Materials Processing

Rare Metal Extraction & Processing

This symposium will cover extraction of rare metals from primary and secondary sources. Rare metals include strategic metals that are in increasing demand and subject to supply risks (those that are not covered by other TMS symposia).

The focus of this symposium will be on rare earth metals including:
- Neodymium, dysprosium, scandium and others
- Platinum group metals, including platinum, palladium, iridium, and others
- Battery-related metals, including lithium, cobalt, nickel, and aluminum
- Electronics-related materials, including copper and gold
- Refractory metals, including titanium, niobium, zirconium, and hafnium

Other critical materials, such as gallium, germanium, indium, and silicon, are also included.

The focus of this symposium will be on primary production, as well as secondary production through urban mining and recycling, to enable the circular economy. This symposium covers various processing techniques, including, but not limited to, hydrometallurgy (solvent extraction, ion exchange, precipitation and crystallization), electrometallurgy (electrorefining and electrowinning), pyrometallurgy, and aeriometallurgy (supercritical fluid extraction). Presentations are welcome to address topics on process development, process control, process modelling, and environmental issues.

ORGANIZERS
Gisele Azimi, University of Toronto, Canada
Takanari Ouchi, The University of Tokyo, Japan
Hojong Kim, Pennsylvania State University, USA
Shafiq Alam, University of Saskatchewan, Canada
Kerstin Forsberg, KTH Royal Institute of Technology, Sweden
Alafara Baba, University of Ilorin, Nigeria

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