

4th International Hosokawa Powder Technology Symposium Held in Germany

On September 14th, 2023, the 4th International Hosokawa Powder Technology Symposium took place at the Dorint An der Kongresshalle Hotel in Augsburg, Germany. The symposium was organized by the Hosokawa Powder Technology Foundation, in conjunction with KONA Europe e.V., the European / African Editorial Board of the academic journal KONA, and was co-hosted and sponsored by Hosokawa Alpine AG.

The International Hosokawa Powder Technology Symposium was first held in 2014 at Hosokawa Alpine AG to celebrate the Foundation's 20th anniversary. Subsequent symposia took place in the United States in 2017 and China in 2019, making this the fourth edition of the event.

The symposium began with a welcome speech by Dr. Kohei Hosokawa, Director of Hosokawa Powder Technology Foundation and President of Hosokawa Micron Corporation. The theme of the symposium was “Sustainable Production of Functional Particles,” and it featured eight presentations highlighting collaborations between various companies, as well as the overviews by the academic researchers.

In the presentations, hot topics such as the future prospects of cultured meat production using continuous production facilities for cell culture media, dry and wet technology for efficient extraction of proteins from soybean, recycling technology and equipment for lithium-ion batteries, the relationship between processing techniques for rare earth materials and the performance of neodymium magnets, and the introduction of new spheronization equipment for graphite, a critical secondary battery material, were discussed.

Additionally, Dr. Akira Watanabe, General Manager of the Technology Development Department of Hosokawa Micron Corporation in Japan, shared insights into the differences in geopolitical and cultural perspectives between Japan and Germany, and the evolution of secondary battery material manufacturing equipment in Japan. At the end of the symposium, Dr. Fernández, President of Hosokawa Alpine AG, gave the closing remarks.

Participants came from various countries, including Germany, the host country, the Netherlands, and Lithuania. A welcome ceremony was held the day before the symposium. At the welcome ceremony, Dr. Steffen Sander, Secretary General of KONA Europe e.V. and head of the R&D center of Hosokawa Alpine AG, first explained about the company tour. Participants were then divided into small teams for a tour of the factory and the R&D center.

The guide explained that the company's factory has production lines segmented by application, such as minerals, chemicals, and films, allowing the company to produce products of the high quality for each application. After the factory tour, the group was guided through the R&D center from the top floor to the first floor. The R&D center is equipped not only with lab machines and small test machines, but also with test machines that are the same size as actual production facilities, which is expected to reduce the risk of scaling up test machines when users set up actual production facilities. A separate testing machine for pharmaceutical products is also available. With these well-equipped testing facilities, the company is able to respond to a variety of customer requests. After the company's tour, the group was divided into two teams: one team went on a tour of Augsburg, the famous walled city on the Romantic Road, while the other team toured the beer factory facilities. At the end of the tour, all the teams gathered once again to enjoy delicious German beer in a beer hall adjacent to the brewery, and international exchange was promoted.



Welcome speech by President Kohei Hosokawa.



Lecture scenery.

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Date: Tuesday, September 14, 2023

Place: Dorint Hotel An der Kongresshalle Augsburg, Germany

Theme: “*Sustainable Production of Functional Particles*”

Organizer: Hosokawa Powder Technology Foundation

Co-organizer: KONA Europe e.V., Hosokawa Alpine AG

- **Welcome address** Dr. Kohei Hosokawa, Acting President of Hosokawa Powder Technology Foundation, President of Hosokawa Micron Corporation, Japan
- **Lecture 1: Current trends in particle technology**
Ass. Prof. Gabriele Meesters, Department of Chemical Engineering, Delft University of Technology, The Netherlands
- **Lecture 2: Leveraging AI in process engineering: Overview of multifaceted applications and synergetic integration opportunities**
Mr. Christoph Thon, Institute for Particle Technology (iPAT), Technische Universität Braunschweig, Germany
- **Lecture 3: The future of cultivated meat and the continuous production of cell culture media**
Mr. Appachu Kodira, KCell Biosciences / JSBiosciences; Mr. Hermann Schmidt, Hosokawa Alpine AG, Germany
- **Lecture 4: Deep Dive Pulses Protein: Combination of dry and wet extraction**
Mr. Remy Kriech, Bühler Technologies GmbH, Germany; Mr. Eric Emmert, Hosokawa Alpine AG, Germany
- **Lecture 5: The difference between Germany and Japan from the viewpoint of the powder-related industry, and SDGs**
Dr. Akira Watanabe, Powder Technology Research Institute, Hosokawa Micron Corporation, Japan
- **Lecture 6: Processing techniques for rare earth materials and the effect on magnetic materials performance**
Mr. Konrad Opelt, Department of Magnetic Materials, Fraunhofer IWKS, Germany
- **Lecture 7: Comminution and classification as important processes for the circular production of lithium batteries**
Prof. Carsten Schilde, Institute for Particle Technology (iPAT), Technische Universität Braunschweig, Germany
- **Lecture 8: Spheronization of natural graphite—background and novel process**
Dr. Marilena Mancini, Accumulators Materials Research (ECM) Department of ZSW, Germany; Mr. Benjamin Biber, Hosokawa Alpine AG, Germany
- **Closing remarks** Dr. Antonio Fernández, President of Hosokawa Alpine AG., Germany



Lecture by Dr. Akira Watanabe, General Manager of Technical Development Dept.



Recess scenery.