

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

[Metal recycling for a sustainable society]

Institute of Industrial Science

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

Industry-University collaboration center to develop new recycling processes for metals

Sponsor: JX Nippon Mining & Metals Corporation
Period: January 2012 to December 2016 (5 years)



For the sustainable growth of society, it is necessary to promote the recycling of valuable materials under strict environmental preservation measures. This unit develops environmentally friendly processes for recycling based on smelting and refining technologies for non-ferrous metals. Furthermore, it aims to train young researchers and engineers in collaboration with industrial sectors in this field.

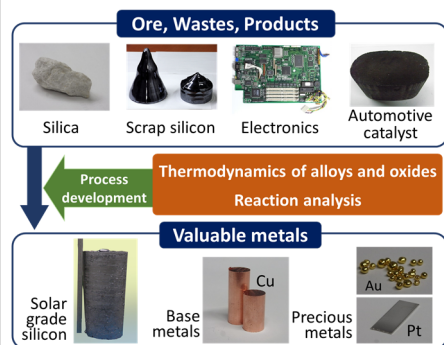


Research group



MAEDA Lab.
Project Prof.
Masafumi Maeda

Our laboratory studies various thermodynamic properties of alloys and oxides associated with metal production processes. Focusing on thermodynamics and material transfer, we propose improved or innovative production processes.



OKABE Lab.
Project Prof.
Toru H. Okabe

Our laboratory is developing new environmentally friendly technologies to recycle rare metals such as titanium (Ti), tungsten (W), cobalt (Co), gallium (Ga), and platinum group metals (PGMs), for which a growth in demand is expected.



NAKAMURA Lab.
Project Prof.
Takashi Nakamura

A New concept of "artificial deposit" is proposed. An urban mine has been developed solely on the basis of only economic rationality. The wastes, which contain valuable metals that are currently non-recyclable, are reserved as artificial deposits in the proposed system.

