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The Annual Report is published to record the activity of the International Center for Biotechnology (ICBiotech) and issued once in each fiscal year. It contains scientific articles, progress reports, letters, and announcement from the Center. This volume includes publications by the former participants in UNESCO courses. The editor welcomes the submission of appropriate articles from all persons who are concerned with the activity of the Center. All the contributions, however, will be reviewed by editors before their acceptance. The scientific paper herein should be treated as personal communications and not treated as original publications. The Annual Report is distributed upon request to the International Center for Biotechnology, Osaka University, 2-1 Yamadaoka, Suita, Osaka 565-0871, Japan (e-mail: info@icb.osaka-u.ac.jp). The editors are very grateful to Ms. Fumiko Sawazumi for her technical help.

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ACTIVITIES OF ICBiotech

ACTIVITIES OF INTERNATIONAL CENTER FOR BIOTECHNOLOGY FOR FY2011

The International Center for Biotechnology (ICBiotech) was founded in April 1995 as an independent institute in Osaka University with a mission to pursue academic advancement and collaborative research in biotechnology. ICBiotech has its origin from the “International Center of Cooperative Research Center in Microbial Engineering Japan (ICME)” which was established in the Faculty of Engineering, Osaka University in April 1978, through renaming to “International Center of Cooperative Research in Biotechnology (ICBiotech)” in April 1985 with the recognition of the wide acceptance and success of ICME’s activities and achievements.

ICBiotech is dedicated to promote international cooperation among Asian countries in the aspects of research and educational advancement in the field of Biotechnology by propelling academic interactions in Asian countries, and is committed to industrial biotechnology studies by means of microbial engineering and related sciences, focusing on the sustainable utilization of abundant natural resources in Southeast Asian countries.

ICBiotech serves as the seat of education and research in Asia, with the support of the Ministry of Education, Culture, Sports, Science and Technology (Monbu-kagaku-sho, MEXT), the Japan Society for the Promotion of Science (JSPS), and Japan Science and Technology Agency (JST) and the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO), with the cooperation of the Department of Biotechnology, Graduate School of Engineering, Osaka University, and researchers from prestigious universities nationwide and abroad.

In 2002 Mahidol University-Osaka University Collaborative Research Center for Bioscience and Biotechnology: MU-OU:CRC was set up at Faculty of Science, Mahidol University as a collaborative research center to accomplish multidisciplinary research in the field of Bioscience and Biotechnology.

The activities of the ICBiotech include:

1. Research and Education

The main area of research is industrial biotechnology rooted in microbial engineering, whilst centering on the sustainable use of agricultural and forest resources in bioresource-rich countries such as those in Southeast Asia. Research is underway in the field of cell engineering with the objectives of analyzing the cellular functions of bacteria, fungi and plants, and developing and using functions of these cells for management and rational use of biological resources that exist on our planet. ICBiotech covers three areas of Biotechnology:

- 1) Discovery of new functions from biological resources.
- 2) Bio-conversion and process engineering of biological resources.
- 3) Conservation of biological resources.

For Post-Graduate Course, ICBiotech is involved in the education activities of Department of Biotechnology, Graduate School of Engineering as collaborating

laboratories and currently covers several fields of biotechnology in education and research: Molecular Microbiology laboratory chaired by Prof. Takuya Nihira and Applied Microbiology laboratory chaired by Prof. Kazuhito Fujiyama.

2. Participating in FrontierLab@OsakaU 'Scientific Empowerment Program for International Students' which was created for international students to conduct thematic studies and achieve results under the guidance of supervisors while acquiring skills necessary for continuing research in one of Osaka University's internationally renowned science and technology laboratories for a period of up to 12 months.
3. Acting as collaborating laboratories with the Department of Biotechnology, Graduate School of Engineering, Osaka University for 'International Program of Frontier Biotechnology', a five-year program for master's and doctor's degrees. The aim of this program is to expose graduate students (privately financed as well as the Japanese Government Scholarship students) to state-of-the-art research skills and in-depth knowledge of advanced biology, chemistry and physics to harness the potential of biotechnology.
4. Having been administrating and implementing the "UNESCO Postgraduate Inter-University Course in Biotechnology" (2004-2007) at the Department of Biotechnology, Graduate School of Engineering, Osaka University, taking over the long-termed "International Post-Graduate University Course in Microbiology" (1972-2003) with total of 459 alumni spreading all over Asia.
5. Undertaking a JSPS Asian CORE Program entitled as 'Next-Generation Bioproduction Platform Leveraging Subtropical Microbial Bioresources'. This project aims to develop next-generation bioproduction platform by interaction between excellent researchers from Japan, Thailand, Viet Nam, Laos and Cambodia, together with fostering young researchers from those countries for future in the field of industrial biotechnology. The program is based on the result from preceding MEXT/JST project carried out in FY2006-2008, which took over the termination in 2004 of the JSPS multilateral program in the field of Biotechnology.
6. Involving as a research group at Japan side for a JICA-JST Project in Thailand: Thailand-Japan Collaboration for the Research and Development of Therapeutic Products against Infectious Diseases. The Research Institute for Microbial Diseases (RIMD), Osaka University, acts as the Japanese host coordinator for the project. The Project is implemented under the "Science and Technology Research Partnership for Sustainable Development (SATREPS)" promoted by Japan International Cooperation Agency (JICA) and JST in collaboration.
7. Serving as the secretariat for the UNESCO Regional Network for Microbiology and Biotechnology in Southeast Asia in accordance with a proposed memorandum resulted from a Consortium Meeting of the Project "Tropical Bio-Resources and Green Chemistry Strategy" (Osaka 2003).

