

Hiroshi Tsuji

Professor Hiroshi Tsuji was born in Wakayama, Japan, September 1923. He graduated from the third high school (old education system) in Kyoto and entered the Tokyo Imperial University, Department of Aeronautics for Aircraft Structure, Second Faculty of Engineering, in October 1943. He graduated from the Department of Physical Science and Engineering, renamed under the occupation of the Allies after the World War II, in September 1946. He was accepted as an outstanding research student of the Graduate School of the Tokyo Imperial University in October 1946, and, in June 1948, he became a member of the Institute of Science and Engineering, renamed from the Institute of Aeronautics of the Tokyo Imperial University. He was promoted to an associate professor in June 1956 and got a Ph.D. in November 1959 on the decay of homogeneous turbulence. In July 1962, under a strong leadership of Professor Kiroku Yamasaki, he was promoted to the Professor at the newly-created combustion laboratory at the Institute. He retired the University of Tokyo in April 1984, and then served as a professor at Saitama University until March 1989, a professor at the Tokyo Denki University until March 1994, and a visiting professor at Tokyo Metropolitan Institute of Technology until March 1995.

Although his early studies were on fluid dynamics, especially on boundary layer and on turbulence [Journ. Aero. Sci., 20(1953)295-296, 848-849], his interest was extended to aerothermochemistry, and further to fundamentals of combustion. That is, at the beginning, he studied stability of turbulent burner flames [8th Intern. Symp. on Combust. pp.1327-1335(1961)], erosive burning of solid propellant with an aerothermochemical analysis [9th Intern. Symp. on Combust. pp.384-393(1963)], and high-frequency combustion oscillations [10th Intern. Symp. on Combust. pp.1327-1335(1965)]. He initiated, however, a distinct fundamental study on flame structure with use of an innovative burner, i.e., the study on the counterflow diffusion flame in the forward stagnation region of a porous cylinder. His early relevant papers appeared in the proceedings of the 11th(1967), 12th(1969), 13th(1971) and 15th(1975) Intern. Symp. on Combust., and he wrote a review paper on counterflow diffusion flames in Progress in Energy and Combustion Science, vol.8, pp.93-119, 1982. He further studied fundamental properties of flames, including the Lewis number effect on stretched flames [19th Intern. Symp. on Combust. pp.1533-1540(1983)].

In August 1988, he was awarded the Bernard Lewis Gold Medal from the Combustion Institute for “Brilliant Research in the Field of Combustion, Particularly on the Fundamental Aspects of Flames”. From the Japan Academy, he was awarded for the research on the structure and fundamental properties of flames in June 1980, and, in April 1992 he became a member of the Japan Academy. In November 1993, he was conferred the Order of the Sacred Treasure, Gold and Silver Star, in Japan. He received awards from many societies such as Combustion Society of Japan, the Japan Society of Mechanical Engineers, Heat Transfer Society of Japan, Tanikawa Fund Promotion of Thermal Technology, and so on. He served as a key member of many societies, which includes the 4th president of Combustion Society of Japan during 1979-1984. He passed on March 4th, 2005 and was ranked as Shoshiinojo (Senior Fourth Rank Upper Grade) in Japan.

During his over 25 years in the University of Tokyo, he educated many young scientists and engineers. He served as a supervisor for his Ph.D. students. They are (1) Tadao Takeno who served as an associate professor at the combustion laboratory and became a professor at Nagoya University, (2) Toshisuke Hirano, Professor of Faculty of Engineering, the University of Tokyo and the 6th president of the Combustion Society of Japan, (3) Akira Yoshida, Professor of Tokyo Denki University, (4) Ju'ichi Sato, Executive Officer of IHI company and the 11th president of the Combustion Society of Japan, (5) Satoru Ishizuka, Professor of Hiroshima University and the 13th president of the Combustion Society of Japan, (6) Minoru Suzuki, Professor of Toho University, and (7) Atsushi Makino, Professor of Shizuoka University. He supervised Ph.D. theses of (8) Takeshi Kawamura, Professor of Gifu University, (9) Morio Hori, Professor of Takushoku University, (10) Katsuo Asato, Professor of Gifu University, (11) Yukio Sakai, Professor of Saitama Institute of Technology, (12) Kenji Miyasaka, Professor of Fukui University, (13) Jiro Inoue of Tokyo Gas Corporation, (14) Kiyoshi Matsui of Daicel Company, and (15) Ichiro Yamaoka of Noritz Company. He also advised Ph.D. students of the associate professor Tadao Takeno at the combustion laboratory, i.e., (16) Saburo Yuasa, Professor of Tokyo Metropolitan Institute of Technology, (17) Kenji Sato, Professor of Toho University, (18) Motohide Murayama of IHI company, and (19) Mikihiro Nishioka, Professor of Tsukuba University. He organized the combustion seminar, held on every Tuesday afternoon, in which near to thirty scientists and engineers participated. The main members from the outside of the combustion laboratory were Professors Kiroku Yamasaki, Akira Iwama, Takeo Saito and Keiichi Hori of the Institute, Professors Osamu Kawaguchi and Masahiko Mizomoto of Keio University, Professor Shigeharu Oyagi of Saitama University, Lecturer Yoshinobu Kotani of Tokyo Denki University. His organized seminar educated many young engineers in industries including gas companies, burner and furnace makers, iron and steel companies, oil companies and automobile companies. They held and hold key positions at their communities. His collaboration with industries can be seen, for example, in the book, High Temperature Air Combustion, CRC Press, 2002.

