Press Release

Keio University

September 12, 2019
Keio University

Announcement of The Keio Medical Science Prize 2019

Keio University annually awards The Keio Medical Science Prize to recognize researchers who have made an outstanding contribution to the fields of medicine or the life sciences. It is the only prize of its kind awarded by a Japanese university, and 8 laureates of this Prize have later won the Nobel Prize. The 24th Keio Medical Science Prize is awarded to **Prof. Hans C. Clevers** and **Prof. Tadamitsu Kishimoto.**

1. Laureates

Hans C. Clevers, M.D., Ph.D.

- Professor in Molecular Genetics, University Medical Center Utrecht
- Principal Investigator at Hubrecht Institute of the Royal Netherlands Academy and at Princess Máxima Center for Pediatric Oncology

"Wnt signaling in Stem Cells and Organogenesis"

Tadamitsu Kishimoto, M.D., Ph.D.

- Professor, Immunology Frontier Research Center, Osaka University

"IL-6: From Molecule to Medicine"

2. Award Ceremony and Events

The award ceremony and commemorative lectures will be held on December 19, 2019 at Keio University School of Medicine, located on Keio University's Shinanomachi Campus.

Award Ceremony and Commemorative Lectures

Date & Time:	December 19, 2019, 14:00-17:30
Venue:	Kitasato Memorial Hall, Keio University School of Medicine, Shinanomachi Campus, Tokyo, Japan
Language:	English and Japanese Simultaneous translation available (English-Japanese/Japanese-English)
Admission:	Open to the public

Attachments: (1) The Keio Medical Science Prize
(2) The Keio Medical Science Prize Laureate 2019

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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 Award
- 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. 2018 Prize Laureates

Feng Zhang
Development of CRISPR/Cas system in mammalian cells and application for medical science
Masashi Yanagisawa
Elucidation of sleep control mechanisms and applications in drug discovery

7. Nobel Prize Winning Laureates

2016	Tasuku Honjo (The Nobel Prize in Physiology or Medicine 2018) Identification of PD-1 and Establishment of Cancer Immunotherapy Principle by PD-1 Blockade
2015	Yoshinori Ohsumi (The Nobel Prize in Physiology or Medicine 2016) Discoveries of mechanisms for autophagy
2010	Jules A. Hoffmann (The Nobel Prize in Physiology or Medicine 2011) Discovery of Insect-innate Immune System and Toll Receptors
2006	Thomas A. Steitz (The Nobel Prize in Chemistry 2009) Structural Basis of Large Ribosomal Subunit Function and Drug Development
2004	Roger Y. Tsien (The Nobel Prize in Chemistry 2008) Visualization and Control of Molecules within Living Cells
2002	Barry J. Marshall (The Nobel Prize in Physiology or Medicine 2005) Establishment of Diagnostic Techniques and Treatment for Helicobacter Pylori
1999	Elizabeth Helen Blackburn (The Nobel Prize in Physiology or Medicine 2009) Telomeres and Telomerase
1996	Stanley B. Prusiner (The Nobel Prize in Physiology or Medicine 1997) Discovery of Prions and Prion Diseases

Attachment (2a)

The Keio Medical Science Prize 2019 Laureate

"Wnt signaling in Stem Cells and Organogenesis"

Hans C. Clevers, M.D., Ph.D.
Professor in Molecular Genetics, University Medical Center Utrecht
Principal Investigator at Hubrecht Institute of the Royal Netherlands Academy
and at Princess Máxima Center for pediatric oncology

The Wnt molecular family is known to include many extremely important biological signals that regulate development, differentiation, stem cell maintenance, and carcinogenesis. Dr. Hans C. Clevers first isolated and identified the T-cell factor (Tcf) family, the most important transcription factor in Wnt signal activation, and he has consistently studied Wnt signaling thereafter. Dr. Clevers proposed that Wnt signaling is involved in stem cell regulation, organogenesis and tumorigenesis, and identified Lgr5 as a downstream target gene of Wnt. By tracking Lgr5 expression, Dr. Clevers' research group has made it possible to visualize stem cells in vivo. In addition, he developed organoid technology that makes it possible for intestinal epithelial stem cells to grow outside the body indefinitely. This technology can also be used with various other tissue stem cells, such as those from liver, pancreas, stomach, and lung. Dr. Clevers' work in these areas has contributed greatly to elucidating the pathology of various diseases, including cancer.