8. Working as a member of the global network “Microbiological Resource Centers” (MIRCENs) operated by UNEP, UNESCO and ICRO; and as an original member of the “Regional Network for Microbiology in Southeast Asia” operated under the auspices of UNESCO through the Fund-In-Trust of the Japanese Government (J-FIT).
9. Promoting international cooperative researches in biotechnology with the Southeast Asian countries related to Biotechnology, under the support of Monbu-kagaku-sho Grant-in-Aids for International Scientific Research. In addition, ICBiotech cooperates in developing international organization and conducting academic seminars related to biotechnology.
10. Publishing Annual Reports of ICBiotech periodically.

Steering Committee

| | |
|-------------------|--|
| Chairman | Prof. Takuya Nihira (Director of ICBiotech) |
| Committee Members | Prof. Kazuhito Fujiyama (ICBiotech) Prof. Satoshi Harashima (Graduate School of Engineering) Prof. Shigeru Kanaya (Graduate School of Engineering) Prof. Eiichiro Fukusaki (Graduate School of Engineering) Prof. Tsuyoshi Inoue (Graduate School of Engineering) Prof. Kazumasa Hirata (Graduate School of Pharmaceutical Sciences) Prof. Masahito Taya (Graduate School of Engineering Science) Prof. Toshihiro Horii (Research Institute for Microbial Diseases) |

Staff

| | |
|------------------------------|---|
| Director/Professor | Dr. Takuya Nihira |
| Professor | Dr. Kazuhito Fujiyama |
| Interlocking Professor | Dr. Michihiko Ike (Department of Environmental Engineering, Osaka University) |
| Collaborative Professor | Dr. Amaret Bhumiratana (Mahidol University, Thailand) Dr. Watanalai Panbangred (Mahidol University, Thailand) Dr. Skorn Mongkolsuk (Mahidol University, Thailand) |
| Visiting Professor | Dr. Suteaki Shioya (Sojo University) |
| Visiting Associate Professor | Dr. Michiko Ito (Kyoto University) |
| Lecturer | Dr. Ryo Misaki |
| Assistant Professor | Dr. Hiroshi Kinoshita Dr. Shigeru Kitani Dr. Takao Ohashi |
| Administrative Official | Ms. Rina Tada |
| Administrative Assistant | Ms. Fumiko Tomomatsu |

Technical Assistant

Ms. Yukiko Seto
Ms. Chunxiang Wang

I. COOPERATIVE RESEARCH STATION (CRS) IN SOUTHEAST ASIA

Mahidol University (MU) and Osaka University (OU) together established the Mahidol University-Osaka University Collaborative Research Center (MU-OU:CRS) for Bioscience and Biotechnology at Faculty of Science, Mahidol University in 2002, to strengthen the research cooperation in these fields which are amongst the most active fields of study and research in both universities.

Currently, MU-OU:CRS has co-ordinated a research projects under the jointly support of National Research Council of Thailand (NRCT), National Center for Genetic Engineering and Biotechnology (BIOTEC) and The Japan Society for the Promotion of Science (JSPS). Researchers from Mahidol University, Chulalongkorn University, Kasetsart University, King Mongkut's University of Technology Thonburi and BIOTEC participate in this project.

CRS is conducting researches on

1. Strain improvement of *Bacillus thuringiensis*.
2. Screening of actinomycetes for bioactive compound.
3. The soil metagenome for screening of potential polysaccharide-degrading enzymes.
4. Cell culture system for screening of bioactive compounds from Streptomyces and environmental fungi.
5. Quorum sensing interference: Novel biocontrol strategies for pathogenic bacteria.

II. UNESCO COURSES

”UNESCO International Post-Graduate University Course in Microbiology” (1973-2003) plus the “UNESCO Postgraduate Inter-University Course in Biotechnology” (2004-2007) was one of the two long-term training courses held in Japan launched in response to the recommendations concluded at a UNESCO General Conference Meeting. After the operation of 33 batches for developing human resources in Asia, total 459 young researchers from all over Asian countries are now playing active and leading roles in current biotechnology research and education in the region to contribute to the development of their own country, and consequently to Asian countries, and the establishment of the closer and stronger network in the region.

UNESCO Conference Series on Capability-Building in Life Sciences

In the year of 2007, the program of UNESCO Postgraduate Inter-University Course was temporarily terminated to further evaluate and re-design with a view to delivering a new program in response to evolving needs of regional standpoints. Under the circumstance, sponsored by UNESCO through the J-FIT of MEXT,

UNESCO Conference Series on Capacity-Building in Life Science was organized by holding conferences in Thailand (Bangkok, October 2009), Vietnam (Hanoi, October 2009), Philippines (Manila, February 2010), Indonesia (Yogyakarta, May 2010) and finally in Thailand (Bangkok, September 2010) as the consulting workshop with the UNESCO Regional Network for Microbiology and Biotechnology, which resulted in designing of new UNESCO training course for human resources development in the region and successful proposal to UNESCO.

UNESCO Training Project – One-month Lab Revisit Program

This project was conducted in August - September 2011, under the Official Development Assistance Grants for UNESCO Activities of MEXT, based on the result of the Conference Series. Participants were alumni of the previous UNESCO courses on Microbiology and Biotechnology, or those nominated by the senior alumni in their home laboratories.

Purpose

1. To provide the opportunity for the alumni and related young researchers to visit laboratories in Japanese universities to be exposed to leading-edge of research, to upgrade research skills, and to facilitate exchange of researchers.
2. To rebuild up the networks among researchers between Japan and Asian countries in the field of biotechnology.
3. To strengthen the network among the alumni of our UNESCO courses beyond generations and countries.

