



**SUBMIT AN ABSTRACT BY JULY 1**

**FEBRUARY 27-MARCH 3, 2022**  
**ANAHEIM CONVENTION CENTER & ANAHEIM MARRIOTT**  
**ANAHEIM, CALIFORNIA, USA**  
**#TMSAnnualMeeting**

**SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2022 SYMPOSIUM:**

## **MATERIALS PROCESSING**

### **Rare Metal Extraction and Processing**

This symposium will cover extraction of rare metals from primary and secondary materials and residues as well as rare extraction processing techniques used in metal production. Extraction of rare metals—less common metals or minor metals— will be covered. This will include elements such as antimony, bismuth, barium, beryllium, boron, calcium, chromium, gallium, germanium, hafnium, indium, manganese, molybdenum, platinum group metals, rare earth metals, rhenium, scandium, selenium, sodium, strontium, tantalum, tellurium, and tungsten—rare metals of low-tonnage sales compared to high-tonnage metals such as iron, copper, nickel, lead, tin, zinc, or light metals such as aluminum, magnesium, or titanium and electronic metalloid silicon. Rare metal processing will cover bio-metallurgy, hydrometallurgy, and electrometallurgy. Novel high-temperature processes such as microwave heating, solar-thermal reaction synthesis, and cold crucible synthesis of rare metals will be included. Design of extraction equipment used in these processes will be included from suppliers, as well as laboratory and pilot plant studies.

#### **ORGANIZERS**

**Takanari Ouchi**, The University of Tokyo  
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**Hong Peng**, University of Queensland

#### **SYMPOSIUM SPONSORS**

TMS Hydrometallurgy and Electrometallurgy Committee

[www.tms.org/TMS2022](http://www.tms.org/TMS2022)

**QUESTIONS?**  
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