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| Course Number | 0 7 0 0 1 |
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2007 「The International Priority Graduate Programs (PGP)」

~Advanced Graduate Courses for International Students~

【1. Profile of the University】

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|------------------------------------|---|--|---|
| ①University Department             | Graduate School of Science, Hokkaido University                       |  |   |
| ②President                         | SAEKI Hiroshi   |  |   |
| ③Address (Headquarters)            | 〒060-0808 N8, W5, North Ward, Sapporo, Japan                          |  |   |
| ④Contact                           | Division  | Chief of Graduate School Education Affairs Section, Science and Life-Science Administration Department |   |
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|                                    | TEL/FAX Number  | TEL: +81-11-706-3675 FAX: +81-11-706-3279  |   |
| ⑤Web-Address                       | http://www.hokudai.ac.jp<br>http://altair.sci.hokudai.ac.jp/grad/igp/ |  |   |
| ⑥Enrollment (Only Graduate School) | 621 (include MEXT's Scholarship Students: 241 )                       |  |   |

【2. Outline of the Course】

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| ①Course  | International Graduate Program for Research Pioneers in Life-Sciences  |
| ②Degree  | Master course + Doctor course (2+3 years)  |
| ③Form  | This program is performed in a single university   |
| ④Graduate Course, Department                                 | Department of Biological Sciences, Graduate School of Science  |
|  | (Address) N10, W8, North Ward, Sapporo 060-0810, JAPAN   |
| ⑤Collaboration (Universities, Graduate courses, Departments) | Graduate School of Life Science, Department of Life Science (Bioinformation and Molecular Science Course)  |
| ⑥Quota   | 12 in total (2 master course (MC) students, 10 doctor course (DC) students)<br>(include MEXT's Scholarship Students: 0 MC students, 7 DC students )<br>(include Japanese : 0 students) |
| ⑦Faculties   | 37 (Fulltime:0 Fulltime(other department):37 Part-time: 0 )  |
| ⑧Representative of the Course                                | Job Title Dean, the Graduate School of Science   |
|  | Name YAMAGUCHI Keizo   |

### 【3. Contents of the Course】

#### **Attractive Features of the Program**

The “**International Graduate Program for Research Pioneers in Life Sciences (IGP-RPLS)**” is wide open to excellent foreign graduate students, who hope to take the degree of Ph. D in Japan, from the top-level universities in various countries in Asia. Main language used in the program is English, for convenience of foreign students. In this program, the students will learn the advanced research areas especially related to the life science at the world highest level, on which we are focusing. The various curriculums will be provided from the standpoint, where we hope to develop new research fields on the united investigation of biotechnology and nanotechnology. Thus, this program aims to train the international research pioneers in life sciences who will build the fruitful future in their own countries (especially, developing countries).

At Hokkaido University, the application of the 21st Century Center of Excellence (21<sup>st</sup> COE) program for the “Advanced Life Science on the Base of Bioscience and Nanotechnology” to the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japanese government was selected. The 21<sup>st</sup> COE program was established by MEXT, in order to powerfully support the formation of international research centers and to develop the top-level universities in the world. The selected ‘Advanced Life Science’ COE program at Hokkaido University was carried out in 2002-2006. One of the aims of the COE program is to form the research center of top level in the world in life science, based on the fusion of bioscience and nanotechnology for pioneering new research fields. Another aim of the COE program is to carry out the education program to train the international young researchers in life sciences who will build the future. During the COE program, the exchange of top researchers was powerfully developed. Actually, in 2002-2006, 22 international symposiums were held and the number of participant researchers totaled 823.

Additionally, the “Zhejiang University Fellowship Program” for exchanging the young researchers and graduate students from Zhejiang University in China was carried out under the COE program, in which 17 PDs and 13 doctor course students were accepted to visit Hokkaido University in one or more years. Thus, the system for the international students has been established.

The IGP-RPLS program will be carried out based on the outstanding achievement of the above-mentioned programs, to improve and develop the highly effective educational program for the excellent international students from the top-level universities, whom we will provide the highest-level education, for producing young scientist having international mind. For this purpose, the IGP-RPLS will provide various lectures and program with distinguishing characters as follows.

(1) **Special lectures for training the advanced research ability given in English that promotes the activity in the front of international research fields.**

For training the research ability using English, education, guidance, discussion and lecture in the program will be given in English. Also, regular meetings and examinations will be done by English presentation. Thus, we train the students as to be accepted in the international stages. Further, in seminar of laboratory or lectures in courses, report, problems, and discussion will be given in English, to train the reading, considering, writing and speaking abilities in English. In common subjects, English textbooks and handouts will be used and examination will be given in English.

(2) **Special programs for training the international communication ability by daily communication of international students and Japanese students.**

We have a kind of tutor system. We provide a Japanese Teaching Assistant (a student TA) to an international student, to support as a tutor or a counselor. Here, we hope that they become deeply understood each other and acquire a cosmopolitan outlook. Further, the master course students are encouraged to visit other seminars held at different laboratories to work for research exchange among the laboratories through the program. The doctor course students are encouraged to plan and carry out some international symposiums, which will invite foreign researchers. We hope that these experiences effectively develop the ability of using both international communication and advanced research.