List of Participants

Group A

| Name | Nationality | Affiliation | Host Researcher | Past UNESCO Course |
|-----------------------------|-------------|--|--------------------------------------|---|
| Ta Bich Thuan | Vietnam | Faculty of Biology, Hanoi University of Science, VNU | Prof. T. Nihira, Osaka University | UM23 |
| Natthaporn Takpho | Thailand | Department of Biotechnology, Faculty of Science, Mahidol University | Prof. S. Harashima, Osaka University | Nominated by Dr. Chuenchit Boonchird (UM10, Osaka U) |
| Anchaya Mongkolchaiyaphruek | Thailand | Department of Horticulture, Faculty of Agriculture, Kasetsart University | Prof. T. Muranaka, Osaka University | Nominated by Dr. Savitr Trakulnaleamsai (UM17, Osaka U) |
| Pagakrong Wanapaisan | Thailand | Department of Biotechnology, Faculty of Science, Mahidol University | Prof. K. Fujiyama, Osaka University | Nominated by Prof. Watanalai Panbangred (UM06, Osaka U) |

| | | | | |
|-----------------------------|-------------|--|--|--|
| Ronny Purwadi Herman | Indonesia | Department of Chemical Engineering, Institut Teknologi Bandung | Prof. E. Fukusaki, Osaka University | Nominated by Dr. Ukan Sukandar (UM07, Osaka U) Dr. Sastia Prama Putri (UB02, Osaka U) |
| Darmawan Ari Nugroho | Indonesia | Faculty of Agricultural Technology, Gadjah Mada University | Prof. H. Ohtake, Osaka University | UB02 |
| Cristopher Salazar Escano | Philippines | National Institute of Molecular Biology and Biotechnology (BIOTECH) | Prof. K. Kitamoto, The University of Tokyo | UM30 |
| Susan Afable Sedano | Philippines | National Institute of Molecular Biology and Biotechnology (BIOTECH) | Prof. J. Ogawa, Kyoto University | UM16 |
| Francisco Banzuela Elegado | Philippines | National Institute of Molecular Biology and Biotechnology (BIOTECH) | Prof. K. Sonomoto, Kyushu University | UM13 |
| K.H.M. Nazmul Hussain Nazir | Bangladesh | Department of Microbiology and Hygiene, Bangladesh Agricultural University | Assoc. Prof. M. Goto, Kyushu University | UB02 |

Group B

| | | | | |
|------------------------|------------|---|--|------|
| Nguyen Quang Huy | Vietnam | Faculty of Biology, Hanoi University of Science, VNU | Prof. S. Kanaya, Osaka University | UM25 |
| Karseno bin Mulsidi | Indonesia | Department of Agricultural Technology, Jenderal Soedirman University | Prof. T. Nihira, Osaka University | UM29 |
| Neung Teaumroong | Thailand | Research Department, Institute of Agricultural Technology, Suranaree University of Technology | Prof. M. Minamisawa, Tohoku University | UM17 |
| Narayan Roy | Bangladesh | Department of Biochemistry and Molecular Biology, University of Rajshahi | Prof. K. Abe, Tohoku University | UM22 |
| Nguyen Thi Bich Phuong | Vietnam | InnovGreen Corporation | Prof. K. Sonomoto, Kyushu University | UM30 |

UM: International Post-Graduate University Course in Microbiology

UB: International Inter-University Course in Biotechnology

Schedule

| | | |
|------------|-----------|--|
| [Group A]: | August 1 | Arrive at Osaka |
| | August 3 | Move to assigned laboratories |
| | August 29 | Discussion and report submission in Osaka University |

| | | |
|------------|--------------|-------------------------------|
| | August 30 | Depart from Osaka |
| [Group B]: | August 25 | Arrive at Osaka |
| | August 30 | Move to assigned laboratories |
| | September 22 | Report submission |
| | September 23 | Depart from Osaka |

Program of Lectures and Discussion

August 29, 2011

Venue: Suntory Memorial Hall, Osaka University

- 10:00-10:15 Opening remarks by
 Prof. S. Harashima, Professor, Department of Biotechnology, Graduate School of Engineering, Osaka University.
 Prof. T. Nihira, Director of ICBiotech, Osaka University.
- 10:15-10:45 Self introduction from each participant of the program.
- 10:45-11:15 ‘Novel method for measuring active tension generation by skeletal muscle cells and its application’ by Dr. E. Nagamori, Associate Professor, Department of Biotechnology, Graduate School of Engineering, Osaka University.
- 11:15-11:30 Instruction by organizer.
- 11:30-13:30 Lunch break.

Venue: GSE common meeting room

- 13:30-14:00 ‘Replicating the biosynthetic pathways in medicinal plants for the production of useful compounds’ by Dr. Hikaru Seki, Associate Professor, Department of Biotechnology, Graduate School of Engineering, Osaka University.
- 14:00-14:30 ‘Molecular breeding and bioresources in yeasts’ by Dr. Y. Kaneko, Professor, Department of Biotechnology, Graduate School of Engineering, Osaka University.
- 14:30-14:45 Break.
- 14:45-16:45 Discussion on the previous/new UNESCO courses.
- 17:30- Reception party

UNESCO Biotechnology School in Asia (JFIT Project)

Taking over the termination of 34-year-operation of the two long-term UNESCO courses held in Japan, UNESCO Biotechnology School in Asia will newly launch in 2013 as an activity of the “UNESCO Extra-budgetary Program for Human Resources and Research Network in Sciences and Technology” supported by the Japanese Fund-In-Trust (JFIT). It aims to train Asian university-graduates in the field of Biotechnology and related areas resulting in achieving master degree, and the participants are expected to make significant contributions to an educational or scientific institution in the coming years in their home countries.

The proposal of the Project was officially approved on March 5, 2012. The 2013 Course consists of the 2-year Master-degree awardable courses (August/September 2013 – July/August 2015). Participants from Cambodia, Laos, Myanmar or Mongolia etc will enroll into the master courses of universities in

Indonesia, Thailand or Vietnam. During the first year of the relevant master course, participants from Asian countries will be equipped with contemporary expanding knowledge and technology for further development of skills and study for advanced research following the curricula of the relevant master courses.

III. JSPS ASIAN CORE PROGRAM: NEXT-GENERATION BIOPRODUCTION PLATFORM LEVERAGING SUBTROPICAL MICROBIAL BIORESOURCES (2009-2013)

Following the termination of the JSPS multilateral program in the field of Biotechnology under the framework of Core-University System conducted for the past 27 years since 1978, a scheme of collaboration of Japan Science and Technology Agency (JST) was carried out in FY2006-2008 as a program of "Solution of Research Issues Shares by Asian Region" under the framework of "Asian Science and Technology Cooperation Promotion Strategy" supported by the Special Coordination Funds for Promotion of Science and Technology (SCF) of MEXT.

