Endowed Research Unit for Non-ferrous Metals Resource Recovery Engineering (JX Metals Endowed Unit)

[Towards Highly Sustainable Society]

Institute of Industrial Science, Endowed Chairs

Non-ferrous Metals Resource Recovery Engineering

http://www.metals-recycling.iis.u-tokyo.ac.jp/

Industry–University Collaboration Center for Developing New Metal Recycling Processes

Sponsor: JX Nippon Mining & Metals Corporation

Recycling valuable materials is crucial for sustainable development. High-quality natural resources are being depleted, and resource nationalism is rising in countries with abundant natural resources. Therefore, it is imperative for Japanese society to promote the recycling of rare metals and base metals.

This unit develops environmentally friendly processes for recycling based on smelting and refining technologies for non-ferrous metals. Furthermore, in collaboration with industrial sectors, it aims to train young researchers and engineers in this field.

[Period] 1st period: January 2012 to December 2016 (5 years) 2nd period: January 2017 to December 2021 (5 years)

To further expand the activities of the unit after its first term of five years, the second term commenced in January 2017 with the inclusion of Prof. Chiharu Tokoro as a new member. In the second term, this unit will not only advance the activities undertaken in the first term but also strengthen the activities to raise awareness of the significance of this field to the general public, especially young generation (below highschool age) and their parents.

Prof. Harumasa Kurokawa joined the unit in January 2021.

Research Group





Project Prof. Chiharu Tokoro

Professor, Faculty of Science and Engineering, Waseda University Professor,



Project Prof. Toru H. Okabe

Director General and Professor, Institute of Industrial Science, The University of Tokyo

Our laboratory develops energy-efficient, environmentally-sound, low-cost and process schemes to produce various nonferrous metals by minimizing energy consumption and maximizing recovery ratio of target metals to reduce the amount of waste generation in the conventional

Graduate School of Engineering, The University of Tokyo **Development of Separation and Concentration Technology to Utilize**



solid-solid Our laboratory explores separation and concentration technology without heating or dissolving the waste or refractory ore to achieve an energy-efficient process. This process is considered "pre--treatment" or "middle treatment" before the metallurgical/hydrometallurgical process that

Development of Efficient Recycling Technologies for Rare Metals



Our laboratory is developing new, efficient, and environmentally sound processes to recycle rare metals such as titanium, tungsten, cobalt, rhenium, and platinum group metals, for which an increase in demand is expected.



