東北大学 TOHOKU UNIVERSITY NAGASE Delivering next.

Press Release

May 15, 2024

To all members of the press

Tohoku University
Nagase & Co., Ltd.

First by a Trading Firm: NAGASE×Tohoku University Delivering next. Co-creation Research Center To Be Established, Using the NanoTerasu 3GeV Synchrotron Radiation Facility

–Using the latest evaluation technology to find the uniqueness of materials

[Key Points of Release]

- Tohoku University and Nagase & Co., Ltd. will open the NAGASE×Tohoku University Delivering next. Co-creation Research Center on June 1, 2024.
- By implementing material evaluation of the materials of the NAGASE Group and its customers including chemical, food product, and semiconductor manufacturers, carried out by a cross-disciplinary team with the Co-creation Research Center and using the NanoTerasu 3GeV Synchrotron Radiation Facility located in the Tohoku University campus, support will be provided for customers to develop their products and solve manufacturing issues.

[Summary]

Tohoku University (Sendai, Miyagi; President: Teiji Tominaga) and Nagase & Co., Ltd. (Chiyoda-ku, Tokyo; Representative Director, President and CEO: Hiroyuki Ueshima) held a contract signing ceremony on May 14 for the NAGASE×Tohoku University Delivering next. Co-creation Research Center (*1) to be opened at the Tohoku University Aobayama New Campus on June 1, 2024.

The NAGASE Group's slogan is "Delivering next." It demonstrates the intent of the Group to work as a whole to solve the "next" challenges facing society and humanity. By promoting research through business-academia collaborations using the NanoTerasu, a synchrotron facility with world-class analytical

functions, as a hub, this Co-Creation Research Center will seek out the unique added value of the materials of the NAGASE Group and its customers, and work to solve manufacturing issues through materials.

From left: Haruki Kitazawa, Dean, Graduate School of Agricultural Science and Faculty of Agriculture, Tohoku University; Masaya Ikemoto, Representative Director and Senior Managing Executive Officer, Nagase & Co., Ltd.; Naoki Yasuba, Representative Director, Nagase Viita Co., Ltd.

[Detailed Explanation]

Background of Establishment

In addition to its over 190 years of history as a trading firm specializing in chemicals, the NAGASE Group is known for being a unique group due to including manufacturing and R&D functions. Each of the Group's manufacturing companies, such as Nagase Viita Co., Ltd. (formerly Hayashibara Co., Ltd.) , one of the Group's core manufacturing companies which carries out the development, manufacturing, and sales of food ingredients and other products, has their own unique technologies for evaluation, which they have used to quantify the characteristics of materials and products in order to create value through differentiation. However, in order to respond to increasing diversification of customer needs due to changes in external factors, finding

the value of materials from a variety of perspectives and discovering new value, not limited by existing evaluation technologies, can lead to solving issues.

In March 2023, Nagase & Co. became a coalition member for the NanoTerasu 3GeV Synchrotron Radiation Facility, with the goal of using it for product and technology development for Nagase & Co. and its customers (*2). NanoTerasu is a world-class synchrotron facility, with a light source approximately 100 times more performant than existing facilities within Japan, making it possible to visualize the functions and performance of matter at the nano level.

In order to accelerate this initiative, go beyond boundaries between different fields and industries, and build a system to support speedy cross-disciplinary research and development through business-academia collaboration, the decision was made to establish the Co-creation Research Center.

Goal of Initiative

An environment will be built in which the R&D functions of the NAGASE Group, as well as the unique evaluation technologies possessed by different manufacturers within the Group, can be gathered at the Co-creation Research Center in a timely manner, different knowledge, experience, and networks fused together, co-creative collaboration carried out with Tohoku University, and R&D undergone to find the “uniqueness” of materials and products made by the NAGASE Group and its customers.

More specifically, using NanoTerasu, the appropriate analysis method will be considered, proposed and carried out for materials of the NAGASE Group and its customers, using the various characteristics of synchrotron radiation (diffraction, permeation, absorption, etc.). Taking advantage of the network the Group developed as a trading firm, as well as the technologies and knowledge gained through its manufacturing and R&D functions, to discover new value in a variety of materials, the Group will contribute to solving issues.

Future Plans

The Co-creation Research Center, using NanoTerasu as a base, will use the latest analysis and evaluation equipment at Tohoku University, while also organically utilizing knowledge, to acquire data to increase the appeal of products, which is expected to increase the value of products and materials. With customer touchpoints being the most important of the trading firm functions, combining the benefits of the Co-creation Research Center and NanoTerasu to solve issues through co-creation activities with customers should contribute to creating, increasing, and strengthening customer

touchpoints, as well as making them more complex, multilayered, and sustainable. Discovering new values of materials and connecting them to solving issues through the activities of the Co-creation Research Center should lead to the creation of new “uniqueness” for NAGASE when it comes to customer touchpoints.

[Overview of Co-creation Research Center]

1. Name
   NAGASE×Tohoku University Delivering next. Co-creation Research Center

2. Activities
   In addition to basic research to increase the value of materials and solve manufacturing issues through materials, the goal is to create the new value of the next generation by training human resources through co-creation activities.

3. Operating Structure

(1) General Director

Professor Tetsu Kamiya (Nagase & Co., Ltd.)

(2) Assistant Director

Professor Masahiko Harata (Tohoku University Graduate School of Agricultural Science)

(3) Participating Academics

Professor Mamoru Komatsu (Nagase & Co., Ltd.)
Associate Professor Yumi Sasano (Nagase & Co., Ltd.)
Assistant Professor Yuki Otsuka (Nagase Viita Co., Ltd.)
Professor Kiyotaka Nakagawa (Tohoku University Graduate School of Agricultural Science)
Associate Professor Jun Kaneko (Tohoku University Graduate School of Agricultural Science)
Associate Professor Yuki Takayama (Tohoku University Graduate School of Agricultural Science/International Center for Synchrotron Radiation Innovation Smart)
Assistant Professor Masafumi Hidaka (Tohoku University Graduate School of Agricultural Science)

4. Location
   Room S206, Multidisciplinary Research Laboratory for Agricultural Science, Graduate School of Agricultural Science and Faculty of Agriculture, Tohoku University Aobayama Campus
5. Duration
   June 1, 2024–May 31, 2027

[Notes]
*1. Co-creation Research Center
By establishing a base for collaboration with companies within the university, and enabling cross-disciplinary access to the teaching staff, knowledge, and facilities of the university, this system promotes a variety of collaborative activities, including joint research planning and implementation, development of human resources, and collaboration with university startups.

Tohoku University Head Office of Enterprise Partnerships website (Co-creation Research Center)
https://www.rpip.tohoku.ac.jp/en/information/kyoso_kenkyu/

*2. Joining NanoTerasu 3GeV Synchrotron Radiation Facility Coalition
https://www.nagase.co.jp/assetfiles/uploads/20230605_GCD_01.pdf

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