This project aims to develop next-generation bioproduction platform by interaction between excellent researchers from Japan, Thailand, Viet Nam, Laos and Cambodia, together with fostering young researchers from those countries for future in the field of industrial biotechnology.

1. Purpose

Based on the result from preceding MEXT/JST project carried out in FY2006-2008, the project area is expanded widely to Thai neighbouring countries (Viet Nam, Laos and Cambodia) in addition to Thailand, and research exchange will be carried out focusing on development of bioproduction platform using microbes.

Thailand, Viet Nam, Laos and Cambodia belong to countries having subtropical climate, and thus have abundant bioresources, such as agro/marine resources. Especially, microbial resources as invisible bioresources are highly abundant, possessing diverse array of unexplored microorganisms which are not present in Japan. These novel useful bioactive compounds (such as antibiotics and bacteriocins), producers of useful industrial enzymes (phytase or soft biomass degrading enzymes), whole-cell catalyst to produce bioethanol or sugars through degradation of soft biomass or the biocatalyst replacing present toxic inorganic catalyst in industrial processes in converting hydrophobic compounds. On-site bioproduction platform using Southeast Asian bioresources is essential as the next-generation fundamental technology. This project aims to develop next-generation bioproduction platform by interaction between excellent researchers from Japan, Thailand, Viet Nam, Laos and Cambodia, fostering young researchers from those countries for future in the field of industrial biotechnology.

2. Outline of Implementation System

Japanese academic consortium will be formed from professional academic staffs belonging to top five Japanese universities (Osaka University, The University of Tokyo, Hokkaido University, Kyushu University and Toyama Prefectural University) who are excellent in several steps of industrial biotechnology. Similarly, Thai academic consortium will be formed from representative young researchers in the field of biotechnology from Thai top 4 universities (Mahidol University, Chulalongkorn University, Kasetsart University, and King Mongkut's University of Technology Thonburi) and BIOTEC (National Center for Genetic Engineering and Biotechnology). The international collaboration will be performed between the Japanese consortium and the Thai consortium to design and establish efficient way in the utilization of bioresources.

Japanese core organization: Osaka University.

Japanese coordinator: Prof. Takuya Nihira, ICBiotech, Osaka University.

Counterpart country and core organization:

Prof. Watanalai Panbangred, Mahidol University, Thailand.

Dr. Duong Van Hop, The Institute of Microbiology and Biotechnology,
Viet Nam National University, Hanoi, Viet Nam.

Mr. Sokunthia Thao, Royal University of Phnom Penh, Cambodia.

Dr. Sundara Souriuodong, Science and Technology Research Institute,
National Authority for Science and Technology, Laos.

3. Research Topics and Participating Members (*Group leader)

Group 1. Production of novel bioactive compounds

- Japan: Takuya Nihira (ICBiotech, Osaka University) *
Eiichiro Fukusaki (Osaka University)
Kazumasa Hirata (Osaka University)
Yasuhiro Igarashi (Toyama Prefectural University)
Kenji Sonomoto (Kyushu University)
- Thailand: Watanalai Panbangred (Mahidol University)
Amaret Bhumiratana (Mahidol University)
Patoomratana Tuchinda (Mahidol University)
Amonlaya Tosukhowong (BIOTEC: National Center for Genetic Engineering and Biotechnology)
Wonnop Visessanguan (BIOTEC: National Center for Genetic Engineering and Biotechnology)
Ruud Vallyasevi (BIOTEC: National Center for Genetic Engineering and Biotechnology)
- Vietnam: Duong Van Hop (Institute of Microbiology and Biotechnology (IMBT), Vietnam National University Hanoi)
- Cambodia: Hang Chan Thon (Royal University of Phnom Penh)
Thao Sokunthia (Royal University of Phnom Penh)
- Laos: Souriuodong Sundara (Laos National Authority of Science and Technology)

Group 2. Production of novel useful enzymes

- Japan: Kazuo Sakka (Mie University) *
Kouzo Asano (Hokkaido University)

Thailand: Vithaya Meevootisom (Mahidol University)
 Suthep Wiyakrutta (Mahidol University)
 Khanok Ratanakhanokchai (King Mongkut's University of Technology
 Thonburi)
 Vietnam: Duong Van Hop (Institute of Microbiology and Biotechnology (IMBT),
 Vietnam National University Hanoi)

Group 3. Development of novel biocatalysts

Japan: Satoshi Harashima (Osaka University) *
 Hisao Ohtake (Osaka University)
 Kazuhito Fujiyama (Osaka University)
 Yasuo Igarashi (The University of Tokyo)
 Thailand: Savitree Limtong (Kasetsart University)
 Wichien Yongmanitchai (Kasetsart University)
 Chuenchit Boonchird (Mahidol University)
 Thipa Asvarak (Mahidol University)
 Thunyarat Pongtharangkul (Mahidol University)
 Alisa Vangnai (Chulalongkorn University)
 Verawat Champreda (BIOTEC: National Center for Genetic Engineering and
 Biotechnology)

