

## NOBEL LAUREATES

“There is a need to encourage long-term research, even if we don’t know where it will lead us, nor foresee its applications.” Ken’ichi FUKUI

Kyoto University is proud to be one of the most successful universities in Asia. This is demonstrated in the sheer number of awards conferred, and is particularly well known for its close association with seven Nobel Prize laureates.

Hideki YUKAWA (1907-1981), a physics professor of Kyoto University, and later peace activist, brought home the first Nobel Prize for Japan in 1949 for his prediction of the meson and for his work into elementary particles. Japan’s second Nobel Prize was also in Physics, awarded to Shin’ichiro TOMONAGA (1906-1979) KU graduate and close classmate of YUKAWA. He was recognized for his study of Quantum Electrodynamics and specifically for the discovery of the renormalization method.

Kyoto University’s strength in the field of Physics is once again demonstrated as one of the most recent Nobel Prizes of 2008 was again for this field and was shared by Toshihide MASKAWA (1940-), former director of the Yukawa Institute for Theoretical Physics at KU – an institution built in honour of Professor YUKAWA. Professor MASKAWA and KU research associate, Makoto KOBAYASHI (1944-) were jointly recognized for their discovery of the origin of broken symmetry and prediction of the third family of quarks.

Other Nobel Prizes include one for Physiology and Medicine in 1987 by molecular biologist Susumu TONEGAWA (1939-) – also a graduate of KU – for his discovery of the genetic principle behind the generation of antibody diversity in immunology; and two for Chemistry. Ken’ichi FUKUI (1918-1998) was professor and graduate of KU, recognized for his work focusing on the role of frontier orbitals in chemical reactions. Ryoji NOYORI (1938-) is also a KU alum, and received the Prize for his work on the study of chirally catalyzed hydrogenations.

Every laureate is legendary in their own way; however the philosophical outlooks held by YUKAWA and FUKUI have been embraced particularly enthusiastically here at Kyoto University. YUKAWA, awarded his prize right after the end of WWII, was the hope and beacon for researchers who followed. FUKUI is known for maintaining that “if you want to do original work you must start young” thus KU’s system allowing for early specialization. He also developed the belief that breakthroughs in science occur with the unexpected fusion of remotely related fields, reflected in KU’s encouragement of collaborative activities. We look forward to congratulating the next generation of Nobel Prize laureates.

“Those who explore an unknown world are travelers without a map; the map is the result of exploration. The position of their destination is not known to them, and the direct path that leads to it is not yet made.”

Hideki YUKAWA



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Left: Dr. Ken’ichi FUKUI  
Right: Dr. Hideki YUKAWA  
Calligraphy: “Gakuji Fuen” by Dr. Yukawa,  
meaning “There is no end to learning.”