Press Release

Keio University

September 14, 2015

Announcement of The Keio Medical Science Prize 2015

Keio University annually awards The Keio Medical Science Prize to recognize researchers who have made an outstanding contribution to the field of medicine or life sciences. It is the only prize of its kind awarded by a Japanese university, and 6 laureates of this Prize have later won the Nobel Prize. The 20th Keio Medical Science Prize is awarded to **Prof. Jeffrey I. Gordon** and **Prof. Yoshinori Ohsumi.**

1. Laureates

Jeffrey I. Gordon, M.D.

Dr. Robert J. Glaser Distinguished University Professor
Director, Center for Genome Sciences and Systems Biology
Washington University School of Medicine in St. Louis
"Human gut microbiome and its impact on health and disease"

Yoshinori Ohsumi, Ph.D.

Honorary Professor, Frontier Research Center, Tokyo Institute of Technology
"Elucidation of molecular mechanism of autophagy"

2. Prize

Laureates receive a certificate of merit, medal, and a monetary award of 10 million yen. The award ceremony and commemorative lectures are held at Keio University.

3. Award Ceremony and Events

The award ceremony and commemorative lectures will be held on November 25, 2015 at the School of Medicine, Shinanomachi Campus, Keio University, Tokyo, Japan.

Award Ceremony and Commemorative Lectures

Date: November 25, 2015 14:00-17:30
Venue: Kitasato Memorial Hall, Shinanomachi Campus, Keio University, Tokyo, Japan
Language: English and Japanese
Simultaneous translation available (English-Japanese/Japanese-English)
Admission: Open to the public

*Please visit our website at http://www.ms-fund.keio.ac.jp/prize for more details.

Attachments: (1) The Keio Medical Science Prize
(2) The Keio Medical Science Prize Laureate 2015

Inquiries: Secretariat, Keio University Medical Science Fund
TEL: +81-3-5363-3609 URL: http://www.ms-fund.keio.ac.jp/prize/
FAX: +81-3-5363-3507 E-mail: k-msf@adst.keio.ac.jp
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FAX: +81-3-5363-3612 E-mail: med-koho@adst.keio.ac.jp

Attachment (1)

The Keio Medical Science Prize

1. Background

In the fall of 1994, Dr. Mitsunada Sakaguchi, a 1940 alumnus of the School of Medicine, donated five billion yen to Keio University, with the expressed desire that it be used to commend outstanding researchers, to encourage medical research and its creative progress at Keio through grants, and to promote worldwide medical advances. In keeping with Dr. Sakaguchi's commitment, Keio launched The Keio University Medical Science Fund on April 1, 1995. Dr. Sakaguchi made an additional donation of two billion yen in July 1999, bringing the fund to a total of seven billion yen.

2. Initiatives

- The Keio Medical Science Prize
- Grants for International Activities in Medicine and the Life Sciences
- Medical School Faculty and Alumni Grants
- Research Grants for Medicine and the Life Sciences
- Sakaguchi Laboratory

3. Objective

The Keio Medical Science Prize gives recognition to the outstanding and creative achievements of researchers in the fields of medicine and the life sciences, in particular those contributing to scientific developments in medicine. It aims to promote worldwide advances in medicine and the life sciences, encourage the expansion of researcher networks throughout the world, and contribute to the well-being of humankind.

4. Prize

Laureates receive a certificate of merit, medal, and a monetary award of 10 million yen. The award ceremony and commemorative lectures are held at Keio University.

5. Nomination and Selection

The Keio Medical Science Prize is an international award, and each year academics and researchers from around the world are invited to nominate a candidate. Laureates are then selected through a rigorous review process by about ninety Japanese academics from both within and outside of Keio University.

6. 2014 Prize Laureates

Dr. Karl Deisseroth, M.D., Ph.D.
The Realization of Optogenetics, and Elucidation of Brain Function at the Neuronal Network Level
Dr. Hiroshi Hamada, M.D., Ph.D.
Molecular and Cellular Mechanisms of Left-Right Asymmetry

7. Nobel Prize Winning Laureates

2010 Dr. Jules A. Hoffmann (The Nobel Prize in Physiology or Medicine 2011)
Discovery of insect-innate immune system and Toll receptor
2006 Dr. Thomas A. Steitz (The Nobel Prize in Chemistry 2009)
Structural Basis of Large Ribosomal Subunit Function and Drug Development
2004 Dr. Roger Y. Tsien (The Nobel Prize in Chemistry 2008)
Visualization and Control of Molecules within Living Cells
2002 Dr. Barry J. Marshall(The Nobel Prize in Physiology or Medicine 2005)
Establishment of Diagnostic Techniques and Treatment for the Helicobacter Pylori
1999 Dr. Elizabeth Helen Blackburn (The Nobel Prize in Physiology or Medicine 2009)
Telomeres and Telomerase
1996 Dr. Stanley B. Prusiner （The Nobel Prize in Physiology or Medicine 1997）
Discovery of Prions and Prion Diseases

Attachment（2a）

The Keio Medical Science Prize Laureate 2015

"Human gut microbiome and its impact on health and disease"

Jeffrey I. Gordon, M.D.
Dr. Robert J. Glaser Distinguished University Professor
Director, Center for Genome Sciences and Systems Biology
Washington University School of Medicine in St. Louis

