

PRESS RELEASE

April 22, 2016

Tanaka Memorial Foundation

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Tanaka Memorial Foundation Announces Recipients of “Precious Metals Research Grants”

Motoi Oishi, Lecturer at the University of Tsukuba, receives Gold Award for development of biosensors on the gold nanoparticle interface

Mitsuru Yasuda, Postdoctoral Fellow at the Kwansei Gakuin University, and Tomoyuki Yokota, Project Research Associate at the University of Tokyo, receives newly established Young Researcher Awards

Tanaka Memorial Foundation (Representative: Hideya Okamoto) announced today the recipients of its 2015 Precious Metals Research Grants. After a strict examination of applications, the Gold Award, worth 2 million yen, was granted to Motoi Oishi, Lecturer at the University of Tsukuba. Young Researcher Awards, which is a new category this year, were granted to Mitsuru Yasuda, Postdoctoral Fellow at the Kwansei Gakuin University, and Tomoyuki Yokota, Project Research Associate at the University of Tokyo. Four Silver Awards were also granted this year.

Tanaka Precious Metals develops and provides a stable supply of a variety of precious metal materials based on the corporate philosophy of “realizing a prosperous society and a beautiful future for our world through precious metals,” and is working to contribute to the advancement and stability of industry and the economy in addition to the realization of a prosperous and affluent living environment. This grant program has been implemented every year since 1999 to support the various challenges faced in the “new world opened up by precious metals” as part of these business activities. In the 17th year of the program, Tanaka Holdings has passed the mantle of the awards to the Tanaka Memorial Foundation, which was established in 2015 to celebrate the 130th anniversary of the company.

This year, research applications were accepted from all fields related to new technologies, and research and development in which precious metals can make a contribution. A total of 154 applications were received in the end, with 11.4 million yen in research grants being distributed across 34 different research topics. The names of the recipient of the Gold Award and the two recipients of the Young Researcher Awards, together with their research projects and the reasons for the awards are shown below.

■Motoi Oishi, Lecturer, University of Tsukuba

Development of High-sensitivity, Simple Biosensors Utilizing Chemical Reactions on the Gold Nanoparticle Interface

This research project seeks to detect micro RNA molecules directly, using a simple and highly sensitive process, without enzymes or equipment. It has become clear over recent years, that micro RNA is involved in a range of diseases, so there is a growing recognition of the importance of its measurement. This research was highly evaluated for enabling visual, high-sensitivity measurement of micro RNA within the exosomes in blood, by binding the DNA used to measure these micro RNAs to gold nanoparticles.

■Mitsuru Yasuda, Postdoctoral Fellow, Kwansei Gakuin University

Development of Nano-biochips for Ultra High-sensitivity Diagnosis of Cancer

This research project seeks to apply nano thin-film interference substrates, with dielectrics formed on silver substrates, to clinical examinations. Application of previously-developed high-contrast fluorescent imaging technologies to the field of immunoassay is expected to enable ultra high-sensitivity detection of cancer markers and other target proteins. This research was highly evaluated for its use of precious metals to directly improve the sensitivity of immunoassays.

■Tomoyuki Yokota, Project Research Associate, The University of Tokyo
Development of Printed Temperature Sensors Using Conductive Particles

This research project seeks to apply printed flexible electronics to specific products. There has been extensive research and development of wearable healthcare devices over recent years, with precious metals playing an important role in such areas as performance enhancement. This research was highly evaluated for its potential for broad social acceptance because direct application of temperature sensors to the human body and other objects is expected to be needed not only in healthcare and medical applications, but also in other fields requiring a range of temperature measurements.

In addition, 4 Silver Awards and 27 MMS Awards were given, as shown along with the overview of the research grants shown below. Applications for the 2016 research grants are scheduled to open in autumn.

List of Recipients of the 2015 Precious Metals Research Grants

Platinum Award (0 award)	
None granted	
Gold Award (1 award, 2 million yen each)	
Motoi Oishi, Lecturer, University of Tsukuba	Development of High-sensitivity, Simple Biosensors Utilizing Chemical Reactions on the Gold Nanoparticle Interface
Young Researcher Awards (2 awards, 1 million yen each)	
Mitsuru Yasuda, Postdoctoral Fellow, Kwansei Gakuin University	Development of Nano-biochips for Ultra High-sensitivity Diagnosis of Cancer
Tomoyuki Yokota, Project Research Associate, The University of Tokyo	Development of Printed Temperature Sensors Using Conductive Particles
Silver Awards (4 awards, 500,000 yen each)	
Yuichi Negishi, Associate Professor, Tokyo University of Science	Creation of High-activity Water-splitting Optical Catalyst Materials for Building a Next-generation Hydrogen-based Society Utilizing Strict Composition Control Technologies for Precious Metal Nanoclusters
Hideki Hirano, Assistant Professor, Tohoku University	Development of Wafer-level High-vacuum Hermetic Sealing Technology Using Cut and Flattened Silver Bumps
Hideyuki Mitomo, Assistant Professor, Hokkaido University	Development of a Method for High-sensitivity Detection of Biomolecules Using Movable Silver Nano-structures
Hiroyuki Kawada, Professor, Waseda University	Creation of Ultra-lightweight, Highly Conductive Carbon Nanotube/Gold Composite Fibers