4. Record of Scientist Exchange

From Japan to counterpart countries

| Name | Affiliation | Visiting Period | Host Organization |
|-------------------|---|----------------------|---|
| Takuya Nihira | Director, Professor, ICBiotech, Osaka Univ. | June 12-19, 2011 | Laos National Authority of Sci. and Technol, Laos |
| | | Oct. 5-9, 2011 | Inst. of Microbiol. and Biotechnol., Vietnam National Univ., Hanoi, Vietnam |
| | | Oct. 29-Nov. 3, 2011 | Mahidol Univ., Thailand |
| | | Jan. 29-Feb. 4, 2012 | Mahidol Univ., Thailand |
| | | Feb. 12-18, 2012 | Mahidol Univ., Thailand |
| | | Mar. 1-3, 2012 | Mahidol Univ., Thailand |
| Kazuhito Fujiyama | Professor, ICBiotech, Osaka Univ. | Jan. 30-Feb. 4, 2012 | Seminar in Thailand |
| Satoshi Harashima | Professor, Graduate School of Engineering, Osaka Univ. | Jan. 30-Feb. 2, 2012 | Seminar in Thailand |
| Teruo Sone | Assoc. Professor, Graduate School of Agriculture, Hokkaido Univ. | Oct. 16-21, 2011 | Mahidol Univ., Thailand |
| | | Jan. 30-Feb. 3, 2012 | Seminar in Thailand |
| Kazuo Sakka | Professor, Faculty of Bioresources, Mie Univ. | Oct. 20-29, 2011 | King Mongkut's Univ. of Technol., Thailand |
| | | Jan. 30-Feb. 3, 2012 | Seminar in Thailand |

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|-------------------|---|-----------------------|---|
| Yasuo Igarashi | Professor, Graduate School of Agriculture, Univ. of Tokyo | Jan. 30-Feb. 2, 2012 | Seminar in Thailand |
| Yasuhiro Igarashi | Professor, Biotechnology Research Center, Toyama Prefectural Univ. | Jan. 29-Feb. 3, 2012 | Seminar in Thailand |
| Hirofumi Akiyama | Ph.D. student, Biotechnology Research Center, Toyama Prefectural Univ. | Jan. 29-Feb. 3, 2012 | Seminar in Thailand |
| Wu Lin Ghai | Ph.D. student, Biotechnology Research Center, Toyama Prefectural Univ. | Jan. 29-Feb. 3, 2012 | Seminar in Thailand |
| Hisao Otake | Prof., Graduate School of Engineering, Osaka Univ. | Jan. 30-Feb. 3, 2012 | Seminar in Thailand |
| Hiroshi Kinoshita | Assist. Prof., ICBiotech, Osaka Univ. | Aug. 18-Sept. 1, 2011 | Inst. of Microbiol. and Biotechnol., Vietnam National Univ., Hanoi, Vietnam |
| | | Feb. 29-Mar. 1, 2012 | Inst. of Microbiol. and Biotechnol., Vietnam National Univ., Hanoi, Vietnam |
| | | Mar. 11-17, 2012 | Inst. of Microbiol. and Biotechnol., Vietnam National Univ., Hanoi, Vietnam |
| Shigeru Kitani | Assist. Prof., ICBiotech, Osaka Univ. | Jan. 8-15, 2012 | Mahidol Univ., Thailand |
| | | Jan. 16-22, 2012 | Royal Univ., Phnom Penh, Cambodia |
| Takao Ohashi | Assist. Prof., ICBiotech, Osaka Univ. | Jan. 29-Feb. 5, 2012 | Seminar in Thailand |
| Kohsuke Honda | Assoc. Prof., Graduate School of Engineering, Osaka Univ. | Jan. 30-Feb. 4, 2012 | Chulalongkorn Univ., Thailand |
| Takeshi Bamba | Assoc. Prof., Graduate School of Engineering, Osaka Univ. | Jan. 30-Feb. 3, 2012 | Seminar in Thailand |
| Makoto Imura | Student, Graduate School of Engineering, Osaka Univ. | Jan. 30-Feb. 4, 2012 | Seminar in Thailand |
| Kenji Sonomoto | Prof., Graduate School of Bioscience and Bio-environmental Sciences, Kyushu Univ. | Jan. 30-Feb. 2, 2012 | Seminar in Thailand |
| Makoto Sasaki | Student, Graduate School of Bioscience and Bio-environmental Sciences, Kyushu Univ. | Jan. 15-Feb. 12, 2012 | BIOTEC, Thailand |

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|----------------|---|-----------------------|------------------|
| Ryoji Yokohata | Student, Graduate School of Bioscience and Bio-environmental Sciences, Kyushu Univ. | Jan. 15-Feb. 12, 2012 | BIOTEC, Thailand |
|----------------|---|-----------------------|------------------|

Between counterpart countries:

| Name | Affiliation | Visiting Period | Host Organization |
|-----------------------|---|-----------------------|-------------------------|
| Pel Pisey | Research Assistant, Royal Univ. Phnom Penh, Cambodia | Oct. 1-27, 2011 | Mahidol Univ., Thailand |
| | | Jan. 27-Feb. 25, 2012 | Mahidol Univ., Thailand |
| Shihavong Khamphachan | Researcher, Laos National Authority of Science and Technology, Laos | Oct. 1-27, 2011 | Mahidol Univ., Thailand |
| Sundara Souriodong | Director, Laos National Authority of Science and Technology, Laos | Jan. 29-Feb. 2, 2012 | Mahidol Univ., Thailand |
| Keo Phommavong | Researcher, Laos National Authority of Science and Technology, Laos | Jan. 27-Mar. 20, 2012 | Mahidol Univ., Thailand |
| Thao Sokunthia | Dept. Chairman, Royal Univ. Phnom Penh, Cambodia | Jan. 29-Feb. 3, 2012 | Mahidol Univ., Thailand |
| Min Malay | Lab. Assistant, Royal Univ. Phnom Penh, Cambodia | Jan. 29-Feb. 3, 2012 | Seminar in Thailand |

5. Seminar and Symposium

The Young Scientist Seminar (YSS) and a Joint Symposium (JS) scheduled in October 2011 were held on January 31 and February 1 2012, respectively, due to the severe floods in Bangkok.

