# **Cooperation with Industry**

#### **Industry-University-Government Cooperation Policy**

Tohoku University has been committed to the "Research First", the "Open-Door" and the "Practice-Oriented Research and Education" policies since its foundation, and is internationally recognized for its outstanding research and education. The university contributes to the peace and prosperity of human society by devoting itself to research useful in solving societal problems, and by educating human resources in leadership skills.

The university aims to become a "World-class university" which contributes to human society by applying the knowledge it has accumulated over the past century, and by devoting itself to continuous research and education for the next century.

Moreover, under its policy of "global and regional openness," Tohoku University will contribute to the growth of human society as a whole through the collective strength of its human and intellectual resources, and cooperation with regional and international communities. "Industry-University-Government Cooperation" is the core of our social contribution, our university's third mission, after "Education" and "Research", and an important means of delivering the benefits of knowledge to society. Our university follows an active policy of Industry-University-Government Cooperation as described below.

- Ever since its founding, Tohoku University has had a tradition of "practice-oriented research and education." Based upon this, the university shall increase the added social value of its education and research by widely disseminating its academic achievements to society and promoting the transfer of technology to industry.
- In addition to technological transfer and cooperative research, the university shall promote world-leading research into technological innovations within the context of international Industry-University-Government Cooperation.
- The university shall continuously promote Industry-University-Government Cooperation toward solving problems, including those specific to the region, and contribute to Japan's economic and social development as a driving force behind innovation.
- There shall be an organization within the university for the promotion of Industry-University-Government Cooperation, and it shall further such cooperation with an international perspective through the mobilization of university resources and coordination with pertinent domestic and foreign institutions.
- In promoting Industry-University-Government Cooperation, social accountability shall be fundamental i.e. ensuring transparency, and complying with international and domestic laws and international treaties.

| Joint Research | h Projects | with Ind                                | lustry  |
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| Fiscal Year | No. of Projects | Amount of Money<br>(Unit: million yen) |
|-------------|-----------------|--|
| 2003        | 284             | 1,129                                  |
| 2004        | 392             | 1,675                                  |
| 2005        | 479             | 1,827                                  |
| 2006        | 519             | 2,028                                  |
| 2007        | 698             | 2,086                                  |
| 2008        | 786             | 2,459                                  |
| 2009        | 837             | 2,692                                  |
| 2010        | 854             | 2,956                                  |
| 2011        | 862             | 2,840                                  |
| 2012        | 831             | 3,084                                  |

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| Fiscal Year | No. of Projects | Amount of Money (Unit: million yen) |
|-------------|-----------------|-------------------------------------|
| 2003        | 373             | 3,450                               |
| 2004        | 456             | 6,149                               |
| 2005        | 483             | 7,358                               |
| 2006        | 591             | 7,927                               |
| 2007        | 554             | 9,101                               |
| 2008        | 596             | 9,131                               |
| 2009        | 611             | 9,563                               |
| 2010        | 589             | 10,008                              |
| 2011        | 742             | 11,397                              |
| 2012        | 666             | 9,587                               |

## **Joint Research Projects with Industry (FY 2012)**

#### (Breakdown by No. of Projects) (Breakdown by Amount of Money) Frontier Others Others 299 10% 13 2% 48 6% Frontier Life Science Infrastructure Life Science 26 1% 649 21% 23 3% 219 26% Infrastructure Manufacturing 48 1% Technology Information & 54 6% Communication Manufacturing 343 11% Energy Technology 74 9% 488 16% Total: 3.084 831 projects ınit: million yen Environment Information & 87 3% Communication 74 9% Environment Energy Nanotechnology & 36 4% Nanotechnology & 333 11% Materials Materials 811 26% 290 35%

# **Cooperation with Industry**

## **Organizational Cooperation**

Tohoku University conducts organized cooperation with private enterprises, and promotes practical cooperation in all areas where mutual cooperation is possible, such as research and development, human resources development, and in its responsibilities to the regional community.

