

International Recognition of Kyoto University's Research

TOPIC

Prof. Emeritus Shigekazu Nagata Elected Foreign Associate of the National Academy of Science



For his distinguished research achievements, Prof. Emeritus Shigekazu Nagata was elected Foreign Associate of the United States' National Academy of Science (NAS) in April 2014. Dr. Nagata is a molecular biologist, best known for his research on apoptosis, the process of programmed cell death occurring in multi-cellular organisms. As a member of Dr. Charles Weissmann's Laboratory at the University of Zurich, he succeeded in the first cloning and expression of an interferon gene. He also identified Granulocyte colony-stimulating factor, a death factor (Fas receptor) and its ligand (Fas ligand), and elucidated their physiological and pathological roles in apoptosis. He was appointed as an endowed research department professor at Osaka University in April 2015.

WEB www2.mfour.med.kyoto-u.ac.jp/~nagata/english/index.html
(Prof. Nagata's Lab)

TOPIC

Prof. Shimon Sakaguchi Awarded Canada Gairdner International Award

Prof. Shimon Sakaguchi of Kyoto University's Institute for Frontier Medical Sciences and distinguished professor of Osaka University, was awarded the 2015 Canada Gairdner International Award.

One of the most prestigious scientific prizes in the world, the Canada Gairdner International Award is presented by Canada's Gairdner Foundation to recognize and celebrate the work of the world's leading biomedical researchers. Prof. Sakaguchi received the award "for his discovery of regulatory T cells, characterization of their role in immunity and application to the treatment of autoimmune diseases and cancer." The award ceremony is scheduled to take place in Toronto, Canada in October 2015.



WEB www.frontier.kyoto-u.ac.jp/bf03/index-j.html (Prof. Sakaguchi's Lab)

Prof. Tsuyoshi Nakaya Awarded 6th Yoji Totsuka Prize



Prof. Tsuyoshi Nakaya of the Graduate School of Science was awarded the 6th Yoji Totsuka Prize. Prof. Nakaya shares the prize with Prof. Masato Shiozawa of the Institute for Cosmic Ray Research (ICRR), and Prof. Takashi Kobayashi of the Institute of Particle and Nuclear Studies, High-Energy Accelerator Research Organization (KEK).

The Yoji Totsuka Prize was established by the Heisei Foundation for Basic Science in 2009. The prize acknowledges researchers who have made distinguished achievements in the fields of experimental and theoretical particle physics, particularly in the area of neutrino and non-accelerator physics.

The three recipients of the 6th prize were honored for “the observation of electron neutrino appearance in a muon neutrino beam.” The three scientists have played a leading role in the Tokai to Kamioka (T2K) collaborative project, which is conducting a long-baseline neutrino oscillation experiment.

WEB kyouindb.iimc.kyoto-u.ac.jp/e/cI4gH (Profile of Prof. Nakaya)

Profs. Jun-ichi Yoshida and Masahiro Morikura Awarded the Medal of Honor with Purple Ribbon

Profs. Jun-ichi Yoshida of the Graduate School of Engineering and Masahiro Morikura of the Graduate School of Informatics were each awarded the Medal of Honor with Purple Ribbon (*Shiju Hōshō*) by the Government of Japan in April 2015. The award is conferred by the Emperor of Japan for meritorious deeds or excellence in the fields of science, art or sport.

Prof. Yoshida, an organic chemist, is recognized as one of the leading scientists in the field of organic synthesis based on time integration and space integration of reactions using unstable reactive intermediates. He also received the Manuel M. Baizer Award from the Electrochemical Society (ECS) in 2014.

Prof. Morikura is a researcher in the fields of electronics, information, and communication engineering. As an NTT researcher, he is engaged in a research and development project on wireless local area networks (LAN). Through the project, he proposed a method of digital modulation called “orthogonal frequency division multiplexing” in collaboration with Lucent Technologies Inc., a US telecommunications equipment company. He also played a leading role in formulating “IEEE802.11a” which is a standard for wireless LAN communication.