MMS Awards (27 awards, 200,000 yen each)

Tamotsu Zako, Professor, Ehime University	Masato Watanabe, Chief Research Scientist, Research Institute for Electromagnetic Materials
Katsutoshi Nagaoka, Associate Professor, Oita University	Yasuyuki Miyazawa, Professor, Tokai University
Hiroshi Shiigi, Associate Professor, Osaka Prefecture University	Ryota Takahashi, Assistant Professor, The University of Tokyo
Hideaki Komiyama, Project Assistant Professor, Kyushu University	Hitoshi Tabata, Professor, The University of Tokyo
Tsuyohiko Fujigaya, Associate Professor, Kyushu University	Tatsuya Tsukuda, Professor, The University of Tokyo
Hiroaki Yonemura, Associate Professor, Kyushu University	Yasunari Matsuno, Associate Professor, The University of Tokyo
Teruyuki Kondo, Professor, Kyoto University	Rikiya Watanabe, Assistant Professor, The University of Tokyo
Shunsuke Murai, Assistant Professor, Kyoto University	Yuta Nabae, Assistant Professor, Tokyo Institute of Technology
Mitsuhiro Matsuda, Associate Professor, Kumamoto University	Jiuhui Han, Tohoku University
Tadaharu Ueda, Associate Professor, Kochi University	Yuzuru Miyazaki, Professor, Tohoku University
Kazutaka Hirakawa, Associate Professor, Shizuoka University	Toshihiko Noda, Assistant Professor, Nara Institute of Science and Technology
Makoto Hasegawa, Professor, Chitose Institute of Science and Technology	Kei Murakoshi, Professor, Hokkaido University
Yukiko Yasukawa, Associate Professor, Chiba Institute of Technology	Yuta Matsushima, Associate Professor, Yamagata University
Kenji Katayama, Professor, Chuo University	

Overview of the 2015 Precious Metals Research Grants

[Subject]

New technologies, and research and development, to which precious metals can make a contribution

[Grant amounts]

- Platinum Award: 5 million yen (1 award)
- Gold Award: 2 million yen (1 award)
- Silver Awards: 500,000 yen (several awards)
- Young Researcher Awards (for researchers of up to 37 years of age): 1 million yen (1 award)
- MMS Awards: 200,000 yen (several awards)
 - * The grant amount is treated as a scholarship donation.
 - * Each award is given to research deemed to make a particularly large contribution to commercialization and practical implementation, and awards may not be granted in some cases.

[Eligible candidates]

- Personnel who belong to educational research institutions or public research institutes in Japan
- Applicants belonging to research institutions in Japan are eligible regardless of whether they are based in Japan or overseas.
- Young Researcher Awards are given to young researchers aged up to 37 years old as of April 1, 2015.

[Application period]

October 1, 2015 (Thu) - 5pm, November 30, 2015 (Mon)

[Conditions]

- Precious metals must play an important role in commercialization and/or practical implementation of the research.
- Development related to precious metals must provide a breakthrough in the progress of the commercialization and/or practical implementation.
- When applying with joint research, the representative should apply.
- Students must obtain approval from the person responsible for their laboratory in order to submit an application.
- It should be clearly stated if the research is being performed with other precious metal manufacturers (including planned).
- Applicants may be required to exchange information with Tanaka Precious Metals about product development, technology development, and guidance through the research.
- Excludes research that has already been commercialized or for which there are such plans.
- Excludes fundamental research such as analysis, evaluation and production technology.

[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 in order 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 research related to precious metals and holding of seminars and other events.

<About the Tanaka Precious Metals>

Established in 1885, the Tanaka Precious Metals has built a diversified range of business activities focused on the use of precious metals. On April 1, 2010, the group was reorganized with Tanaka Holdings Co., Ltd. as the holding company (parent company) of the Tanaka Precious Metals. In addition to strengthening corporate governance, the company aims to improve overall service to customers by ensuring efficient management and dynamic execution of operations. Tanaka Precious Metals is committed, as a specialist corporate entity, to providing a diverse range of products through cooperation among group companies.

Tanaka Precious Metals is in the top class in Japan in terms of the volume of precious metal handled, and for many years the group has developed and stably supplied industrial precious metals, in addition to providing accessories and savings commodities utilizing precious metals. As precious metal professionals, the group will continue to contribute to enriching people's lives in the future.

<Press inquiries>

Tanaka Holdings Co., Ltd.

<https://www.tanaka.co.jp/en/protanaka/inquiry/index.php>