



# Masao Horiba Awards 堀場雅夫賞

## Call for Applications 2012

### Message from Dr. Masao Horiba

It is extremely important for scientists and technical experts to understand and clarify substances for which the content, properties and behavior are as yet unknown. Solutions to these challenging problems require analytical instruments which use high-level science and technology. Although research on analytical technologies is extremely important, the necessity for such high-level technologies has not been well recognized among the general public or academic circles. This award has been established in the hope that it will provide a level of encouragement and motivation to academic persons who are working to establish new analytical fundamentals, an area that may be unspectacular but is key to all scientific fields. HORIBA looks forward to receiving many applications for this year's award.

April, 2012.  
Dr. Masao Horiba





## 2012 Masao Horiba Awards

### 2012 Masao Horiba Awards

To mark the 50th anniversary of HORIBA, Ltd. in 2003, the HORIBA Group established an award to recognize young scientists' contributions to analytical science. This award is intended to support scientists, outside the HORIBA Group companies, who are devoting themselves to research and development of innovative technology in analysis and measurement. In addition, it aims to strengthen the position of analytical and measurement technology within the scientific and industrial world. Each year a specified technical field for the award is chosen with a focus on the principles and elemental technologies fostered by HORIBA. The award values unique research and development with the findings and potential that deserve global recognition.

The field of application for 2012 Masao Horiba Awards is "Fundamental and elemental technologies for radiation detection and measurement", which have a potential for various applications including environmental dosimetry, radiation protection, medicine, physics, and engineering processes.

Radiation naturally exists in our environment, even though it is invisible. It is beneficial in many fields, such as medical, where it is used for X-ray photography and radiation therapy. It is also useful in the industrial field for semiconductor production and material processing, and the agricultural field for improvement of species and pest control. On the other hand, excessive exposure to radiation may raise the risk of cancer and other diseases. In this sense, the radiation measurement is vital to our lives.

HORIBA started producing NaI crystal doped Tl in 1956, and provided it as a material for radiation detectors worldwide for more than half a century. HORIBA also established the manufacturing technology of CsI crystal doped Tl, and developed analyzers with the CsI crystal for environmental radiation measurement. HORIBA has been one of the forerunners in radiation measurement.

Since the Tohoku earthquake in 2011, demand for radiation measurement has significantly increased. Research and development of detector materials, detecting elements and imaging technologies, which are essential to achieve real-time and highly-sensitive radiation measurements, has been attracting great interests.

Responding to the situation, the technical field for 2012 Masao Horiba Awards focuses on the fundamental and elemental technologies for radiation detection and measurement. The applicants who are engaging in the study of basic technologies for radiation measurement and have potential to become future leaders for measurement technologies are very welcome.

Dr. Kozo Ishida  
Chief of the Organizing Committee for 2012 Masao Horiba Awards  
Executive Vice President  
HORIBA, Ltd.



# Guidelines for 2012 Masao Horiba Awards

## Outline

The purpose of this award is to encourage and recognize scientists and engineers with relatively short research 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.

## Target Technology Fields

The Fields of application for 2012 Masao Horiba Awards are the following fundamental and elemental technologies for radiation detection and measurement, such as identification of a radiation type or the measurement of its energy, dose, or spin, and the measurement of radiation trajectories or coincidence.

1. Research and development of a detector or its material
2. Research and development of a method for measurement, spectroscopy, and imaging

The research shall relate to innovative radiation measurement technologies, and shall have potential for various applications, including environmental dosimetry, radiation protection, medicine, space physics, elementary particle physics, material analysis and nondestructive testing.

Radiation ray in this award is defined as ionizing radiation, e.g., alpha rays, beta rays, gamma rays, X rays, neutrons, and energetic atomic nuclei.

## 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 2012 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, 2012 and that the winners continue to meet the eligibility described above.

## Application for the 2012 Masao Horiba Awards

Applicants are required to submit:

- i) a completed application form for the 2012 Masao Horiba Awards with 7 additional copies,
- ii) a signed recommendation letter written by the director/president of the institution or his/her supervisor using the designated form, with 7 copies and
- iii) a maximum three publications which are central to the applied research, 8 copies each.

## Submission Deadline

Applicants must submit the above application documents to the HORIBA Group company employee who invited them to apply for the award by Monday, May 21, 2012.

## Screening

The members of the Screening Committee for the 2012 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 2012 Masao Horiba Awards

Honorary Chairperson: Dr. Masao Horiba, Supreme Counsel, HORIBA, Ltd.

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

Deputy Chairperson: Dr. Tetsuo Iguchi, Professor, Department of Quantum Engineering, Graduate School of Engineering, Nagoya University

Judges: Dr. Glenn F. Knoll, Professor Emeritus of Nuclear Engineering & Radiological Sciences, University of Michigan

Dr. Keiji Oda, Dean, Professor, Graduate School of Maritime Sciences, Kobe University

Dr. Mitsuhiro Miyajima, Visiting Researcher, Research Institute for Science and Engineering, Waseda University

Dr. Seiich Yamamoto, Professor, Graduate School of Medicine, Nagoya University

Mr. Kenichi Obori, Junior Corporate Officer, HORIBA, Ltd.

Dr. Koji Tominaga, Manager, Advanced R&D Center, HORIBA, Ltd.

## Results

Applicants will be notified of the screening results by the end of July, 2012.

## Award Ceremony and Commemorative Seminar

Award ceremony and commemorative seminar for the 2012 Masao Horiba Awards, followed by a reception, will be held on October 17, 2012 at Shiran Kaikan, Kyoto University, Kyoto, Japan.

## Publication of Awarded Research

Award-winning research will be published worldwide in HORIBA's technical journal *Readout*, HORIBA Technical Reports.

