



Masao Horiba Awards 堀場雅夫賞

Technical Field Selected for 2022 Masao Horiba Awards:

Analytical and measurement technologies that contribute to the use of hydrogen for a decarbonized society

The Masao Horiba Award was established in 2003, to highlight innovative work in analytical measurement technologies. This information is critical to understanding many phenomena and, thus, forms the basis of new scientific research. These properties also form the foundation for the transition of materials to industrial production. For product and process optimization, these analytical and measurement technologies are indispensable. I hope that the Masao Horiba Award, named after the founder of HORIBA, Ltd., will contribute to illuminating the achievement of researchers who are working hard in the field of analytical and measurement technology. We look forward to receiving many applications for this year's award.

Atsushi Horiba
Chairman & Group CEO
HORIBA, Ltd.

● Eligible fields for 2022 Masao Horiba Awards:

The award is focused on the following analytical and measurement technologies that contribute to the use of hydrogen and other related technologies for the decarbonization of society.

- 1) Those contributing to the realization of low-cost and low-energy hydrogen production processes. Including the conversion of hydrogen into hydrogen carriers.
- 2) Those contributing to carbon neutrality such as Carbon Capture, Utilization and Storage (CCUS). Using hydrogen as a starting material.

● Eligibility of Applicant

An applicant should be a researcher or an engineer at a university or a public research facility worldwide, engaged in research and development in the field described above. The applicant should fulfill one of the following criteria:

- The applicant is expected to achieve outstanding academic or technological inventions or discoveries in research or development in a field eligible for this award.
- The applicant is expected to solve important academic or technological issues in the field eligible for this award.

The potential of the applicant is taken into account and highly evaluated rather than his/her current achievement. Applications from outside Japan must be made at the invitation from an employee of a HORIBA Group company.

● Incentive

A certificate of commendation will be presented to each recipient of the 2022 Masao Horiba Award at the award ceremony to be held in Kyoto on October 18, 2022. A supplementary award which is a research subsidy of JPY1,000,000 yen will be presented in the first year, and the same amount of JPY1,000,000 yen will be presented in the next year. The award and the supplementary award will be given on the condition that the winners agree to have their research works to be disclosed to public.

● Submission Deadline

Application period: March 15 to May 10, 2022

Please visit our website to check the details of the application guideline: <http://www.mh-award.org/en/apply/>

● Screening committee for the 2022 Masao Horiba Awards

Chairperson:

Prof. Kenji Yamaji President/Director-General, Research Institute of Innovative Technology for the Earth (RITE);
Professor Emeritus, The University of Tokyo; Chairperson, Green Innovation Strategy Meeting (METI)

Judges:

Prof. Scott Samuelsen Mechanical and Aerospace Engineering, University of California, Irvine

Prof. Shigeo Satokawa Faculty of Science and Technology, Seikei University

Prof. Osamu Ishitani School of Science, Chemistry, Tokyo Institute of Technology

Prof. Tatsumi Ishihara Deputy Director, International Institute for Carbon Neutral Energy, Kyushu University; Principal Professor,
Department of Applied Chemistry, Faculty of Engineering

Yusuke Mizuno Department Manager, Alternative Energy Conversion Department, Business Incubation Division, HORIBA, Ltd.

Yasunari Hanaki Manager, New Energy Technology, Alternative Energy Conversion Center, Business Incubation Division, HORIBA, Ltd.

Fossil-derived petroleum, coal, and natural gas have supported the growth of the global economy and continue to play a major role in the development of mankind. Today however, we are entering a new phase. One which aspires towards carbon neutrality. Renewable energy and low CO₂ emission technologies are paramount in order to achieve both high living standards and environmental preservation.

To achieve, and even exceed, a carbon neutral target, there needs to be a paradigm shift. One which proactively shifts the industrial activities and economic focus.

Significant efforts are being directed toward a low carbon future by the world's major economies. Europe has proposed a "Green Recovery" policy that combines climate change targets as well as support for a green economic recovery. Not only does this policy address issues relating to climate change and enhancing biodiversity; but it also supports the expansion of the economy. Other nations are adopting similar economic stimulus measures that are conscious of the environmental impact. Japan has a decarbonization target of a 46% reduction in greenhouse gas emissions by 2030, compared to a benchmark of 2013 and carbon neutrality by 2050. To achieve these goals, decarbonization in the power generation is a must. Hydrogen is expected to play a pivotal role.

An efficient distribution network is necessary to support the adoption of hydrogen. It's required not only to be a source for the energy industry but also the industries in which Hydrogen is used as an input material.

Until now, hydrogen has been mainly used as an industrial gas, such as for hydrodesulfurization in the petroleum refining process. Hydrogen is expected however, to be used in wider applications in the future. In addition to producing chemical raw materials and steelmaking for example, it is forecast to be used as an alternative source of energy to substitute petroleum. Research is taking place around the world to accelerate its adoption as a energy vector.

Masayuki Adachi, Dr. Eng.
President & COO
HORIBA, Ltd.



2021 Award ceremony

For detailed information, please visit our website.

Masao Horiba Awards website: <http://www.mh-award.org/en/>