The human gut contains tens of trillions of microbes (the microbiota); their hundreds of thousands of genes (the microbiome) specify functions not represented in the human genome. By pioneering the integration of experimental and computational tools from the genome sciences with interdisciplinary studies of gnotobiotic animal models harboring transplanted gut microbiota from mouse or human donors representing different physiologic or disease states, Prof. Gordon has dramatically altered our views of the microbial origins of health. His work, which has involved studies of children and adults, including twins, representing diverse cultural traditions, has identified how the gut microbiota is established and characterized how its members interact with one another and their hosts. His discoveries of the interrelationships between diet and the gut microbial community have changed our understanding of two pressing global health problems, obesity and childhood malnutrition, and fundamentally altered how the nutritional value and effects of current foods, and future affordable food sources, can be defined in the context of different consumer gut microbiomes. His contributions, which usher in a new era of microbiome-based therapeutics and preventive medicine, are not only evident in his own group's work and his seminal role in spawning microbiome projects worldwide, but in his mentorship of his students, many of whom have become leaders in this field.

- **Education**

A.B. -1969	Oberlin College
M.D. -1973	University of Chicago

- **Training:**

1973-1974	Intern, Medicine, Barnes Hospital, St. Louis, Missouri
1974-1975	Junior Assistant Resident, Medicine, Barnes Hospital
1975-1978	Research Associate, Laboratory of Biochemistry, NCI, NIH
1978-1979	Senior Assistant Resident, Medicine, Barnes Hospital
1979-1981	Fellow in Medicine (Gastroenterology), Washington University

- **Appointments (all at Washington University in St. Louis):**

1981-1984	Assistant Professor of Medicine (Division of Gastroenterology)
1982-1984	Assistant Professor of Biological Chemistry
1985-1987	Associate Professor of Medicine and Biological Chemistry
1987-1990	Professor of Medicine, and Biochemistry and Molecular Biophysics
1991-2004	Alumni Endowed Professor (1991–2002) and Head, Dept. Molecular Biology and Pharmacology
1994-2003	Chair, Executive Council, Division of Biology and Biomedical Sciences (position oversees all graduate education in the biological sciences)
2002-present	Dr. Robert J. Glaser Distinguished University Professor
2004-present	Director, Center for Genome Sciences and Systems Biology

- **Comments from Prof. Gordon**

I thank the Selection Committee for this wonderful award. I am fortunate to work alongside students and colleagues committed to identifying new ways to enhance the nutritional health of infants, children and adults, living in different parts of the world, by studying the interrelationships between our gut microbiomes and diets. Studies of the microbiome are allowing us to see ourselves as intimately connected to the microbial world, prompting us to consider another dimension of our human biology and evolution, and inspiring us to be better stewards of our precious microbial resources.

Attachment（2b）

The Keio Medical Science Prize Laureate 2015

"Elucidation of molecular mechanism of autophagy"

Yoshinori Ohsumi, Ph.D.
Honorary Professor, Frontier Research Center, Tokyo Institute of Technology

The cellular system which appropriately degrades and processes intracellular proteins is essential to maintain life. Prof. Yoshinori Ohsumi was the first person in the world to elucidate the molecular mechanism of autophagy, which is the phenomenon of cells degrading their cellular components and subsequently reusing them, by the use of yeast genetics approach. Prof. Ohsumi identified the 15 *APG* genes, which are now called *ATG* genes, involved in autophagy in yeast and characterized their functions and biological significance. This seminal study was the impetus that led to an explosion of research in the field of autophagy. It was discovered that most *ATG* genes are conserved in animals, including mammals. *ATG* gene disruption in higher eukaryotes has revealed that autophagy plays major roles in development, bacterial infections, antigen-presentation and diseases, such as neurodegeneration and cancer. Prof. Ohsumi's brilliant study of autophagy has thus emerged as a central theme in cell physiology and medicine. Prof. Yoshinori Ohsumi's continuous contributions to the field of cell biology, makes him well deserving of The Keio Medical Science Prize.

・Education

1963	Undergraduate Student, College of Arts and Sciences, The University of Tokyo
1967	Graduate Student, Department of Biochemistry, College of Arts and Sciences, The University of Tokyo, with Prof. K. Imahori

・Academic Carrier

1967	Graduate Student, Department of Biochemistry, College of Arts and Sciences, The University of Tokyo, with Prof. K. Imahori
1972	Research Fellow, Department of Agricultural Chemistry, Faculty of Agriculture, The University of Tokyo
1974	Postdoctoral Fellow, Rockefeller University with Prof. Gerald M. Edelman
1977	Research Associate, Department of Biology, Faculty of Science, The University of Tokyo, with Prof. Y. Anraku
1986	Lecturer, Department of Biology, Faculty of Science, The University of Tokyo
1988	Associate Professor, Department of Biology, College of Arts and Sciences, The University of Tokyo
1996	Professor, Department of Cell Biology, National Institute for Basic Biology, Okazaki Professor, The Graduate University for Advanced Studies
2009- present	Professor, Frontier Research Center. Tokyo Institute of Technology
2014- present	Honorary Professor, Tokyo Institute of Technology

・Comments from Prof. Ohsumi

It is a great honor for me to receive The Keio Medical Science Prize 2015. I have been working on autophagy, an intracellular degradation system, for more than 27 years by using yeast. Identification of the genes in yeast responsible for autophagy changed the research. It is becoming clear that autophagy plays an important role in a variety of cellular events and is related to certain diseases. It has been a great pleasure for me to share many exciting findings with my very talented colleagues. I would like to express my sincere thanks to all of them.