We aim to train personnel who will contribute to the world.

In 2004 the reorganization of national universities took place. Since then, the education and research environment surrounding Ibaraki University has changed remarkably.

Due to the decrease of operating subsidies for universities, the decrease of professors, the intensification of competition among universities, the decrease of students taking the entrance examination, the acceleration of internationalization and the increase of demands for social contributions inspired Ibaraki University to make various reforms to become a national university centering on the community.

Thus, in January 2012, the College of Engineering established four education and research centers integrating (1) Education (2) Research (3) Contributions to society. Each center integrates the scientific knowledge and skills that have been cultivated at the College of Engineering to support the development and restoration of society.

By strengthening the interactive relationship among all in a regional community, it is my hope to enhance the power to utilize the voice of society through the university’s education and research centers. As we put emphasis on training personnel (students and businessmen) who will contend in the world, I believe these centers will serve as an interface between Ibaraki University and society.

Three Roles of Ibaraki University, College of Engineering, Education and Research Centers

1. Educate students and personnel for globalization
Students, young teaching staff, engineers, and researchers
2. Promote the research of leading-edge technologies
A systematic approach to project based research and research results that contribute to society
3. Contribute to the local community
Comprehensive contributions based on joint research and education

Green Device Education and Research Center

Eco-friendly and highly efficient low power electron and information devices are essential to realizing an abundant society.

We practice challenging and advanced research about nanoscience and its applications. We strive to create new industries fostering the development of eco-friendly devices into key technologies.

Green devices are used in mobile machines for computer loading electronic equipment and electronic equipment for loading motor vehicles (including inverters) as there is a large market of several trillion yen. We nurture knowledgeable professional engineers through the education and research on advanced device and material technologies. Furthermore, our goal is to restore basic eco-friendly knowledge to the region acquired from our research, and to support the development of regional industries.

Research Objectives
(1) Magnetically suspended artificial heart
(2) Next generation dental implant technology
(3) High functional assistive technology for the elderly drivers
(4) Bio signal sensing, human motion instrumentation, and new material

Education Objectives
(1) Train professionals specializing in life support science and welfare technologies
(2) Next generation dental implant technology
(3) High functional assistive technology for the elderly drivers
(4) Bio signal sensing, human motion instrumentation, and new material

Basic Transferable Technologies to Industry

1. Manufacturing process of high-efficient and high-quality metal conversion element and silicide light receiving element
2. Fabrication methods of high performance hybrid-type solar cells
3. Microstructure control of an Al-Zn superplastic alloy by rolling processes
4. Clarification of incident factors concerning degradation in photoelectric conversion
5. Metallographic investigation on cracking of materials due to high temperature and corrosion

Education and Research Center for Disaster Prevention and Security (ICPDS)

ICPDS addresses key scientific and engineering problems of technological significance in disaster prevention and security which cover a huge range of individual disciplines. The aim of research is to establish effective systems in order to prevent disaster prevention and security. We also contribute with the promotion of international exchange, the education and training of professionals, and the transfer of knowledge. As public safety strongly relates to the maintenance of social order and economic activities, it is crucial to establish a research and education framework for disaster prevention and security.

The project is divided into four areas: 1) Basic research and education based on demonstrative experiments 2) Development of lead free solder material and process 3) Distributed information processing and provision of educational data 4) Economic evaluations in the environmental data center

Research Objectives
(1) Basic research and education based on demonstrative experiments
(2) Development of multipurpose sensing nodes
(3) Microstructural characterization (utilizing neutron diffraction) and high precision process
(4) Distributed information processing and provision of educational data
(5) Economic evaluations in the environmental data center

Education Objectives
(1) Train professionals who are knowledgeable and have experience in the technologies necessary to create the system and data center"