The Young Scientist Seminar 2011
 Bioresources: Their Potentials & Applications
 The Asian Core Program (2009 – 2013)
 “Next-Generation Bioproduction Platform
 Leveraging Subtropical Microbial Bioresources”

Date: January 31, 2012

Venue: Room K102, Chalermprakiet (K) Building, Faculty of Science, Mahidol University, 272 Rama VI Road, Ratchathewi, Bangkok 10400, Thailand

Hosted by: Mahidol University, Faculty of Science (MU · SC)

In Association with:

Osaka University (OU)

National Science and Technology Development Agency (NSTDA), Thailand

National Research Council of Thailand (NRCT)

Japan Society for the Promotion of Science (JSPS)

Committee

Advisory Committee

Prof. Skorn Mongkolsuk, Dean, Faculty of Science, Mahidol University, Thailand
Prof. Yasuo Igarashi, The University of Tokyo, Japan
Prof. Kenji Sonomoto, Kyushu University, Japan
Dr. Douong Van Hop, Director, Institute of Microbiology and Biotechnology, Vietnam National University Hanoi, Vietnam
Dr. Souriodong Sundara, Director, Science and Technology Research Institute, National Authority of Science and Technology, Laos PDR
Mr. Thao Sokunthea, Head, Department of Biology, Royal University of Phnom Penh, Cambodia
Prof. Vithaya Meevootisom, Head, Department of Microbiology, Faculty of Science, Mahidol University, Thailand
Assoc. Prof. Chuenchit Boonchird, Head, Department of Biotechnology, Faculty of Science, Mahidol University, Thailand

Scientific Committee

Prof. Takuya Nihira (OU), Prof. Vithaya Meevootisom (MU), Prof. Yasuo Igarashi (UTokyo), Prof. Watanalai Panbangred (MU), Prof. Kenji Sonomoto (Kyushu U), Prof. Savitree Limtong (Kaset U), Prof. Kazuhito Fujiyama (OU), Assoc. Prof. Khanok Ratanakhanokchai (KMUTT)

Organizing Committee

Prof. Takuya Nihira (OU), Prof. Watanalai Panbangred (MU), Dr. Suthep Wiyakrutta (MU), Dr. Arjaree Nilavongse (MU), Dr. Idsada Mungsantisuk (MU), Dr. Chartchai Changsen (MU), Dr. Soraya Chaturongakul (MU), Dr. Radeekorn Akkarawongsapat (MU), Ms. Duangnate Isarangkul Na Ayudhaya (MU), Ms. Monludee Phianlertloy (MU), Ms. Sarucha Sankunha (MU)

Secretariat

Thai Side:

Dr. Suthep Wiyakrutta, Department of Microbiology, Faculty of Science, Mahidol University, Bangkok, 10400, Thailand
Tel: +66-2-201-5543 Fax: +66-2-644-5411 E-mail: scsvy@mahidol.ac.th
Ms. Monludee Phianlertloy, Ms. Sarucha Sankunha, MU-OU:CRC, Faculty of Science, Mahidol University, Bangkok, 10400, Thailand

Japanese Side:

Prof. Takuya Nihira, International Center for Biotechnology, Osaka University, Japan
Tel: +81-6-6879-7455 Fax: +81-6-6879-7454 E-mail: nihira@icb.osaka-u.ac.jp

Program

January 31, 2012

8:30 – 9:00 Registration

9:00 – 9:10 Opening Ceremony

Welcome Address by Prof. Skorn Mongkolsuk, Dean, Faculty of Science, Mahidol University, Thailand

Morning Session

Chair person: Prof. Kenji Sonomoto

Co-chair: Assoc. Prof. Khanok Ratanakhanokchai

09:10 – 09:40 Keynote Lecture 1 (K-1) Prof. Yasuo Igarashi, The University of Tokyo

09:40 – 09:55 Oral Presentation 1 (O-1) Yasin Kitichantaropas (Thailand)

09:55 – 10:10 Oral Presentation 2 (O-2) Makoto Imura (Japan)

10:10 – 10:30 Coffee Break

10:30 – 10:45 Oral Presentation 3 (O-3) Paripok Phitsuwan (Thailand)

Chair person: Prof. Kazuhito Fujiyama

Co-chair: Dr. Souriodong Sundara
 10:45 – 11:00 Oral Presentation 4 (O-4) Ryoji Yokohata (Japan)
 11:00 – 11:15 Oral Presentation 5 (O-5) Wuttichai Mhuantong (Thailand)
 11:15 – 11:30 Oral Presentation 6 (O-6) Hirofumi Akiyama (Japan)
 11:30 – 11:45 Oral Presentation 7 (O-7) Notthaporn Phrueksahiran (Thailand)
 11:45 – 12:00 Oral Presentation 8 (O-8) Linkai Yu (Japan)
 12:00 – 14:00 Lunch & Poster Presentation
 Afternoon Session
 Chair person: Prof. Yasuo Igarashi
 Co-chair: Prof. Savitree Limtong
 14:00 – 14:30 Keynote Lecture 2 (K-2) Prof. Kenji Sonomoto, Kyushu University
 14:30 – 14:45 Oral Presentation 9 (O-9) by a Thai young scientist
 14:45 – 15:00 Oral Presentation 10 (O-10) Makoto Sasaki (Japan)
 15:00 – 15:15 Oral Presentation 11 (O-11) by a Thai young scientist
 15:15 – 15:35 Coffee Break
 Chair person: Dr. Douong Van Hop
 Co-chair: Mr. Thao Sokunthea
 15:35 – 15:50 Oral Presentation 12 (O-12) by a Thai young scientist
 15:50 – 16:05 Oral Presentation 13 (O-13) by a Thai young scientist
 16:10 – 16:30 Closing Ceremony
 Award Presentation
 Closing Remark by Prof. Takuya Nihira

