Precious metals and associated minerals: developments in their characterization

The session is SGA sponsored and there is a limited number of travel grants available to SGA students who submit the abstract as senior author.

Jussi Liipo
President
Mineralogical Society of Finland

Precious metals, gold, silver, and the six platinum group elements including ruthenium, rhodium, palladium, osmium, iridium, and platinum are well-known to occur as discrete metallic alloys and as minerals, in which the precious metals are an essential component such as platinum group minerals (PGM). Precious metals may also occur in solid solution mainly in Ni± Cu± Fe sulfides. Characterization followed by beneficiation of these elements has many challenges for the applied mineralogist due to its trace concentrations, small grain sizes or nugget effects and multiple associations with different coexisting minerals, like sulfides, arsenides, oxides and silicates. Nowadays, PGM's are classified as critical raw materials for the European Union, while gold is stored it in form of jewelry, bullion coins or bars as a hedge against inflation or other economic disruptions. Precious metals have become indispensable to modern life as many current and future industrial applications are dependent on them. This session aims to encourage the discussion about the important role of the precious elements by combining contributions from the full range modern investigation techniques. Results from advanced ore characterization, ore mineralogy, applied mineralogy or with any other topic related to precious metals are welcomed.