
TANAKA Memorial Foundation Announces Recipients of Precious Metals Research Grants

Professor Yasushi Sekine of Waseda University presented Gold Award for development and application of precious metal catalytic reactions with unconventional low-temperature action using surface protonics. Also receiving a Gold Award is Professor Hideyuki Murakami of Waseda University for development of an oxidation resistant Ir-based high-entropy alloy.

Development of precious metal catalysts that can contribute to carbon neutrality and development of Ir alloys with excellent high-temperature characteristics and oxidation resistance received awards.

The TANAKA Memorial Foundation's Representative Director, Hideya Okamoto, announced the recipients of the FY2020 Precious Metals Research Grants.

Following a rigorous screening process, the Gold Awards, each for 2 million yen, were presented to Professor Yasushi Sekine and Professor Hideyuki Murakami, both of Waseda University. In addition, three research projects received Silver Awards, and four Young Researcher Awards were presented.

The TANAKA Memorial Foundation undertakes programs designed to foster developments in new precious metal fields while contributing to the advancement of science, technology, and socio-economics for the overall enrichment of society. The research grant program was launched in FY1999 and has continued each year since with the goal of supporting the various challenges of the "new world opened up by precious metals." This year, the program's 22nd year, a total of 171 applications were received in a wide range of fields where precious metals can make contributions to the research and development of new technologies. A total of 16.1 million yen in research grants was awarded for 26 projects.

The names of the two Gold Award recipients, their research, and the reasons for their selection are below.

■ Professor Yasushi Sekine, Waseda University

Development and application of precious metal catalytic reactions with unconventional low-temperature action using surface protonics

This research seeks to develop solid catalyst reactions at low temperatures (from room temperature to 200 degrees) using surface protonics. This research and development was highly rated for its potential contributions to the SDGs and ESG investment as well as its ability to make major contributions to the government's target of achieving carbon neutrality by 2050.

■ Professor Hideyuki Murakami, Waseda University

Development of oxidation resistant Ir-based high-entropy alloy

This research seeks to develop high-entropy alloys, a new category of metal materials that are currently the focus of significant attention, using an iridium (Ir) based alloy to create a material with excellent high-temperature characteristics and oxidation resistance. This research was highly rated because it may lead to a solution to the problem of Ir depletion at high temperatures in the range of 1,000°C and may improve ductility, which is an issue for Ir alloys.

Three Silver Awards, four Young Researcher Awards, and 17 Encouragement Awards were also granted. The recipients and an overview of the Precious Metals Research Grants are indicated below. Applications for the FY2021 research granted are scheduled to open in the fall.

List of FY2020 Precious Metals Research Grants Recipients

Platinum Award (0 award, 5 million yen)	
Non granted	
Gold Award (2 awards, 2 million yen each)	
Yasushi Sekine, Professor, Waseda University	Development and application of precious metal catalytic reactions with unconventional low-temperature action using surface protonics
Hideyuki Murakami, Professor, Waseda University	Development of oxidation resistant Ir-based high-entropy alloy
Silver Awards (3 awards, 1 million yen each)	
Ryuji Tamura, Professor, Tokyo University of Science	Precious metal hyper-materials
Masahito Inagaki, Researcher, Nagoya University	Development of nucleic acid cutting technology using silver nano-particles and pharmaceutical development applications
Tatsuya Oshima, Professor, University of Miyazaki	Search for and discovery of optimal ion solvation extraction agent for gold extraction and separation processes
Young Researcher Awards (4 awards, 1 million yen each)	
Noriyuki Uchida, Specially Appointed Assistant Professor, Tokyo University of Agriculture and Technology	Photonic precious metal crystal sensors made primarily from water
Yuki Ueda, Researcher, Tokyo Institute of Technology	Development of precious metal element separation and recovery processes using the hydrophobicity of fluoruous solvents
Rajashekar Badam, Senior Lecturer, Japan Advanced Institute of Science and Technology	IrO ₂ -based organic-inorganic hybrid catalyst with strong metal-base interaction with efficient oxygen generation catalytic activity suitable for water decomposition
Yohei Ishida, Assistant Professor, Hokkaido University	Self-synthesis of multi-element alloy clusters using nano-chemical reaction fields
Encouragement Award (17 awards, 300,000 yen each)	
Shunsuke Shiba, Assistant Professor, EHIME University	Takayuki Iseki, Specially Appointed Prof., Osaka University
Chen Chuantong, Associate Professor, Osaka University	Kohsuke Mori, Associate Professor, Osaka University
Hiromi Yuasa, Professor, Kyushu University	Yoshikazu Hirai, Assistant Professor, Kyoto University
Ken-ichi Fujita, Professor, Kyoto University	Ryo Kasuya, Senior Researcher, National Institute of Advanced Industrial Science and Technology
Masahiro Aoyama, Assistant Professor, Shizuoka University	Daisuke Nagai, Associate Professor, University of Shizuoka
Takanari Ouchi, Research Associate, The University of Tokyo	Takuto Soma, Assistant Professor, Tokyo Institute of Technology
Kohei Fujiwara, Associate Professor, Tohoku University	Atsushi Satsuma, Professor, Nagoya University
Naoki Ishimatsu, Assistant Professor, Hiroshima University	Takuya Yamamoto, Associate Professor, Hokkaido University
Yoshiaki Nishijima, Associate Professor, YOKOHAMA National University	