Keynote Lectures & Oral Presentations

- K-1 Prof. Yasuo Igarashi, The University of Tokyo
 “From Pure Culture to Mixed Culture-New Aspects of Biotechnology-“
 K-2 Prof. Kenji Sonomoto, Kyushu University
 “New Era of Lactic Acid Bacteria to Open the Future”
 O-1 Yasin Kitichantaropas, Mahidol University
 “Oxidative stress caused by environmental stresses in thermotolerant yeast”
 O-2 Makoto Imura, Osaka University
 “Identification of replicon of a 111-kb circular plasmid from the hydrophobic bacterium
Rhodococcus opacus B-4”
 O-3 Paripok Phitsuwon, King Mongkut's University of Technology Thonburi
 “Improved deconstruction of natural plant biomass by a combination of commercial cellulases
 and hemicellulases from *Tepidimicrobium xylanilyticum* BT14”
 O-4 Ryoji Yokohata, Kyushu University
 “Antagonist design of gelatinase biosynthesis-activating pheromone of *Enterococcus faecalis*
 based on reverse alanine scanning”
 O-5 Wuttichai Mhuantong, BIOTEC
 “Bioinformatic analysis and comparative study of metagenomes of lignocellulosic biomass
 degrading microbial communities”
 O-6 Hirofumi Akiyama, Toyama Prefectural University
 “Linfuranones A and B, novel polyketides from an endophytic *Microbispora* sp. GMKU363”
 O-7 Notthaporn Phrueksahiran, Mahidol University
 “Screening and identification of antifungal metabolites from *Streptomyces* spp.”
 O-8 Linkai Yu, Toyama Prefectural University
 “Jommthonic acid, a novel bioactive compound from *Streptomyces* in Thailand”
 O-9 Thai Young Scientist
 O-10 Makoto Sasaki, Kyushu University
 “Purification and characterization of ABC transporter NukT”
 O-11 Thai young scientist
 O-12 Thai young scientist
 O-13 Thai young scientist

Poster Presentations (P-1 ~ P-14)

- P-1 Rattiya Waeonukul, King Mongkut's University of Technology Thonburi
“Development of efficient biomass saccharification using highly active multienzyme complexes”
- P-2 Thai young scientist, Mahidol University
“Screening of actinomycetes from plant rhizospheric soils with inhibitory activity against *Colletotrichum* spp.”

JSPS Asian CORE Symposium 2011 on Bioproduction Platform Leveraging Subtropical Microbial Bioresources

Date: February 1, 2012

Venue: The Imperial Queen's Park Hotel

Program

| From | To | | |
|---|-------|--------------|---|
| 14:00 | 14:02 | 1 | Welcome address Prof. Takuya Nihira (Osaka U)/ Prof. Watanalai Panbangred (Mahidol U) |
| 14:02 | 14:05 | 2 | Address NRCT or NSTDA (Tentative) |
| 14:05 | 14:08 | 3 | Address JSPS Bangkok (Tentative) |
| Chaired by Prof. Hisao Ohtake (Osaka U) | | | |
| 14:08 | 14:29 | 4 | Detection and characterization of putative novel lactococcal bacteriocins Dr. Wonnop Visessanguan (BIOTEC) Dr. Amonlaya Tosukhowong (BIOTEC) Prof. Kenji Sonomoto (Kyushu U) |
| 14:29 | 14:50 | 5 | Drug lead discovery from microorganisms in Thailand Prof. Watanalai Panbangred (Mahidol U) Prof. Yasuhiro Igarashi (Toyama Pref U) Prof. Takuya Nihira (Osaka U) |
| 14:50 | 15:11 | 6 | Xylanolytic enzymes of <i>Paenibacillus curdlanolyticus</i> B-6 applicable to biomass degradation and xylooligosaccharides production Dr. Khanok Ratanakhanokchai (KMUTT) Prof. Kazuo Sakka (Mie U) |
| 15:11 | 15:32 | 7 | Phytases and polysaccharide hydrolases from microbes and metagenomes Prof. Vithaya Meevootisom (Mahidol U) Prof. Kozo Asano (Hokkaido U) Assoc. Prof. Teruo Sone (Hokkaido U) |
| 15:32 | 16:00 | Coffee Break | |
| Chaired by Assoc. Prof. Takeshi Bamba (Osaka U) | | | |
| 16:00 | 16:22 | 8 | Development of host vector system in a oleaginous yeast <i>Rhodospiridium toruloides</i> DMKU3-TK16 and screening of other oleaginous yeasts showing high glycerol assimilation Prof. Savitree Limtong (Kasetsart U) Prof. Kazuhito Fujiyama (Osaka U) Assist. Prof. Takao Ohashi (Osaka U) Prof. Eiichiro Fukusaki (Osaka U) |
| 16:22 | 16:44 | 9 | Breeding of superior yeast bioethanol producer with Thai origin displaying multiple stress tolerance Dr. Chuenchit Boonchird (Mahidol U) Prof. Satoshi Harashima (Osaka U) |
| 16:44 | 17:06 | 10 | Development of a whole-cell biocatalyst expressing the P450 monooxygenase for synthesis of epoxyhexane |

| | | | |
|-------|-------|----|--|
| | | | Dr. Thunyarat Pongtharangkul (Mahidol U) |
| | | | Dr. Alisa Vangnai (Chulalongkorn U) |
| | | | Prof. Hisao Ohtake (Osaka U) |
| | | | Dr. Kohsuke Honda (Osaka U) |
| 17:06 | 17:28 | 11 | Application of biomass-specific thermophilic microbial consortia for saccharification and production of biorefinery products from local agricultural biomass |
| | | | Dr. Verawat Champreda (BIOTEC) |
| | | | Prof. Yasuo Igarashi (U Tokyo) |
| 17:28 | 17:30 | 12 | Closing remark/Asian CORE project in the future |
| | | | Prof. Takuya Nihira (Osaka U) |
| | | | Watanalai Panbangred (Mahidol U) |

6. Committee Meeting

July 5, 2011. Domestic Member meeting at ICBiotech, Osaka University, attended by Japanese cooperative researchers.

January 30, 2012. Coordinator meeting in Bangkok Seminar place, The Imperial Queen's Park Hotel..

January 16, 2012. Domestic Member meeting in Japan at ICBiotech, Osaka University, attended by Japanese cooperative researchers.

