



Masao Horiba Awards 堀場雅夫賞

Call for Applications 2016

Message from the President

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 the 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.

March, 2016
Atsushi Horiba
Chairman, President & CEO
HORIBA, Ltd.



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The automobile that is solely driven by humans is coming to an end. Through technological innovation such as the implementation of the advanced driver assistance systems the automobile is rapidly acquiring new automated features, and will eventually be fully autonomous.

There is a great deal of multi-disciplinary research and development being performed to enable fully autonomous driving. The speed of innovation in this and related fields is growing quickly and forcing technology implementation roadmaps to change at a pace that is unprecedented for the automotive sector. The implementation and dissemination of automated driving system is in the strategic innovation creation program (SIP) constructed by the Japan Cabinet Office which is also being revised at short intervals as result of technological advances and their implementation.

In order to realize autonomous vehicle operation, the technologies that perform "Cognition", "Judgment" and "Control" and how they interact with each other, has to be developed. Especially, the multiplicity of sensing technologies required for "Cognition" and data analysis technologies comparable to human intelligence for "Judgment" all present major challenges. They also have to be robust, optimized and validated. In addition, the innovative human technology interface required for switching the operation from automation to manual and understanding the driver's status are still largely unsolved.

The sensing and data analytics technologies for these challenges are in the range of this award.

Masayuki Adachi, Dr. Eng.
Chief of the Organizing Committee for 2016 Masao Horiba Awards
General Manager of Research & Development Division
Director
HORIBA, Ltd.



Guidelines for 2016 Masao Horiba Awards

Outline

The purpose of this award is to encourage and recognize scientists and engineers relatively early in their careers who are achieving distinguished results in the field of analytical science and technology. We cordially invite applications from researchers all over the world who are enthusiastically engaged in original research and development at universities or public research facilities.

Eligible Field of Technology

The 2016 Masao Horiba Award is open to any researcher in the field of sensing, data fusion and algorithm development for automotive autonomous vehicle applications. The research will fall into one or more of the following research thematic areas:

1. Sensor development for obstacle detection and localisation in real world driving conditions.
2. Sensor fusion algorithms using multiple sensing technologies for robust obstacle detection and categorisation in real world driving conditions.
3. Algorithms using multiple sensing technologies for non GPS vehicle localisation and mapping in structured and unstructured environments.
4. Information fusion techniques, combining on-board and off-board data sources, for enhancing vehicle situational awareness.

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.

Potential of the applicant is 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 2016 Masao Horiba Awards at the award ceremony.

A supplementary award will also be made. Research subsidy of JPY500,000 yen will be presented in the first year and the same amount yearly for the next two years.

The award and the supplementary award will be given on the condition that the winners accept the invitation to attend the award ceremony held in Kyoto on Oct. 17, 2016 and that the winners continue to meet the eligibility described above.

Application for the 2016 Masao Horiba Awards

Applicants are required to submit:

- i) an original completed application form with 1 copy for the 2016 Masao Horiba Awards and a CD-R or DVD which was stored in a PDF file form,
- ii) an original signed recommendation letter written by the director/president of the institution or his/her supervisor using the designated form with 1 copy, and a CD-R or DVD which was stored in a PDF file form, and
- iii) a maximum three publications which are central to the applied research with 1 copy each, and a CD-R or DVD which was stored in a PDF file form.

For detailed information, please contact HORIBA office in your region.

Submission Deadline

Applicants must submit the above original application documents with 1 copy, and a CD-R or DVD to the HORIBA Group company employee who invited them to apply for the award by Friday, June 24, 2016.

Screening

The members of the Screening Committee for the 2016 Masao Horiba Awards listed below will determine the winners through examination of the achievements and future prospects of the applicants, based on their application documents.

Screening Committee for the 2016 Masao Horiba Awards

Chairperson: Mr. Atsushi Horiba, Chairman, President and CEO, HORIBA, Ltd.

Deputy Chairperson: Dr. Yoshihiro Suda
Professor
Institute of Industrial Science
The University of Tokyo

Judges: Prof. Paul Newman
Department of Engineering Science
BP Professor of Information Engineering,
University of Oxford

Dr. Ichiro Kageyama
Director, Professor of Mechanical Engineering
Nihon University, Center for Automotive Research

Dr. Harutoshi Ogai
Professor, Production and Systems
Faculty of Science and Engineering,
Graduate School of Information
Waseda University

Dr. Satoshi Fujii
Professor, Unit Manager
Resilience Research Unit
Department of Urban Management
Kyoto University

Mr. Yasuyuki Sado
Deputy Department Manager
Telematics R&D Department
Product R&D Center 2
HORIBA, Ltd.

Mr. Kazuhiro Shiomi
Business Owner
Automotive Segment Strategy Office
Corporate & Segment Strategy Division
HORIBA, Ltd.

Results

Applicants will be notified of the screening results by the end of July, 2016.

Award Ceremony and Commemorative Seminar

Award ceremony and commemorative seminar for the 2016 Masao Horiba Awards, followed by a reception, will be held on October 17, 2016 at Shiran Kaikan, Kyoto University, Kyoto, Japan.

Publication of Awarded Research

Award-winning research will be published in HORIBA's technical journal Readout.