Education

1975 - 1982	M.Sc. Biology, University of Utrecht
1978 - 1984	M.D. University of Utrecht
1984 - 1985	Ph.D. University of Utrecht

Positions

1985 - 1989	Postdoctoral Fellow. Cox Terhorst Lab at the Dana-Farber Cancer Institute, Harvard Medical School, Boston MA, USA
1989 - 1991	Assistant Professor, Department of Clinical Immunology, University of Utrecht
1991 - 2002	Professor and Chairman, Dept. of Immunology, Faculty of Medicine, University of Utrecht
2002 - 2012	Director of the Hubrecht Institute, Royal Netherlands Academy of Arts and Sciences
2012 - 2015	President of the Royal Netherlands Academy of Sciences (KNAW), Amsterdam
2015 - 2019	Chief Scientific Officer/Director Research of the Princess Máxima Center for pediatric oncology, Utrecht
2002 -	Professor in Molecular Genetics, University Medical Center Utrecht
2002 -	Principal Investigator of a research group of ~40 scientists at the Hubrecht Institute, Utrecht
2015 -	Principal Investigator at the Princess Máxima Center

Major Honors/Awards

2004	Louis-Jeantet Prize for Medicine, Geneva, Switzerland
2011	The Ernst Jung Medical Award, Germany
2012	The Heineken Prize for Medicine
2013	The Breakthrough Prize in Life Sciences
2016	The Körber European Science Prize, Germany

Comments from Professor Hans C. Clevers

It is a great honour for me to be awarded the 2019 Keio Medical Science Prize and to receive this prize together with Prof. Tadamitsu Kishimoto.

A major reason for the award is the development of three-dimensional culture systems for human mini-organs in a dish, also known as organoids. The key experiments for this technology were done by a young Japanese scientist in my lab, Dr. Toshiro Sato, who was recently promoted to professor at Keio University.

Attachment (2b)

The Keio Medical Science Prize 2019 Laureate

"IL-6: From Molecule to Medicine"

Tadamitsu Kishimoto, M.D., Ph.D.
Professor, Immunology Frontier Research Center, Osaka University

Professor Tadamitsu Kishimoto first discovered interleukin 6 (IL-6) as an antibody production-promoting factor. He subsequently succeeded in cloning of the genes encoding IL-6 and the IL-6 receptor, and elucidated the mechanism underlying IL-6 signal transduction. His group further showed that IL-6 is involved in various diseases, including rheumatoid arthritis and multiple myeloma. Based on this basic research, Dr. Kishimoto developed tocilizumab, an anti-IL-6 receptor antibody that inhibits the action of IL-6, and established it as a therapeutic strategy for Castleman's disease and rheumatoid arthritis. Dr. Kishimoto has made enormous contributions to our understanding of the biological and medical roles of IL-6, from its discovery, to the elucidation of its mechanism of action and therapeutic applications, as well as to cytokine research. His achievement is undoubtedly worthy of the Keio Medical Science Prize.

Education

1964	M.D. Osaka University
1969	Ph.D. Osaka University

Professional Appointments

1991-1998	Professor and Chairman, Department of Medicine III, Osaka University Medical School
1995-1997	Dean, Osaka University Medical School
1997-2003	President, Osaka University
2004-2006	Member, Council for Science and Technology Policy, Cabinet Office
2007-	Chairman of the Board of directors, Senri Life Science Foundation
2011-	Professor, Immunology Frontier Research Center, Osaka University

Major Honors/Awards

1992	Imperial Prize from the Japan Academy
1998	The Order of Culture from Emperor
2009	The Crafoord Prize from the Royal Swedish Academy of Sciences
2011	The Japan Prize
2017	King Faisal International Prize from Saudi Arabia

Professional Activities

1995	Member, the Japan Academy
2007	President, the 27th General Assembly of the Japanese Medical Association
2010	President, the 14th International Congress of Immunology

Comments from Professor Kishimoto

It is truly my pleasure to receive this prestigious prize in recognition of my forty years of research on IL-6, the discovery of which, together with IL-6 signal transduction, have led to the development of the anti-IL-6 receptor antibody. This antibody is now widely used in more than a hundred countries for the treatment of rheumatoid arthritis (RA), giant cell arteritis, and cytokine storm and has saved millions of patients. I am also extremely pleased that our series of studies has helped inform many internationally recognized immunologists.

I am now 80 years old, but this kind of honor encourages me to continue my research. Thank you very much.