

Providing Intellectual Resources Through University-Industry Cooperation



▲ computer display in picture synthesized image.

"Combinatorial Computational Chemistry" for Industrial Innovation

(Far left, front row) Prof. Miyamoto

The laboratory of Prof. Akira Miyamoto at the New Industry Creation Hatchery Center of Tohoku University is developing a variety of combinatorial computational chemistry software for solving industrial problems in collaboration with world leading companies. Many products and technologies, in a variety of fields such as plasma display panels and lubricants for automobiles, have already been developed through university-industry

collaborations.

The Ministry of Education, Culture, Sports, Science and Technology initiated the "Industrial Innovation by Combinatorial Computational Chemistry" project with Prof. Miyamoto as its project leader. The goal of the project is to foster top world-level researchers who will bring about innovations in Japanese industries utilizing the Combinatorial Computation Chemistry approach.

Organizational Cooperation with Private Companies/Institutes (Development of active collaboration between universities and industries through partnership agreements.)

Agreement concluded	Private company/institute	Objective
July 27th, 2006	Seiko Epson Corporation	For the promotion of activities in collaborative research, mutual exchange of researchers, the education and development of human resources, and subsidiary assistance for international students, international exchanges to contribute to the development of academic studies and of industrial technologies.
December 26th, 2006	Kahoku Shimpo Publishing Co.	To incorporate the educational and research functions of Tohoku University with the news coverage and information service functions of Kahoku Shimpo Publishing Co. To include major cooperation in areas of joint research and investigation, event co-sponsorship and collaboration, development of human resources, etc.
January 31st, 2007	The 77 Bank, Ltd.	To support and perform information exchange with a Tohoku University-based Start-up program, matching coordinates between Tohoku University's seeds and regional companies, technical advice, and human exchange.
March 6th, 2007	DOWA Holdings Co., Ltd.	For the promotion of joint research, mutual exchange of researchers and students, fostering of young researchers, and mutual use of research facilities, and provision of equipment to promote international competitive research and the application of research results to society.



Signing ceremony on agreement with DOWA Holdings

"Delivering" the Knowledge of the Academy to Industries

Since 2005, Tohoku University has been promoting the "Academic Guidance and Consultation System" aimed at supporting industries. Under this system, researchers and technical staff of Tohoku University give guidance/advice to industries, charging fees at hourly rates. Companies can utilize this system in a fashion which does not require a joint research contract with the university.

In addition, Tohoku University implements an on-site consultation program, collaborating with Sendai City. Under this program researchers and technical staff visit local companies as technical consultants. This program has attracted much public attention, and is a new style of partnership between university, industry and local government.



(Right) Prof. Kazuo Hokkirigawa, Graduate School of Engineering, visits a company to give assistance and technical advice.

The 3rd International Industrial-Academic Collaboration Meeting Japan-France Workshop

In November 2006, researchers from Tohoku University, INSA-Lyon and Ecole Centrale, as well as business people and local government from the Tohoku region, Miyagi Prefecture and Sendai City in Japan and Rhone-Alpes region in France attended a workshop to launch an International Academic-Industrial Alliance.



Tohoku University "Sakura Hall"

The Smallest Microgeared Motor in the World Developed, with a diameter of 1.5 mm



The microgeared motor uses metallic glass microgears, which enable both its ultraminiaturization and extended durability compared to conventional stainless steel microgears. It exhibits superiority of over 10 times in wear resistivity. This microgeared motor is intended for practical use in medical devices such as endoscopes, catheters, etc.

Topics

A Notable Example of a Partnership between University and Industry: Prof. Ryuta Kawashima

Prof. Ryuta Kawashima of the Institute of Development, Aging and Cancer has been involved with research to improve and recover brain functions with "Learning Therapy." He actively returns the results of his research to society by advising and evaluating businesses on product development. One of his achievements is a series of software goods for a mobile gaming machine, called "Brain Training." In January of 2007 at the 9th Japan PR Awards, he received "The PR Person of the Year" for his contribution to both public and industry.



Prof. Ryuta Kawashima appears in the software game "Brain Age: Train Your Brain in Minutes a Day" CG©Nintendo