

‘CAMPUS Asia’ 1<sup>st</sup> Monitoring in Japan  
**Summary of Self-Analysis Report**

A Cooperative Asian Education Gateway for a Sustainable Society: Expanding  
the Frontiers in Science and Technology of Chemistry and Materials  
**Nagoya University and Tohoku University**

**1. Participating universities and academic departments in the project**

Japanese Universities	Nagoya University Tohoku University
Chinese Universities	Nanjing University Shanghai Jiao Tong University
Korean Universities	Seoul National University POSTECH

**2. Outline and progress of the project**

**1) Project outline**

We propose to create a trilateral hub in the field of chemistry and materials for a sustainable society through cooperative education and research. We will utilize the synergies of the high education potentials of partner universities: Nagoya University and Tohoku University (Japan), Shanghai Jiao Tong University and Nanjing University (China), and Seoul National University and POSTECH (Korea).

We plan to exchange a total of about 30 high potential undergraduate or graduate students per year among partner universities and to teach to them the principles of research for the development of environment-friendly materials during the exchange for 3-12 months. The exchange students will be engaged in advanced courses reflecting the strengths of the host university in a complementary way, and apply the knowledge to actual research problems in a hands-on approach. Additionally, we plan to exchange lecturers for short seminars to encourage mutual understanding and exploration of joint research projects. The first step has already been undertaken through a joint symposium of all partners in March 2011 in Shanghai. On the basis of the connection between students and researchers, we plan to build an Asian Campus of Molecular Science in a Cyberspace.

We expect to nurture future leaders in material related areas, who will have the intellectual and communication abilities and extended experience to work in academia or industry for the prosperity and benefit of their home countries. We also expect to promote the students' global compassion and commitment by realizing the history, culture and ways of thinking of foreign countries. Last, but not least we plan to cooperate with chemical and pharmaceutical companies in each partner country to

provide special lectures, internship offers and job-hunting opportunities.

## 2) Progress of the project (until the end of March 2013)

### **Objectives of the Educational Program**

The objectives of the present Program were elaborated at the Campus Asia Conference of six Universities in Japan, China and Korea that took place in Shanghai in March 2011, prior to the approval of the present Program. The goal of the present Program is to educate chemistry-oriented students globally, aiming to train specialists capable of becoming leaders on a worldwide level. One of its most important features is that the students' international exchange is developed in close connection with the joint research activities of their laboratories. Concentrating on the progress of joint research, the participating Universities undertake various activities for its support.

### **Systems of implementation (Organization, teaching personnel)**

The required support for the international activities of the Program has been accomplished by hiring a foreign Teacher/International Coordinator and office members who are proficient in English. Once a year an International Symposium is organized in turn in Japan, China and Korea. At the Second International Symposium (starting on March 13, 2013), according to the decisions made in the previous meeting, the results of the students' exchange were reported. It was decided that the next International Symposium will be held at Seoul National University in November 2013.

### **Content and Methods of the Educational Program**

Since the present Project is mainly joint research-oriented, the content and methods of education already established in each laboratory are used or are decided between the Universities involved in the exchange. In order to achieve optimum feedback on the results of the joint research, considerable efforts are made to present them as much as possible at the appropriate conferences. Besides, the opportunities given by research abroad are created not only for the designated visiting students, but also for all students in the laboratories participating in the Project. Accomplishing this effective mechanism of information exchange has been made possible via constructing illustrative tables of all participating laboratories from Japan, China and Korea, so that students and professors can conveniently find appropriate partners for carrying out joint research and student exchange. By attending the Joint Campus Asia Symposia the participating students and professors promote further scientific exchange and share the results of their joint research with all participants of the Project.

### **Classes, Living Support**

Aiming for an active move toward education in English, classes for improving the presentation skills of the Japanese and foreign students were prepared by Campus Asia staff member associate professor Ilya Gridnev. The dormitory fees of the visiting students are covered by the Campus Asia Project, along with the payment of a monthly allowance of 80,000 JPY. As a rule, to facilitate the everyday life for the visiting students the university offers dormitories that specialize in accepting

foreign students. Since many foreign students accepted by other Programs already live in these dormitories, such a policy contributes to the easy life of, and facilitates information exchange among, foreign students. Information about the university, the accepting laboratory, dormitory and living conditions around the university is sent to foreign students prior to their visit. Besides this, detailed information on these and other items is available via e-mail and on the home page of the Campus Asia Project. In 2011-2012 a total of 18 students were accepted.

**The grading system (credit confirmation and exchange, evaluation of grade level, conferment of degrees)**

Since the present Program involves international joint research in the broad field of chemistry (all branches of chemistry, chemical engineering, material science, pharmacology, agriculture, etc.), the particular kinds of credits obtained by the visiting/accepted students may vary. There are therefore no fixed regulations for receiving or exchanging credits; students sent abroad receive credits based on the grading system of the host university; their credits are then confirmed at the home university. For accepted students credits are based on evaluation of their research activities in terms of their Master's or Doctoral Program. "Training abroad" (Master's Program) or "Special training abroad" (Doctoral Program) credits are awarded to students sent abroad. Students make the request for credits beforehand, and assessment of their academic achievement is conducted based on a written report after returning to their home university.

**Results of study (regulations for dissemination of results)**

Since the exchanging students are supposed to carry out specialized research, their evaluation is made by the accepting Professor. Since as a rule graduate students are accepted (or students who are planning to continue their education at a graduate school), the general level of their knowledge and potential for producing results is normally high. After completion of their visits, the students submit a research report. They also participate in the organization of the Summer Schools and similar events and present their results in English at international conferences, thus increasing the value of their results.

**Self-evaluation system (organization, optimization and plans for future)**

The present Program is an important part of the internationalization of the education process in each university. Hence, the self-evaluation system is based on the criteria given for each graduate school. The opinions of the exchange students are collected, the results of which will be put to use as reference materials for future operations.

The results of the joint research with the participation of the exchange students are presented at conferences and symposia, thus becoming a subject of evaluation and feedback from other researchers. Meetings of the staff members responsible for the international exchange from Japan, China and Korea are held regularly. The situations of student exchange, grading systems and other activities within the present Program are the subjects of these meetings, as well as the possible ways of improvement. Responses from the exchange students, their supervisors and Teaching Assistants are used for the evaluation of the results and for planning future activities.

Since 2013 is an interim year of the Program, a profound review of the plans is anticipated after receiving feedback from public evaluation.