

International Recognition of KU Research

On June 21, 2013, the 2013 Kyoto Prize Laureates were announced, and Dr. Masatoshi Nei, professor of Pennsylvania State University, Kyoto University alumnus, became the fourth Kyoto University-affiliated laureate, winning the Kyoto Prize in Basic Sciences.



Dr. Masatoshi Nei Awarded Kyoto Prize

Dr. Nei has developed mathematical theories and techniques to understand the discipline of evolutionary biology as an exact science based on molecular-level data.

The Kyoto Prize is an international award to honor those who have contributed significantly to the scientific, cultural, and spiritual betterment of mankind. The prize is presented annually in each of the following three categories: Advanced Technology, Basic Sciences, and Arts and Philosophy.



Dr. Masatoshi Nei, an evolutionary biologist and professor of Pennsylvania State University, was awarded the 2013 Kyoto Prize in Basic Sciences for his “research on the evolution of biological populations using quantitative analyses of genetic variation and evolutionary time.” Dr. Nei made it possible to discuss evolutionary divergence, genetic diversity, and the mode of selection on genes in a quantitative manner by devising diverse statistical methods such as Nei’s Genetic Distance (see “Key Words”), and applying them to molecular data. Using these methods, Dr. Nei’s research has yielded important contributions to molecular evolutionary biology, as well as many other academic disciplines including ecology and conservation biology. Dr. Nei received his Ph.D. in Agriculture from Kyoto University in 1959. He also worked as an assistant professor of the university’s Faculty of Agriculture from 1958 to 1962. For more details of Dr. Nei’s award and achievements, please visit the website of the Inamori Foundation ([WEB www.inamori-f.or.jp/laureates/k29_b_masatoshi/etn_e.html](http://www.inamori-f.or.jp/laureates/k29_b_masatoshi/etn_e.html)). (This article appears courtesy of the Inamori Foundation.)

1931	Born in Miyazaki, Japan	Dr. Nei's Biography
1953	B.S., Miyazaki University	
1959	Ph.D., Kyoto University	
1958	Assistant Professor, Faculty of Agriculture, Kyoto University (-1962)	
1962	Geneticist, National Institute of Radiological Sciences (-1965)	
1965	Head, Population Genetics Laboratory, National Institute of Radiological Sciences (-1969)	
1969	Associate Professor, Brown University (-1971)	
1971	Professor, Brown University (-1972)	
1972	Professor, University of Texas at Houston (-1990)	
1990	Director, Institute of Molecular Evolutionary Genetics, Pennsylvania State University (-present)	
1990	Professor, Pennsylvania State University (-present)	

Nei’s Genetic Distance



In his 1972 paper, Dr. Nei proposed what is now referred to as “Nei’s Genetic Distance,” a measure of genetic differentiation which quantifies differences in the vestiges of evolution that remain within proteins and DNA. This innovative idea made it possible to estimate how long ago different biological populations branched off from common ancestors. It was this achievement that first brought Dr. Nei widespread international recognition.

Award Winning Researchers

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

Nobel Prize	1949	Hideki Yukawa	(theoretical physicist)
<i>in Physics</i>	1965	Sin-Itiro Tomonaga	(physicist)
	2008	Makoto Kobayashi	(physicist)
	2008	Toshihide Maskawa	(physicist)
<i>in Chemistry</i>	1981	Kenichi Fukui	(chemist)
	2001	Ryoji Noyori	(chemist)
<i>in Physiology or Medicine</i>	1987	Susumu Tonegawa	(biologist)
	2012	Shinya Yamanaka	(physician and biologist)
Fields Medal	1970	Heisuke Hironaka	(mathematician)
	1990	Shigefumi Mori	(mathematician)
Gauss Prize	2006	Kiyosi Itō	(mathematician)
Lasker Award	1987	Susumu Tonegawa	(biologist)
	1989	Yasutomi Nishizuka	(biochemist)
	1998	Yoshio Masui	(cell biologist)
	2009	Shinya Yamanaka	(physician and biologist)
Japan Prize	2005	Makoto Nagao	(information technologist)
	2005	Masatoshi Takeichi	(developmental biologist)
			*Photos provided by the Japan Prize Foundation
Kyoto Prize	1995	Chushiro Hayashi	(astrophysicist)
	1998	Kiyosi Ito	(mathematician)
	2010	Shinya Yamanaka	(physician and biologist)
	2013	Masatoshi Nei	(evolutionary biologist)
			*Photos provided by the Inamori Foundation



Commemorative Exhibition for Dr. Kenichi Fukui

The Fukui Institute for Fundamental Chemistry (FIFC) is located in front of the Takano River, about fifteen minutes' walk northwest of the Kyoto University main campus. In the entrance hall of the Institute, a commemorative exhibition area has been established in honor of Dr. Kenichi Fukui, who was awarded the Nobel Prize in Chemistry in 1981, becoming Asia's first Nobel laureate in Chemistry.

Through the printed materials and other items in the exhibition, visitors can gain an impression of Dr. Fukui's daily life and career. A particularly poignant item is his final research memo on the orbital interaction analysis of a fullerene C_{60} , written the night before he was taken to hospital for the last time—a testimony to his dedication to research.

Dr. Kazuyoshi Tanaka

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www.fukui.kyoto-u.ac.jp/publication/PublicationTop.htm#Pamphlet



Entrance of the FIFC