Tibet, and mine sites in several continents. He has developed and demonstrated over a dozen concepts and prototypes of in-situ mineralogy/geochemistry instruments. He is a principal investigator of the NASA Mars Fundamental Research Program, and a member of the NASA Astrobiology Institute and the NASA Mars 2020 mission and ESA ExoMars 2020 rover Science Teams. Pablo holds two NASA Group Achievement Awards.

Currently, Pablo is a Research Scientist at the SETI Institute and Founder of Impossible Sensing. Through this venture he engages in knowledge transfer activities among NASA, other federal departments/agencies, research institutions, and industry at all technology readiness levels.



### Advanced Planetary Sensing - Technology Opportunities for Mine and Mineral Industries

In planetary technology development, we often take our sensor innovations through a number of stages: (1) from an initial idea to the 'proof of concept' stage, to demonstrate the potential feasibility of the project; (2) to the pilot project stage for an initial limited roll-out of a system as an initial test; (3) to the demonstration stage where an innovation is trialed at a relevant scale; and (4) through to the full-scale space qualification and operation of a technology where it becomes an integrated part of a mission.

Throughout this process, we often explore interdisciplinary advances in commercial applications that require rapid, in-situ characterization of materials. There are clear needs for planetary innovations in governmental regulatory bodies and private engineering firms. Through Impossible Sensing and colleagues in industry, we have successfully transferred over a dozen technologies for space exploration to terrestrial applications, including technological spin-offs that constitute advancements in industrial applications such as geological prospecting; environmental monitoring/assessment; agricultural soil quality monitoring; oil & gas exploration and development.

In this talk I will review some of the technologies that we have developed and show examples of application/transfer of such technologies to mineral exploration and development.

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