



THE SCIENCE AND TECHNOLOGY FOUNDATION OF JAPAN

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2010 Japan Prizes Honor Pioneer of Perpendicular Recording And Leader in Biogeochemistry

**Prof. Shun-ichi Iwasaki recognized for breakthrough HDD technology and
Prof. Peter Vitousek for his contribution to solving global environmental issues**

Tokyo, Japan (January 15, 2010) – The Science and Technology Foundation of Japan today announced winners of the 2010 Japan Prizes in the two fields eligible for the 26th annual awards. Shun-ichi Iwasaki, Ph.D., Director of Tohoku Institute of Technology in Japan, has won the prize in the “industrial production and production technology” field and Peter Vitousek, Ph.D., Professor of Biology, Stanford University in the United States, is the winner in the “biological production and environment” field.

Prof. Iwasaki was chosen for his contribution to high-density magnetic recording technology by developing a perpendicular magnetic recording method. He came up early with an idea of the method and proved its effectiveness in 1977 for the first time in the world.

Hard disk drives (HDDs) are main stream memory devices found in a wide variety of equipment from computers to home electronics and mobile devices. As digitization spreads, demand for higher capacity HDD continues. With perpendicular magnetic recording, Prof. Iwasaki broke through the capacity barrier of the conventional HDDs that, since its invention in 1956, used horizontal magnetic recording methods. Indeed, the development of the globalized information society based on the Internet owes much to the development of compact and high-capacity HDDs. Furthermore, high-capacity perpendicular HDDs support the fledgling cloud computing system and a future ubiquitous network society. In 2006, major electric manufacturers in the world started mass producing perpendicular HDDs. The industry expects all HDDs that will be produced in 2010 employ the perpendicular recording technology.

Prof. Vitousek has contributed to solving global environmental issues through his analysis of nitrogen and other substances' cycles. There is an urgent need to address environmental challenges due to rapid increase in global population and human activities.

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Prof. Vitousek started his studies on the impacts of human activities on the ecosystem in 1970s. Based on these studies, the Hawaii born ecologist then conducted a research focusing on nitrogen. With his colleagues, he made clear that an enormous increase in the amount of nitrogen supplied to ecosystems by human activity, including fertilization and fossil fuel consumption, greatly affected the cycles of carbon, phosphorus and other nutrients. Through these studies, he contributed to establishing the methodology and concepts of a new research field called biogeochemistry. Using data from this field, he reported and has been warning the world of the magnitude of the impact of human activities on the global ecosystem, while offering suggestions for political decisions related to environmental issues.

The Japan Prize is one of the world's most prestigious international awards in science and technology. Each of the 2010 Japan Prize laureates will receive a certificate of recognition, a commemorative gold medal and a cash award of 50 million Japanese yen (approx. US\$550,000) at an award ceremony to be held in Tokyo on April 21.

Notes for Editors:

The Science and Technology Foundation of Japan sent nomination request forms for the 2011 Japan Prize to qualified people worldwide, including prominent scientists and researchers, who were encouraged to nominate candidates in the two prize fields: "information and communications" and "bioscience and medical science."

The Science and Technology Foundation of Japan, established in 1982, aims to promote the advancement of science and technology for the peace and prosperity of mankind. The Foundation offers the Japan Prize annually to scientists and researchers in two categories who, regardless of nationality, made substantial contributions to that end. In the last 26 years since its inception in 1985, 70 people from 13 countries have received the Japan Prize. In addition to awarding the Japan Prize, which was established with the Japanese government endorsement, the Foundation has been promoting knowledge and information on science and technology by hosting the "Easy-to-understand Science and Technology" seminars and awarding Research Grants to help nurture young scientists. For details about the Foundation and its activities, please visit <http://www.japanprize.jp/en>

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