

The 56th Symposium on Powder Technology

The 56th Symposium on Powder Technology organized by Hosokawa Powder Technology Foundation took place at Grand Cube Osaka (Osaka International Convention Center), in Japan on Tuesday, September 3, 2024. It was held by the planning of Council of Powder Technology, Japan and with the sponsorship of Hosokawa Micron Corporation. Nearly 250 people from the industries and universities attended this symposium. The theme of the symposium this year was “Powder Technology and its Applications for Advanced Manufacturing Processes”. There were six lectures, including the KONA Award commemorative lecture, from basic and applied perspectives. This year’s symposium was held in a hybrid format, with both in-person and online participation, for the third consecutive year.

The event began with an opening address by Mr. Yoshio Hosokawa, the president of the Foundation, who welcomed participants from a wide range of academic and industrial fields and introduced the background of the Symposium and the Foundation’s activities in the field of powder technology in Japan and abroad.

Prior to the lectures, the KONA Award presentation ceremony was held, and the plaque of the KONA Award was handed from the president to the 2023 KONA Awardee; Emeritus Professor Wiwut Tanthapanichakoon, Chulalongkorn University, Thailand. The KONA Award is an international award given to researchers who have made outstanding achievements in the field of powder and particle science and technology. He is the 38th recipient of the award and the first Asian (excluding Japan) to receive the KONA Award. The contents of the symposium are shown below.

In the subsequent lecture session, the 2023 KONA Award commemorative lecture was delivered first, in which he gave an easy-to-understand explanation of his contributions to the development of powder and particle science and technology and the promotion of technological exchange between Thailand and Japan, particularly with regard to representative examples of research results applying submicron- and nano-sized particle technology, such as the development of HEPA filter technology.



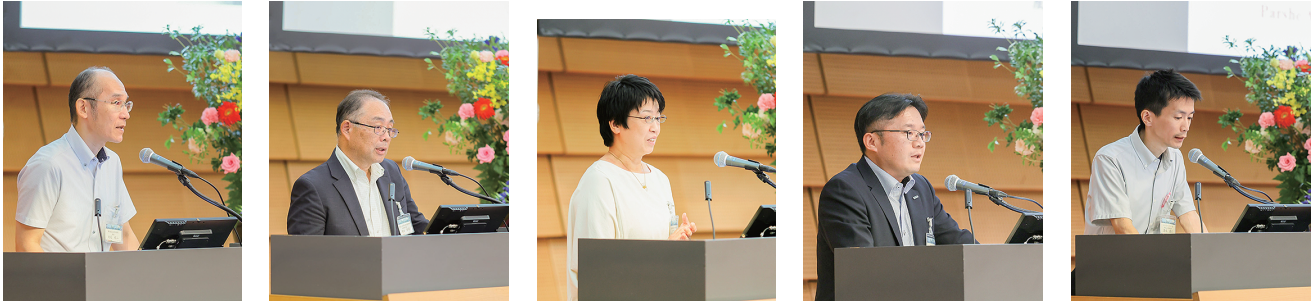
Opening address by President Yoshio Hosokawa.

Following this, two keynote lectures were delivered by prominent figures in the field of powder technology: Professor Shoji Maruo of Yokohama National University and Research Director Yuji Hotta of AIST. Prof. Maruo presented the latest trends in ultra-precision 3D printing technology using various powder materials, while Dr. Hotta discussed the effectiveness of AI technology in material development, particularly for ceramics, and the contributions of Material DX.

Subsequently, three industry experts delivered presentations on the application of powder technology and nanoparticle synthesis and processing techniques in product developments that have been attracting much attention recently. Dr. Chie Kawamura from Taiyo Yuden Co., Ltd. discussed the development of energy devices using multilayer ceramic capacitors (MLCCs), Dr. Takahiro Morishita from Toyo Tanso Co., Ltd. presented on the development of high-performance carbon materials through powder control technology and their



The 2023 KONA Award commemorative lecture by Emeritus Prof. Wiwut Tanthapanichakoon.



Lectures by Prof. Shoji Maruo, Dr. Mikinori Hotta, Dr. Chie Kawamura, Dr. Takahiro Morishita, and Mr. Kenji Shimizu.

applications, and Mr. Kenji Shimizu from Hosokawa Micron Corporation spoke about technological innovations in powder measurement equipment that meet the needs of cutting-edge powder production processes.

After the lectures, a general discussion session was held, chaired by Executive Director of the Foundation and Emeritus Professor Makio Naito of Osaka University. Questions and opinions were raised by attendees from various fields, leading to a lively exchange where the speakers directly responded to the inquiries.

At the conclusion of the symposium, President Kohei Hosokawa of Hosokawa Micron Corporation delivered a closing address, marking the successful end of the event. Following the symposium, in the reception hall, a social gathering was held, continuing from last year, allowing the lecturers and attendees to engage in meaningful exchanges in a relaxed atmosphere from beginning to end. This year, over 80 participants attended the venue, filling the room to capacity, with nearly 250 attendees in total, including online participants. The following 57th Symposium is scheduled to be held in Tokyo next year.



Lecture scene.



General discussion.



Closing remarks by HMC President Kohei Hosokawa.



Get-acquainted party.

The 56th Symposium on Powder Technology

Theme: “Powder Technology and its Applications for Advanced Manufacturing Processes”

Date: Tuesday, September 3, 2024

Place: Grand Cube Osaka (Osaka International Convention Center)

Opening address Mr. Yoshio Hosokawa (*President of Hosokawa Powder Technology Foundation, Chairman of Hosokawa Micron Corporation, Japan*)

- 2023 KONA Award presentation ceremony

Session 1 Chaired by Prof. Masayoshi Fuji (*Nagoya Institute of Technology, Japan*)

- Lecture 1 (Special lecture by the 2023 KONA Awardee)

“Our Contributions to the Advancement of Powder/Particle Technology Including Thailand–Japan Collaborations”

Emeritus Prof. Wiwut Tanthapanichakoon (*Chulalongkorn University, Thailand*)

- Lecture 2

“Ultra-Precision 3D Printing Technology Using Various Powder Materials”

Prof. Shoji Maruo (*Graduate School of Engineering, Yokohama National University, Japan*)

Session 2 Chaired by Dr. Yoshio Sakka (Special Researcher, NIMS)

- Lecture 3

“Data-Driven Materials Research and Development Contributing to Material Innovation and Enhanced Reliability for Ceramics and Other Materials”

Dr. Mikinori Hotta (*Group Leader, National Institute of Advanced Industrial Science and Technology (AIST), Japan*)

- Lecture 4

“Development of All-Solid-State Batteries and Fuel Cells Utilizing the Material Technology of Multi-layer Ceramic Capacitors”

Dr. Chie Kawamura (*Chief Researcher, Taiyo Yuden Co. Ltd., Japan*)

Session 3 Chaired by Honorary Research Advisor, Dr. Hisao Makino (*CRIEPI, Japan*)

- Lecture 5

“High-Performance Graphite Products Based on Powder Control Technology and the Latest Carbon Powder Materials”

Dr. Takahiro Morishita (*Executive Fellow, Toyo Tanso Co. Ltd., Japan*)

- Lecture 6

“The Latest Powder Property Measurement Technology”

Mr. Kenji Shimizu (*Powder Technology Research Institute, Hosokawa Micron Corporation, Japan*)

General discussion Chaired by Emeritus Prof. Makio Naito (*Osaka University, Japan*)

Closing remarks Dr. Kohei Hosokawa (*President of Hosokawa Micron Corporation, Japan*)