Prof. Jun-ichi Yoshida



Prof. Masahiro Morikura

WEB www.sbchem.kyoto-u.ac.jp/yoshida-lab/en/index.php?yoshida-lab (Prof. Yoshida's Lab)

WEB www.s-eet.kyoto-u.ac.jp/en/information/laboratory/gsi/cce/imc/6885539f-59277949?set_language=en (Prof. Morikura's Lab)

TOPIC

Prof. Susumu Kitagawa Awarded the Marco Polo Prize

Prof. Susumu Kitagawa, director of Kyoto University's Institute for Integrated Cell-Material Sciences (iCeMS), a leading researcher in the field of Chemistry, was awarded the Marco Polo Prize for Italian Science at a ceremony in Kyoto in April 2015. This prize was established by the Italian government in 2011 to acknowledge researchers who have made outstanding contributions to scientific and technological collaboration between Italy and Japan in the field of nanotechnology. Prof. Hiroshi Kitagawa of iCeMS was awarded the prize in 2013.



Prof. Kitagawa (right) receiving the award from Mr. Daisaku Kadokawa, mayor of Kyoto City

WEB www.icems.kyoto-u.ac.jp/e/pr/2015/04/03-tp.html

TOPIC

Prof. Akihide Kasai Awarded the Uda Prize of the Japan Society of Fisheries Oceanography

Prof. Akihide Kasai, a former associate professor in Kyoto University's Field Science Education and Research Center (FSERC), was awarded the Uda Prize by the Japan Society of Fisheries Oceanography (JSFO) for his research titled "Study on the Mechanism of Material Cycle and Biological Production in Coastal Seas." The Uda Prize was named after Prof. Michitaka Uda, the first president

of JSFO, and has been annually awarded to scholars in Japan and overseas in recognition of outstanding achievements in fisheries oceanography research. Prof. Kasai, a specialist in marine biological environment is currently working in the Graduate School of Fisheries Sciences of Hokkaido University (since April, 2015).



WEB www2.fish.hokudai.ac.jp/modules/labo/content0118.html (Hokkaido University)



Princess Maha Chakri Sirindhorn of Thailand Visits iCeMS

On 20 April 2015, Her Royal Highness Princess Maha Chakri Sirindhorn of Thailand paid a visit to Kyoto University's Institute for Cell-Material Sciences (iCeMS) during her week-long visit to Japan to observe top-level research institutes focused on science and technology. In his welcome speech to the Princess, President Yamagiwa expressed his hope that Kyoto University strengthens its academic partnerships with Thai institutions. Princess Sirindhorn interacted with the iCeMS team about the institute's role as a global hub for scientific collaboration between industry, government, and academia.

iCeMS was founded in 2007 as one of five research centers within the World Premier International Research Center Initiative (WPI) program. A team of 19 principal investigators (PIs) and 160 researchers, a third of whom are drawn from overseas, concern themselves with the science of biochemical and biophysical processes within DNA, proteins, cells and beyond. To develop new approaches to benefit society, iCeMS is establishing a research environment that attracts the world's best scientists, where its community extends to 14 global partner institutions, English is the official language and ample support for funds acquisition is provided.

WEB www.icems.kyoto-u.ac.jp/e/pr/2015/04/30-tp.html



Princess Sirindhorn listening to a presentation by Assistant Prof. Shimpei Yamamoto of iCeMS

TOPIC

Prof. Ryoichi Inami Awarded the Yomiuri Prize for Literature

Prof. Ryoichi Inami of the Institute for Research in Humanities was awarded the Yomiuri Prize for Literature for his book *Dream of the Red Chamber: A New Translation* (Tokyo: Iwanami Shoten, 2013). Established in 1949 by the Yomiuri Shinbun newspaper company to contribute to Japan's standing as a "cultural nation," the Yomiuri Prize for Literature (*Yomiuri Bungaku Shō*) is one of Japan's most prestigious literary awards.

Dream of the Red Chamber, also called *The Story of the Stone* is one of China's "four great classical novels." It was written by Cao Xueqin during the Qing Dynasty in the mid-18th century, and is generally acknowledged to be the pinnacle of Chinese fiction.



