



**SUBMIT AN ABSTRACT BY JULY 1**

**MARCH 14-18, 2021 • ORLANDO WORLD CENTER MARRIOTT  
ORLANDO, FLORIDA, USA  
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## **SUBMIT AN ABSTRACT TO:**

### **MATERIALS PROCESSING**

## **RARE METAL EXTRACTION & PROCESSING**

This symposium will focus on critical metals essential for critical modern technologies including electronics, electric motors, generators, energy storage systems, and specialty alloys. Rapid development of these technologies entails fast advancement of the resource and processing industry for their building materials. This symposium aims to bring together researchers from academia and industry to exchange knowledge on developing, operating, and advancing extractive and processing technologies.

The organizers of this symposium invite papers in: "rare earth elements (magnets, catalysts, phosphors, and others)", "energy storage materials (lithium, cobalt, vanadium, graphite)", "alloy elements (scandium, niobium, titanium)", and "materials for electronics (gallium, germanium, indium, gold, silver)" commodities. This symposium covers various processing techniques in Mineral Beneficiation, Hydrometallurgy, Separation and Purification (Solvent Extraction, Ion Exchange, Precipitation, Crystallization), Pyrometallurgy, Electrometallurgy, Super Critical Fluid Extraction, and Recycling (batteries, magnets, waste electrical and electronic equipment). Presentations are welcomed to address topics on process development and operations, Feed and Product Characterization, Critical Metals and the Environment, and Processing Plant Engineering Operations and Challenges.

### **ORGANIZERS**

**Gisele Azimi**, University of Toronto, Canada  
**Takanari Ouchi**, The University of Tokyo, Japan  
**Kerstin Forsberg**, KTH Royal Institute of Technology, Sweden  
**Hojong Kim**, Pennsylvania State University, USA

### **SYMPOSIUM SPONSORS**

TMS Extraction & Processing Division  
TMS Hydrometallurgy and Electrometallurgy Committee

**Abstract Deadline is July 1, 2020. Submit online at  
[www.programmaster.org/TMS2021](http://www.programmaster.org/TMS2021).**

**Questions?**  
Contact [programming@tms.org](mailto:programming@tms.org)