

## The 23rd KONA Award

Dr. Hisao Makino, Executive Research Scientist of CRIEPI (Central Research Institute of Electric Power Industry), was selected as the winner of the 23rd KONA Award. The KONA Award is sponsored by Hosokawa Powder Technology Foundation and presented to scientists or groups who have achieved distinguished research work in the field of particle science and technology.

After finishing all the required curricula of Kyoto University for B.E. in 1977 and M.E. in 1979 respectively with each degree, Dr. Hisao Makino obtained his Doctoral degree from the same university in 1995. He joined CRIEPI in 1979 and became a Director of Chemical Energy Engineering Department of CRIEPI in 1997. Through the carrier as an Acting Vice President nominated in 2008, he has been serving as an Executive Research Scientist of CRIEPI since 2012. In parallel with his steady works in CRIEPI, he performed his academic contributions as a Visiting Research Fellow of Delft University of Technology in the Netherlands from 1989 to 1990. He has also carried out his educational activities by serving as a Visiting Professor of Gunma University since 2000 as well as Kyushu University since 2009.

His major research subject is the development of clean coal technologies for stable electric power supply. One of his distinguishing accomplishments is the development of new type high performance burners such as an advanced low NO<sub>x</sub> burner and an advanced high turn down burner. He also investigated the estimation methods of the performance of electrostatic precipitator in pulverized coal combustion power stations and the control methods of degradation of the denitrification catalyst. Recently, he is developing a new type power generation system using oxygen and carbon dioxide blown gasification technology for the system of high efficiency power generation and high performance removal of carbon dioxide.

He has published over 100 research papers and more than 100 reviewed articles in journals and academic magazines. He has a great deal of experiences invited as an lecturer in about 100 conferences including about 20 international conferences. His research field covers the major subjects of powder technology, they are, (1) high temperature reaction of pulverized hydrocarbon resources, (2) dust collection technology in flue gas, (3) analysis of flow behavior in gas-solid phase flow, (4) measurement technology of fine particles, and (5) analysis of particle characteristics of coal ash.

He served Vice President of the Society of Powder Technology, Japan from 2003 to 2015 and President of this Society 2011–2015. And he has been serving the Vice president of Association of Powder Process Industry and Engineering, Japan since 2014 and the Vice President of The Japan Institute of Energy since 2008.

In summary, his contributions to academics and societies are outstanding as we can realize that the products of his research works are promoting the construction of high efficiency and clean power generation system for fossil fuel utilization.

On March 22, 2016, Mr. Yoshio Hosokawa, President of Hosokawa Foundation, presented the 23rd KONA Award to Dr. Hisao Makino at the presentation ceremony held at Hosokawa Micron Corporation in Hirakata.