(3) **Special Program for training the international research leader who will stand at the front of research fields in life sciences.**

The international students in the program are encouraged to attend the international meetings and symposiums, to obtain the ability of English presentation in such an international stage. Further, the students will be required to make proposal for competitive research fund and to submit papers for international journals, to have practical experiences in the front of research activities. Thus, we hope the international students to have their careers in international companies and research institutes as the research pioneers in life science.

#### **Applicable Students for the Program**

The education system of IGP-RPLS consists of the master course (2 years) and doctor course (3 years). This system is mainly operated by the **Department of Biological Sciences, Graduate School of Science, Hokkaido University** in collaboration with **Department of Life Science (Bioinformation and Molecular Science Course), Graduate School of Life Science, Hokkaido University**. This program gives priority for the international students funded by the Japanese Government Scholarship, however the other private international students are also welcome to attend the program. Thus, this program afford ample opportunity for every international students to study the advanced life sciences.

### **Language Used in the Program**

The language used in this program is English. All the research guidance, the colloquiums, the lectures in this program will be given in English. Japanese language ability is not required to participate in IPG-RPLS. The students can obtain the degree without using Japanese for education and research. More detailed information about potential application and the contents of IPG-RPLS can be found at <http://altair.sci.hokudai.ac.jp/grad/igp/>.

### **Education Guidelines of the Program**

**[Support for Research and Publication Activities]** For the international students, all the education and research activities are done in English, such as discussions in laboratory, education for publication, presentation and defense for the degree, and so on. Doctor thesis must be written in English. Publication in international journals is required for the degree. After that, the international students will master how to write and publish in life sciences.

**[Common Subjects and Programs for Students]** After carrying out the above-mentioned programs such as COE and Exchange between Universities, Hokkaido University has already had various systems provided in English to take care foreign researchers and international students. These systems will be also used and improved for IPG-RPLS. For example, common subjects taught in English, where English textbooks and handouts are used, and report and examination are also done in English. On the other hand, our departments will provide the guidance for fresh-parsons, hiking, party, etc. The international students will join these programs with Japanese students. Moreover, the international students will also be invited to the reception party and excursion programmed by Hokkaido University.

**[Japanese Education]** The international students are not required to have the Japanese language ability at application. However, they are encouraged to learn Japanese language after their arrival in Japan, or even before that in their own countries. The ability to communicate in Japanese will help the international students to live in daily life in Japan and to have opportunity to communicate any common people live in Japan. Further, we believe that the Japanese language ability will make their great merits after in future. International Student Center, Hokkaido University (see [http://www.isc.hokudai.ac.jp/www\\_ISC/index-e.cgi](http://www.isc.hokudai.ac.jp/www_ISC/index-e.cgi)) offers Japanese language courses to the international students. We recommend these courses to the international students. These courses are very substantial, so that the students will be able to talk Japanese smoothly in daily communication about in 6-18 months.

### **Admission Process**

The admission to IGP-RPLS is planed two times a year. **The international students fund by Japanese Government will be only admitted in October.** The other international students (including private students) will be admitted in April and October. To seek excellent students, student recommendations will be widely invited, as well as entries from the public. We will ask many researchers to submit the recommendation of excellent international students from the top-level universities. Our departments have accepted many excellent international students and PDs from top-level universities in China, Bangladesh, India, and so on. So that, we tried to request to these universities. Also, through the agreements between Hokkaido University and the other foreign universities, we will request for recommendation. The country of international student is not limited. For the application, we will ask all the students, who made an entry to public application or was recommended, to submit applications including a transcript for graduation and a recommendation written by the previous teacher, etc. Also, we will consider their English ability by using TOFEL or TOEIC scores. We will screen candidates on the basis of their documents of application and interviews for their previous teachers. For the passed candidates, we will make a remote interview on internet system. Since we will use the above-mentioned admission process, **the applied students lived in foreign countries do not need to visit Japan during admission process.**

### **Supporting System for International Students in Hokkaido University**

Orientations of life support for the international students are usually held in April and October, by the international student center, Hokkaido University. The center also provides various information and advices concerning both the university life and daily life of the international students. For example, the traffic safety course, etc. are held with cooperation with police station. Moreover, the center provides a consultation service; the international students can have consultations with the teachers of international students at date set by the center. Thus, the system for continuous care of international student is already established.

Further, the international students are supported in various ways besides International Student Center. The international student can go for advice to the window of Student Exchange Office, Research and International Affaires Department, Hokkaido University, where advisors of international students are anytime ready for direct consultation. For health of the international students, Health Administration Center, Hokkaido University has nurses who are good at English conversation to care the medical consultation of the international students. Hokkaido University has also many other programs to enable the international students to easily adapt to life in Japan and thus to effectively advance in their studies and research at the university.

### **How to Make Contact**

Students interested in IGP-RPLS are encouraged to contact to the faculty members of our departments shown in homepage (<http://altair.sci.hokudai.ac.jp/grad/igp/>) of this program.