
TANAKA Memorial Foundation Announces Recipients of Precious Metals Research Grants

Ichiro Tanaka Awards Presented to Professor Takanori Iwasaki of Kyushu University for Chemical Recycling of Non-Biodegradable Polymer Materials Using Hydrogen Transport, and Professor Toshinori Fujie of Institute of Science Tokyo for Development of Biodegradable Nanosheet Electrodes Composed of Inkjet-Printed Gold Wires and Their Application to Plant Health Systems

The TANAKA Memorial Foundation's Representative Director, Hideya Okamoto, announced the recipients of the FY2025 Precious Metals Research Grants.

Following a rigorous screening process, this year's Ichiro Tanaka Awards, for 3 million yen each, were presented to Professor Takanori Iwasaki of Kyushu University and Professor Toshinori Fujie of Institute of Science Tokyo. In addition, four research projects received the Innovative Precious Metals Award, and five KIRAMEKI 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 socioeconomics 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." With "Forging a better tomorrow with 'Hirameki' and 'Kirameki'" adopted as the catchphrase, applications were invited for research and development themes that contribute toward the continued creation of a better future using the creativity of researchers and the potential of precious metals. A total of 244 applications were received for this year, the program's 27th year, and a total of 27 research grants for a combined total of 19.8 million yen were awarded.

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

■Ichiro Tanaka Award

Professor Takanori Iwasaki of Kyushu University

Chemical Recycling of Recalcitrant Polymer Materials Using Hydrogen Transport

This research seeks to address the degradation of polyurethane using a proprietary precious metal complex catalyst. It has been demonstrated that polyurethane can be decomposed by hydrogen gas. As the development of chemical recycling methods for polyurethane used in cushioning materials such as automotive seats and mattresses is essential for promoting the reuse of waste plastics, it was highly rated as research and development that makes a significant contribution to the realization of an environmentally sustainable society.

■Ichiro Tanaka Award

Professor Toshinori Fujie of Institute of Science Tokyo

Development of Biodegradable Nanosheet Electrodes Composed of Inkjet-Printed Gold Wires and Their Application to Plant Health Measurement Systems

This research measures changes in the surface potential of plant leaves in real time by formation of an array of gold electrodes on a polymer ultrathin film substrate. By investigating materials with minimal impact on living organisms, it is expected that raw data can be obtained from plants. Furthermore, the research was highly rated for its potential to reveal not only changes in bio-surface potential in plants but also changes in various conditions in animals.

Four Innovative Precious Metals Awards, 16 HIRAMEKI Awards, and five KIRAMEKI Awards were also granted. The recipients and an overview of the Precious Metals Research Grants are indicated below. Applications for the FY2026 research grants are scheduled to open in the fall.