| Agreement Concluded | Private Company/ Institute  | Objective   |
|---------------------|---|---|
| January 19, 2006    | Hitachi, Ltd  | Collaborative research and mutual exchange in the field of electricity, information, materials and mechanics  |
| January 31, 2006    | National Institute of Advanced<br>Industrial Science and Technology<br>(AIST)   | Collaborative research in the field of environment, materials, information and telecommunication, and electronics, etc  |
| February 21, 2006   | National Institute of Radiological Sciences                                     | Training professionals in advanced specialties of molecule imaging research PET (positron emission tomography)  |
| July 27, 2006       | Seiko Epson Corporation   | Promotion of collaborative research, mutual exchange of researchers, education and development of human resources, and international student assistance for the advancement of international exchange   |
| December 26, 2006   | Kahoku Shimpo Publishing Co.  | Both parties, the educational and research functions of Tohoku University and the news coverage and information service functions of Kahoku Shimpo work together effectively and efficiently in the areas of research and investigation, event co-sponsorship and collaboration, human resource development, etc. |
| January 31, 2007    | 77 Bank, Ltd  | Provide support and exchange information regarding Tohoku University-based start-ups, matching coordinates between Tohoku University's seeds and regional companies; provide technical advice and promote exchange of human resources.  |
| March 6, 2007       | DOWA Holdings Co., Ltd.   | Promote joint research and mutual exchange of researchers, foster young researchers, and establish mutual use of research institutes and facilities.  |
| August 3, 2007      | Japan Aerospace Exploration<br>Agency (JAXA)                                    | To develop collaborative research and to promote the education of scientists through interdisciplinary studies of cosmic and aeronautical science, including various fields such as bioscience.   |
| July 25, 2008       | Central Institute for Experimental<br>Animals                                   | Collaborative research in the field of life science, biological science, material science, psychology and social science, and the cultivation and interaction of human resources.   |
| July 1, 2009        | High Energy Accelerator Research<br>Organization (KEK)                          | Promotion of cooperative research in the field of elementary particle/nuclear physics, physics/life science and accelerator science, and strengthening cooperative research systems.  |
| March 9, 2009       | National Institute of Natural Science,<br>National Institute for Fusion Science | Promotion of fusion reactor research, education and exchange of human resources.  |
| April 14, 2009      | Riken   | To develop diverse academic fields such as theory and experiments, and the fusion of computational science and computer science; create innovations through computational science; foster human resources who will be active globally; and promote the exchange of faculty and researchers.                       |
| February 12, 2010   | NTT, NTT East   | Further expansion of coordinated cooperation in the fields of information and communications, extension and revitalization of educational and research activities, and promotion of interdisciplinary research and development.   |
| June 4, 2010        | Sumitomo Metal Mining Co., Ltd.   | Further expansion of collaborative research, mutual exchange and human resource development in order to promote research relating to nonferrous metal materials.  |
| July 26, 2011       | Tokio Marine & Nichido Fire Insurance Co., Ltd.                                 | Promotion of cooperation and collaboration in research and development, human resource development and other fields of mutual interests related to risk evaluation of earthquakes and tsunamis.   |
| November 10, 2011   | Sendai City, University of Tsukuba  | Promotion of research and development of algal biomass capable of producing petroleum components from household wastewater, aiming for realization of a fuel production model and new circulation system.   |
| November 22, 2011   | IBM Japan   | Promotion of cooperation and collaboration in research and development, human resource development and other fields of mutual interests related to risk evaluation of major earthquakes/tsunamis and disaster mitigation technologies.  |
| January 19, 2012    | National Institute of Information and Communications Technology                 | Effective and efficient promotion of research on information communication technologies to reinforce information communication networks and its disaster-proof applications towards creation of a more disaster-resilient society.  |
| October 16, 2012    | Japan Agency for Marine-Earth<br>Science and Technology (JAMSTEC)               | Promotion of cooperation and collaboration in the area of collaborative research and projects; mutual exchange of students and researchers and fostering human resource; Information exchange on academic materials and research reports etc.; utilization of facilities and equipment.                           |

## Cooperation with Community

#### The Science Café

The Science Café provides an opportunity for everyone, including high school students and others, to chat over a cup of coffee with the scientists; listen to them talk about their studies, and to enjoy the fun of science and understand how it contributes to society.

#### **Tohoku University Innovation Fair 2012**

| Date             | Program Content   | Venue         |
|------------------|---|---------------|
| January 17, 2013 | Introductions and presentations were made of most-<br>advanced research and extraordinary research by the young<br>researchers in the fields of Manufacturing Technology, life<br>science, nanotechnology/materials, environment/energy<br>and information communication etc. | International |



The Science Café

## **Extension Courses**

Tohoku University is constantly making efforts to play leading roles in educational and academic activities in the Tohoku region. Meeting the community's needs, it provides extension courses and public lectures for lifelong learning of citizens. In FY 2012, the University organized 94 extension courses including on-demand high school classes and 2 public lectures, which were well received in various academic fields. Tohoku University has continued these educational activities made understandable for the public to strengthen cooperation with the community and for the purpose of disseminating information. As a result of these activities Tohoku University has maintained its position as a well-respected university.