

## Chuo University Rio+20 Sustainability Initiative

### A Promise to Take Action Now and in the Future

The sustainability of fresh water is key to the future of humans and their earth, and must be considered from trans-disciplinary perspectives. These include: (a) as an essential resource for human life, including water quality and safety; (b) as an essential resource for human activity, including resource management, supply, consumption and recycling; (c) as a key component of the natural environment, including flood-control measures and greening of the deserts; and, (d) as the object of inter-regional and international management policies for rivers, lakes, coastal areas and oceans.



**Tadahiko Fukuhara**

At Chuo University we are actively promoting a program for “Capacity Building in Global Water Environmental Engineering” in the Graduate School of Science and Engineering in order to perform systematic education and training on the issues and perspectives stated above. This program is promoted in the context of the United Nations Academic Impact (UNAI) and is currently supported by the Ministry of Education, Culture, Sports, Science, and Technology (MEXT), Japan.

Chuo’s Water Program comprises a unique educational curriculum, that offers students an opportunity to master industrial and governmental concerns, as well as the skills needed to become highly specialized technicians in water environment and water treatment, professionals with a global perspective who respect the history, culture and climate of target nations and regions.

The curriculum is composed of lectures, drills, experiments, internships and research paper writing to enable students to systematically obtain knowledge and skills required in water environment and water treatment. The curriculum aims to develop practical skills and includes lectures from industry professionals and experiments conducted with the cooperation of the industrial sector. Chuo’s Water Environment education will encompass engineering, biology, environmental law, and environmental economics from a wide perspective, with the support of the entire university.

Through this program, Chuo University will strive to foster international experts capable of proposing and executing comprehensive and fundamental improvement plans regarding water environments in East Asia and around the world. In principle, every year 75% of graduates will be selected as candidates for executive positions in the global water environmental engineering field.

## **A commitment to transparency through annual reporting on progress**

Each year the Chuo University Science and Engineering Faculty will hold an international symposium in Asia and in Japan to report program progress and to hold discussions on water environment research and water environment sustainability.

- (1) Our annual report to MEXT is opened to public scrutiny.
- (2) The Network for Education and Research will hold meeting five times a year to discuss improvement of the project from the perspective of both the private and public sectors.
- (3) Each year an international symposium will be held overseas. The objective of the symposium is to exchange information on current water-related issues and solutions being applied in Japan and Asian countries, as well as the latest technologies. Reflecting the results of these symposia in the curriculum of the program is expected to contribute to more practical capacity building. To date we have held a series of symposia in March 2011 at Tsinghua University and in March 2012 at Sun Yat-sen University in China. International symposia are also planned for Korea and other Asian countries.

(\*) Education and Research meeting and international symposia reports can be found online: < <http://global.chuo-u.ac.jp/english/iwee/> >

## **A description of time-bound targets/goals that can be measured for success**

Every year between 2012 and 2015, we are performing systematic education and training of 25 postgraduate students including oversea students: 100 in total.

In five years we will launch a new course focusing on water environment and its sustainability in the Chuo University Postgraduate School of Science and Engineering. From that time forward the new department will produce 30 high-level experts in the following areas each year:

- (1) Water environment experts  
Water environment ecosystem engineering; river and lake water/material circulation engineering; nature-oriented river works; and, wetland regeneration.
- (2) Water treatment experts  
Water treatment; water supply and sewerage systems; urban water metabolism; water environment engineering; water business; and, composting toilets.
- (3) Water use experts  
Low water management; satellite remote sensing technology; hydrometeorology; integrated basin water resources management; and, agricultural and industrial water use management.
- (4) Flood control experts

Flood protection; low-lying area flood disaster management; CommonMP simulation; and, waterfront urban planning.

**A general description of key resources and/or partners dedicated to achieve these targets**

This program is promoted in the context of the United Nations Academic Impact (UNAI).

In the wake of the 2<sup>nd</sup> Japan-China-Korea Summit held on October 2009, Japan's Ministry of Education, Culture, Sports, Science, and Technology (MEXT) established this program in 2010 as a central activity of the "Highly Skilled Professional Development Projects Through Exchange Among Universities in Japan, China, the Republic of Korea, and other countries," now referred to as the "Campus Asia Project."

An international consortium for this project was organized in 2011. The member universities in China are: Tsinghua University (Beijing); Hohai University (Nanjing); Sun Yat-sen University (Guangzhou); Sichuan University (Chengdu); Shanghai Jiao Tong University (Shanghai); Beijing Normal University (Beijing); and, Dalian University of Technology (Dalian). In the Republic of Korea partners include: Inha University (Incheon); Chonbuk National University (JeonJu); and, Yeungnam University (Gyeongsan). Other members include the Water Resources University (Hanoi) in Vietnam.

Practical education is assisted by the community network of corporations and research institutions that make up TEAM WATER JAPAN (<http://www.waterforum.jp/twj/>), which works closely with Chuo University.

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