WEB www.zinbun.kyoto-u.ac.jp/zinbun/members/inami.htm (Profile of Prof. Inami. Japanese only)

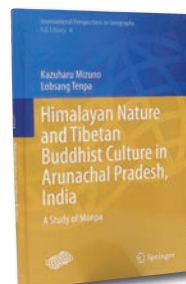
TOPIC

Prof. Kazuharu Mizuno Awarded the 2014 Association of Japanese Geographers Award in the Publication Category



Prof. Kazuharu Mizuno

Prof. Kazuharu Mizuno of Kyoto University's Graduate School of Letters, an ecological geographer, was awarded the 2014 Association of Japanese Geographers award in the publication category. The award was presented in recognition of his book titled *Arunachal Pradesh, India: Nature of Assam Himalaya and Tibetan Society* (published by Showado, 2012), which is the first book to systematically describe the nature, society, and history of Arunachal Pradesh state of northeast India. The English version of the book, co-authored with Lobsang Tenpa, was published this summer by the Springer Publishing Company. Prof. Mizuno also serves as vice-chair of the International Geographical Union (IGU) Commission on Biogeography and Biodiversity.



Kazuharu Mizuno, Lobsang Tenpa, *Himalayan Nature and Tibetan Buddhist Culture in Arunachal Pradesh, India: A Study of Monpa* (Tokyo: Springer Japan KK, 2015).

WEB www.bun.kyoto-u.ac.jp/geography/geo-staff/

TOPIC

RISH's MU Radar Receives the IEEE Milestone Award

The middle and upper atmosphere radar (MU radar) at Kyoto University's Research Institute for Sustainable Humanosphere (RISH) was developed by Kyoto University in collaboration with Mitsubishi Electric Corporation and has been in use since 1984. It is the world's first mesosphere, stratosphere, and troposphere (MST) radar with an active phased array antenna system. In 13 May 2015, the radar was awarded the IEEE Milestone by the Institute of Electrical and Electronic Engineers (IEEE), one of the world's largest academic societies. The award was presented in recognition of the radar's contributions to atmospheric science and radar engineering.



From left: Masaki Sakuyama, president and CEO of Mitsubishi Electric Corporation, Juichi Yamagiwa, president of Kyoto University, and Howard E. Michel president and CEO of IEEE

Under computer control, the MU radar is capable of emitting an ultra-fast 400 μ s scanning beam in all directions, enabling real-time monitoring of the atmosphere at an altitude of up to several hundred kilometers, making it one of the most powerful instruments of its kind in the world. As a joint-use facility accessible to all universities and research institutions in Japan, it has contributed to the advance of atmospheric science and radar technology by playing a role in numerous research projects in a broad range of related fields, including aeronomy, meteorology, astronomy, electrical engineering, electronics, and astrophysics.



The MU radar seen from above

The IEEE Milestones in Electrical Engineering and Computing program was launched in 1983 to acknowledge significant innovations in relevant fields of technology that occurred at least 25 years ago, and which have made major contributions to regional and industrial development.

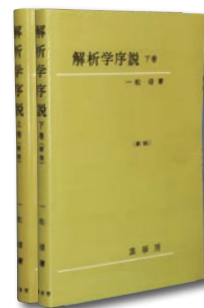
WEB www.kyoto-u.ac.jp/en/research/events_news/departement/seizonken/news/2015/150513_1.html

TOPIC

Prof. Emeritus Sin Hitotumatu Awarded the 2015 MSJ Publication Prize



A committed researcher and educator in the field of mathematics, Prof. Emeritus Sin Hitotumatu has authored a large number of books and textbooks in his field for scholars of all levels of experience. He has also translated several major works, including Martin Gardner's *Mathematical Magic Show* (see the article in the Points of Interest section for further details). In recognition of his outstanding contribution to mathematical research and education in Japan through his writing activities, Prof. Hitotumatu was awarded the 2015 MSJ Publication Prize by the Mathematical Society of Japan (MSJ).



One of his excellent work, *Kaiseigaku-josetsu* (Tokyo: Shokabo Co., Ltd., 1981), vol. 1, vol. 2.