List of FY2025 Precious Metals Research Grants Recipients

Umekichi Tanaka Award (0 awards: 10 million yen)	
Not applicable	
Ichiro Tanaka Award (2 awards: 3 million yen each)	
Takanori Iwasaki, Professor Kyushu University	Chemical recycling of non-biodegradable polymer materials using hydrogen transport
Toshinori Fujie, Professor Institute of Science Tokyo	Development of biodegradable nanosheet electrodes composed of inkjet-printed gold wires and their application to plant health systems
Innovative Precious Metals Award (4 awards: 1 million yen each)	
Daisuke Sasaki, Professor Osaka Metropolitan University	Evaluation of the influence of internal surfaces of wind instruments on sound using aeroacoustics analyses
Kohsuke Mori, Professor The University of Osaka	Development of precious metal-based autocatalytic reaction tubes using metal 3D printing
Yu-ki Taninouchi, Professor Kyushu University	Development of volatile separation and recovery technology for precious metal elements using the gas-phase complex formation phenomenon
Kojiro Shimojo, Principal Researcher Japan Atomic Energy Agency	One-step synthesis of peptide-mediated mercury ion-responsive gold nanoparticles and their application to highly sensitive colorimetric sensors
HIRAMEKI Award (16 awards: 300,000 yen each)	
Shinichi Endo, Guest Researcher Osaka Metropolitan University	Chun-Yi Chen, Associate Professor Institute of Science Tokyo
Yuichiro Koizumi, Professor The University of Osaka	Naoki Nohira, Assistant Professor Institute of Science Tokyo
Fumitoshi Kumaki, Postdoctoral fellow High Energy Accelerator Research Organization	Hiroaki Maeda, Junior Associate Professor Tokyo University of Science
Kazuya Imamura, Lecturer Kochi University	Takafumi Hanada, Assistant Professor Tokushima University
Junya Sekikawa, Professor Shizuoka University	Toko Tokunaga, Assistant Professor Nagoya Institute of Technology
Satoshi Semboshi, Professor Shimane University	Ikuo Ushiki, Associate Professor Hiroshima University
Junpei Sakurai, Professor Sojo University	Liu Yang, Postdoctoral Researcher National Institute of Materials Science
Kou Li, Assistant Professor Chuo University	Wataru Matsutani, Researcher Hokkaido University
KIRAMEKI Award (5 awards: 1 million yen each)	
Tensho Nakamura, Assistant Professor Gifu University	Development of a room-temperature reduction technique for ruthenium oxide films using vacuum ultraviolet irradiation from an excimer lamp
Juan Shang, Assistant Professor Kyushu University	Elucidation of the mechanism of hydrogen dissociation catalysis by bulk gold and development of high-performance hydrogen barrier materials using gold-based alloys
Hiroshi Kakinuma, Assistant Professor Tohoku University	Establishing guidelines for microstructure of Pd alloys to achieve the ultimate hydrogen permeable membrane
Hikaru Namigata, Assistant Professor Tohoku University	A novel approach to integration of plasmonic nanoparticles using a three-dimensional micro-lattice structure
Naoki Hayase, Assistant Professor University of Hyogo	Development of Ru/Si multilayer mirrors for hyper-NA EUV lithography

(Affiliated organizations and job titles correct as of time of presentation)

Overview of the 2025 Precious Metals Research Grants

[Conditions]

New research and development themes—either using precious metals or that can be applied to precious metals—that contribute to the creation of a sustainable future, with research content that falls under any of the following.

- New technology related to precious metals (new materials, processing methods, process development, etc.)
- Research that brings about innovative evolution in product development (new functions, process development, computational science, etc.)
- 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] (Maximum amounts from a grant pool of 20 million yen)

- Umekichi Tanaka Award	10,000,000 yen
- Ichiro Tanaka Award	3,000,000 yen
- Innovative Precious Metals Award	1,000,000 yen
- HIRAMEKI Award	300,000 yen
- KIRAMEKI Award	1,000,000 yen

- * The grant amount is treated as a scholarship donation.
- * Awards may not be granted in some cases.

[Eligible Candidates]

- Personnel who 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.
- KIRAMEKI Awards are for researchers under the age of 37 as of April 1, 2025.

[Application Period]

- 9 am, September 1, 2025 (Mon) - 5 pm, November 28, 2025 (Fri)

[Inquiries Concerning the Research Grant Program]

Precious Metals Research Grants Office

Global Marketing / R&D Supervisory Department, TANAKA PRECIOUS METAL TECHNOLOGIES Co., Ltd.
2-6-6 Nihonbashi Kayabacho, Chuo-ku, Tokyo 103-0025

E-mail: joseikin@ml.tanaka.co.jp

TANAKA Memorial Foundation website: <https://tanaka-foundation.or.jp>

■TANAKA Memorial Foundation

Organization Name: TANAKA Memorial Foundation

Address: 2-6-6 Nihonbashi Kayabacho, Chuo-ku, Tokyo

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

Incorporated: 2015

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 PRECIOUS METAL TECHNOLOGIES Co., Ltd.

Headquarters: 2-6-6 Nihonbashi Kayabacho, Chuo-ku, Tokyo

Representative: Koichiro Tanaka, CEO

Founded: 1885

Incorporated: 1918

Capital: 500 million yen

Employees: 2,862 (Including overseas subsidiaries) (December 31, 2025)

Sales: 419,177,145,000 yen (FY2025)

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>

(TANAKA Industrial Precious Metal Materials Portal)

<Press Inquiries>

TANAKA PRECIOUS METAL GROUP Co., Ltd.

<https://tanaka-preciousmetals.com/en/inquiries-for-media/>