## The 54th Symposium on Powder Technology and Special Lecture for the 30th Anniversary of the Establishment of HPTF

The 54th Symposium on Powder Technology organized by Hosokawa Powder Technology Foundation took place at Imperial Hotel Osaka, in Japan on Monday, September 5, 2022. It was held by the planning of Council of Powder Technology, Japan and with the sponsorship of Hosokawa Micron Corporation. Nearly 180 people from the industries and universities attended this symposium. The theme of the symposium this year was "Frontiers of Powders and Powder Processing for SDGs". There were seven lectures including three special ones given by the 2019 KONA Awardee Prof. Makio Naito, 2020 KONA Awardee Prof. Brij M. Moudgil and 2022 Queen Elizabeth Prize winner Dr. Masato Sagawa. This 54th symposium was scheduled to be held two years ago, but due to the COVID-19 pandemic, this time it was held after three year interval in a hybrid style (on-site and online) for the first time.

At the beginning of the symposium, Mr. Yoshio Hosokawa, the president of the Foundation, gave the opening address mentioning that this symposium was started in 1968, more than 50 years ago and has been continued almost annually since then. The Hosokawa Foundation established 30 years ago took over the role of organizer from Hosokawa Micron Corporation. Prior to the lectures, the KONA Award presentation ceremony was held and the plaques of KONA Award were handed from the president to the 2019 KONA Awardee Professor Makio Naito (Osaka Univ., Japan), the 2020 KONA Awardee Professor Brij M. Moudgil (Univ. of Florida, USA) and one of the 2021 KONA Awardees Professor Shuji Matsusaka (Kyoto Univ., Japan). The other awardee of the KONA Award 2021 Professor Wolfgang Peukert (Friedrich-Alexander-Univ. Erlangen-Nuremberg, Germany) was handed the plaque at ICCCI 2022 last November. The KONA Award has been presented to the researchers who have greatly contributed to the research and development as well as education in the field of Powder and Particle Science and Technology since 1990. It was given originally by Hosokawa Micron Corporation but now is presented to the researchers from all over the world by the Hosokawa Powder Technology Foundation annually.

The contents of the symposium are shown below. In the morning session, Prof. Naito and Prof. Moudgil gave the KONA Award lectures, in which they introduced their research results on various materials, in which the structural control and interfacial design of fine particles and powders have been used to improve their properties and enhance their performance for a wide range of industrial applications. Then, three leading researchers gave thought-provoking lectures on resources circulation, solid-state batteries, and direct methane reforming (DMR) reaction using iron-based catalysts to address the SDGs from the perspective of advanced powder processing and particle bonding technologies, followed by an introduction of latest equipment and technology development with the SDGs in mind from Hosokawa Micron Corporation.

The last lecture was Special Lecture for the 30th Anniversary of the Establishment of HPTF, which was given by Dr. Masato Sagawa, who discovered and globally commercialized the world's most powerful permanent magnet, Nd-Fe-B Sintered Magnets, in which he explained the history of the discovery and development of neodymium magnets, their characteristics, and applications for such as electric vehicles, robots and wind generators in an easy-to-understand manner.



At the KONA Award presentation ceremony, President Hosokawa (Left) and 2019 KONA Awardee Professor Makio Naito (Osaka Univ., Japan).



At the KONA Award presentation ceremony, President Hosokawa (Left) and 2020 KONA Awardee Professor Brij M. Moudgil (Univ. of Florida, USA).



The 54th Symposium on Powder Technology and Special Lecture
for the 30th Anniversary of the Establishment of HPTF
Theme: Frontiers of Powders and Powder Processing for SDGs
Date: Monday, September 5, 2022 Place: Imperial Hotel Osaka
<b>Opening address</b> Mr. Yoshio Hosokawa ( <i>President of Hosokawa Powder Technology Foundation</i> ,
Chairman of Hosokawa Micron Corporation)
2019-2021 KONA Award presentation ceremony
Session 1 Chaired by Prof. Masayoshi Fuji (Nagoya Institute of Technology, Japan)
Lecture 1 (Special lecture by the 2019 KONA Awardee)
"Microstructure Control of Particles and Powders for High Quality Advanced Materials"
Prof. Makio Naito (Osaka University, Japan)
Lecture 2 (Special lecture by the 2020 KONA Awardee)
"Surface Engineered Particle Systems for Industrial Applications"
Prof. Brij M. Moudgil (University of Florida, USA)
Session 2 Chaired by Associate General Manager, Dr. Yoshio Sakka (NIMS, Japan)
• Lecture 3
"Resources Circulation Through Advanced Powder Processing"
Prof. Chiharu Tokoro (Waseda University, The University of Tokyo, Japan)
• Lecture 4
"Powder Joining Technologies for Realizing Solid-State Batteries"
Dr. Kazunori Takada (National Institute for Materials Science, Japan)
Session 3 Chaired by Prof. Shuji Matsusaka (Kvoto University, Japan)
• Lecture 5
"Efforts for SDGs by Direct Methane Reforming (DMR) Reaction with Iron-Based Catalysts"
Dr Toshiki Matsui (Toda Kogyo Corporation Japan)
• Lecture 6
"Hosokawa Micron's Equinment and Technology Development Considering SDGs"
Dr Kenii Murata (Hosokawa Micron Corporation Japan)
Session 4 Chaired by Honorary Research Advisor Dr. Hisao Makino ( <i>CRIEPI Janan</i> )
Sussion 4 Chanted by Hohorary Research Advisor, Dr. Hisdo Maxino (CATLA 1, Supuri)
• Lecture 7
"At Very of Nd Fe D Sintered Magnet Development"
Dr. Massta Sassus (Advisor Dride Steel Co. 1td. Janar)
Closing remarks Empirity Deef Hirotophi Kage (Knuch Listitute of Technology Durident of Construction of the Construction of th
Closing remarks Electrons Prof. Hiroyuki Kage (Kyushu Institute of Technology, President of Council of Powde Technology Japan)
Teennology, Supuri



Symposium on Powder Technology.



Special Lecture for the 30th Anniversary of the Establishment of HPTF (Left: presenter, Dr. Sagawa; Right: questioner, Prof. Fuji).