Overview of the 2020 Precious Metals Research Grants

[Conditions]

Research content that falls under any of the following

- New technology related to precious metals
- Research and development related to precious metals that bring about innovative evolution in products
- Research and development of new products using precious metals
- * Precious metal refers to eight elements of platinum, gold, silver, palladium, rhodium, iridium, ruthenium and osmium.
- * If development is conducted jointly (or planned to be) with other material manufacturers, please indicate so.
- * Products that have already been commercialized, put to practical use, or that are planned are not eligible.

[Grant Amounts]

- Platinum Award: 5 million yen (1 award)
- Gold Award: 2 million yen (1 award)
- Silver Awards: 1 million yen (4 awards)
- Young Researcher Awards: 1 million yen (2 awards)
- Encouragement Award: 300,000 yen (several awards)
- * The grant amount is treated as a scholarship donation.
- * Awards may not be granted in some cases.
- * The number of awards is subject to change.

[Eligible Candidates]

- Personnel who belong to (or work for) educational institutions in Japan (universities, graduate schools, or technical colleges) or public and related research institutions may participate.
- * As long as the applicant is affiliated with a research institution in Japan, the base of activity can be in Japan or overseas.
- * The Young Researcher Awards are for researchers under the age of 37 as of April 1, 2020.

[Application Period]

- 9am, September 1, 2020 (Tue) - 5pm, November 30, 2020 (Mon)

[Inquiries Concerning the Research Grant Program]

Precious Metals Research Grants Office

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■TANAKA Memorial Foundation

Established: April 1, 2015

Address: 22F Tokyo Building, 2-7-3 Marunouchi, Chiyoda-ku, Tokyo

Representative: Hideya Okamoto (Senior Advisor to TANAKA Holdings Co., Ltd.)

Purpose of Business: To provide grants for research related to precious metals to contribute to the development and cultivation of new fields for precious metals, and to the development of science, technology, and the social economy.

Areas of Business: Provision of grants for scientific and technological research related to precious metals. Recognition of excellent analysis of precious metals and holding of seminars and other events.

■TANAKA Kikinzoku Kogyo K.K.

Headquarters: 22F, Tokyo Building, 2-7-3 Marunouchi, Chiyoda-ku, Tokyo

Representative: Koichiro Tanaka, Representative Director & CEO

Founded: 1885

Incorporated: 1918

Capital: 500 million yen

Employees: 2,393 (as of March 31, 2020)

Sales: JPY 992,679,879,000 (FY2019)

Main businesses:

Manufacture, sales, import and export of precious metals (platinum, gold, silver, and others) and various types of industrial precious metals products.

URL: <https://tanaka-preciousmetals.com>

<Press Inquiries>

TANAKA Holdings Co., Ltd.

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