WEB mathsoc.jp/publicity/pubprize2015.html



The Remarkable Works of Prof. Emeritus Sin Hitotumatu

The Library of Kyoto University's Research Institute for Mathematical Sciences holds a collection of books written by Prof. Emeritus Sin Hitotumatu. The books, spanning specialized academic works to books on self-improvement, occupy a considerable portion of the library's "Japanese Books H-J" shelf. The library as a whole holds 100,196 books and 1,582 different of journal on mathematics, applied mathematics, computer science, and theoretical physics, as well as valuable lecture notes and preprints. The library is open to all researchers as a Joint Usage / Research Center. Please see the website below for details on how to visit the library.

WEB www.kurims.kyoto-u.ac.jp/~library/eng_index.html



Award Winning Researchers in Kyoto Univ.

The following is a list of just some of the Kyoto University researchers who have received international awards — a testimony to the university's intellectually fertile environment and culture of academic freedom.

Nobel Prize in Physics

Hideki Yukawa (1949), Sin-Itiro Tomonaga (1965),
Makoto Kobayashi (2008), Toshihide Maskawa (2008),
Isamu Akasaki* (2014) *Photo provided by Meijo University

in Chemistry

Kenichi Fukui (1981), Ryoji Noyori (2001)

in Physiology or Medicine

Susumu Tonegawa (1987), Shinya Yamanaka (2012)

Fields Medal Heisuke Hironaka (1970), Shigefumi Mori (1990)

Gauss Prize Kiyosi Itō (2006)

Lasker Award Susumu Tonegawa (1987), Yasutomi Nishizuka (1989),
Yoshio Masui (1998), Shinya Yamanaka (2009),
Kazutoshi Mori (2014)

Japan Prize Kenichi Honda* (2004), Makoto Nagao* (2005),
Masatoshi Takeichi* (2005)

*Photos provided by the Japan Prize Foundation

Kyoto Prize Yasutomi Nishizuka (1992), Chushiro Hayashi* (1995),
Kiyosi Itō* (1998), Alan Curtis Kay (2004),
Isamu Akasaki (2009), Shinya Yamanaka* (2010),
Masatoshi Nei* (2013) *Photos provided by the Inamori Foundation

- Die Schaudinn-Hoffmann-Plakette ◆ Shin-ichi Matsumoto (1965)
- Huxley Memorial Medal ◆ Junichiro Itani (1984)
- Canada Gairdner International Award ◆ Kimishige Ishizuka (1973), Susumu Tonegawa (1983),
Yasutomi Nishizuka (1988), Shinya Yamanaka (2009),
Kazutoshi Mori (2009), Shimon Sakaguchi (2015)
- Order of the White Elephant - 3rd Class ◆ Yoneo Ishii (1987)
- Ross G. Harrison Prize ◆ Tokindo S. Okada (1989)
- Salem Prize ◆ Mitsuhiro Shishikura (1992)
- Robert Koch Prize ◆ Shigekazu Nagata (1995), Shinya Yamanaka (2008),
Tasuku Honjo (2012)
- The Keio Medical Science Prize ◆ Shigetada Nakanishi (1996), Masatoshi Takeichi (2001),
Koichi Tanaka (2002), Yoshinori Fujiyoshi (2005),
Shimon Sakaguchi (2008), Kenji Kangawa (2009)
- Frank Nelson Cole Prize ◆ Hiraku Nakazima (2003)
- John Dawson Prize ◆ Tetsuya Sato (2005)
- Yuri Gagarin Medal ◆ Hiroshi Matsumoto (2006)
- Booker Gold Medal ◆ Hiroshi Matsumoto (2008)
- The Ulysses Medal ◆ Shuh Narumiya (2008)
- L.S.B. Leakey Prize ◆ Toshisada Nishida (2008)
- Prix du Rayonnement de la langue et de la littérature françaises ◆ Kazuyoshi Yoshikawa (2010)
- de Gennes Prize ◆ Susumu Kitagawa (2013)
- L'Oréal-UNESCO Awards For Women in Science ◆ Tomiko Yonezawa (2005), Kayo Inaba (2014)



H. Yukawa



S. Tomonaga



H. Hironaka



K. Fukui



S. Tonegawa



Y. Nishizuka



S. Mori



C. Hayashi



Y. Masui



R. Noyori



K. Honda



M. Nagao



M. Takeichi



K. Ito



M. Kobayashi



T. Maskawa



S. Yamanaka



M. Nei



K. Mori



I. Akasaki