IV. JSPS Bilateral Program of Joint Research Project and Seminars - Vietnam (August 2011-March 2014)

JSPS promotes international scientific exchanges between Japan and counterpart countries in accordance with agreements or memoranda of understanding concluded with academies, research councils and other science-promotion organizations in those countries. ICBiotech participates in the bilateral programs agreed between Vietnam Academy of Science and Technology (VAST), which mainly take the form of joint research projects, joint seminars and researcher exchanges.

V. JASSO SS&SV Program (April 2011-March 2012)

Short-term stay and short-term visit program (SS&SV) by the Japan Student Services Organization (JASSO) is a program of both student acceptance and dispatch by Japanese universities. It must be conducted under each Japanese university's control and responsibility. JASSO provides selected students with monthly stipend of less than 3 months. In 2011, Japanese MS students stayed in universities in Thailand and Vietnam, whereas 6 students from Thailand and Vietnam conducted research for 3 weeks, September 5-26, 2011, in the Prof. Fujiyama's laboratory of ICBiotech, cooperated by Prof. Nihira (ICBiotech) and Prof. Harashima (Dept. Biotechnology, Osaka University), as follows:

From Thailand: Thunnalin Winuprasith (Mahidol University), Narichsara Buasri (Mahidol University), Junjira Sae-Tang (King Mongkut's University of Technology), Phraewpan

Leangapichart (King Mongkut's University of Technology).

From Vietnam: Vu Minh Man (Cao Tho University), Tran Van Thong (Cao Tho University)

VI. JST-JICA (SATREPS) (2008-2012)

SATREPS (Science and Technology Research Partnership for Sustainable Development) is a Japanese government program that promotes international joint research targeting global issues. SATREPS projects are expected to lead to outcomes with potential for practical utilization, and to enhance research capacity in the developing country. The program is conducted through collaboration between two Japanese government agencies: the Japan Science and Technology Agency (JST) and the Japan International Cooperation Agency (JICA).

ICBiotech works as a cooperative group to the following project.

Topic: Research and Development of Therapeutic Products against Infectious Diseases, especially Dengue Virus Infection Creating Drugs Effective against the Dengue Virus from Human Beings.

Principal Investigator: Prof. IKUTA Kazuyoshi/Research Institute for Microbial Diseases, Osaka University.

Research Period: 4 years from 2008.

Counterpart Research Institutions: Ministry of Public Health-National Institute of Health (NIH), Mahidol University (Thailand).

Research Project:

Preventing the further spread of dengue fever in Southeast Asia. Dengue fever is a viral disease spread by mosquitoes that infects 50 million people living in the tropics every year, with 250,000 suffering seriously as a result, but no effective therapies have yet been discovered. Researches are for studying patients and microorganisms from Thailand to contribute to the development of drugs effective against dengue fever. Since the human body creates proteins (antibodies) to combat the dengue virus, investigating these proteins to find any that appear particularly effective against the virus and also searching microorganisms prevalent in Thailand for compounds that block the virus.

Conducting experiments to develop new drugs following the successful creation of antibodies. Having succeeded in creating many human-derived antibodies against the dengue virus, and also setting a course of action for research on influenza virus and botulinum toxin, the project will conduct animal and other experiments to assess the effectiveness of antibodies showing the most potential with the aim of developing new therapeutic drugs.

VII. FIELDO Program (2011~)

Fieldwork, Internship and Experiential Learning Design Office (FIELDO) was established in the Global Collaboration Center (GLOCOL), Osaka University in 2010 to offer fieldwork, internship and study tours programs. As a coordinating institution, ICBiotech arranged six graduate students (as follows) to conduct research in the

laboratory of Dr. Yoshinori Sumimura, Division for Educational Development, GLOCOL, Osaka University, during September 2-25, 2011.

| Name | From |
|----------------------------|--|
| Ms. Penporn Sae-Tang | School of Bioresources and Technology, King Mongkut's University of Technology, Thonburi, Thailand |
| Ms. Thongpan Leangapichart | School of Bioresources and Technology, King Mongkut's University of Technology, Thonburi, Thailand |
| Mr. Chonprakun Thagun | Department of Biotechnology, Faculty of Science, Mahidol University, Thailand |
| Mr. Wasin Buasri | Department of Biotechnology, Faculty of Science, Mahidol University, Thailand |
| Ms. Khong Thi Diep | Thai Binh Medical University, Vietnam |
| Ms. Tran Thi Thu Suong | Cao Tho University, Vietnam |

VIII. VISITORS

Japanese Visiting Professor and Visiting Associate Professor

Visiting Professor Dr. Suteaki Shioya, Sojo University
 Visiting Associate Professor Dr. Michiko Ito, Kyoto University

Visiting Research Scholar

| Name | Affiliation | Staying Period |
|------------------------------|---|---------------------|
| Punchapat Sojikul | Mahidol University, Thailand | 2011.4.5-2011.6.3 |
| Niran Roongsawang | National Center for Genetic Engineering and Biotechnology, Thailand | 2011.6.20-2011.9.14 |
| Kanokwan Poomputsa | King Mongkut's University of Technology Thonburi, Thailand | 2011.7.1-2011.8.31 |
| Marasri Ruengjitchatchawalya | King Mongkut's University of Technology Thonburi, Thailand | 2011.9.1-2011.9.30 |
| Irfan Dwidya Prijambada | Gadjah Mada University, Indonesia | 2012.2.1-2012.2.29 |

Research Fellow

| Name | Affiliation | Staying Period |
|-------------------------|---|---|
| Nguyen Huynh Minh Quyen | Vietnam National University, Vietnam | 2011.2.28-2011.4.2 |
| Qusana Boonlucksanawong | Mahidol University, Thailand | 2011.6.11-2011.7.10 |
| Panadda Dhepakson | Medical Biotechnology Center, Ministry of Public Health, Thailand | 2011.7.3-2011.7.30 |
| Apichai Prachasupsap | Medical Biotechnology Center, Ministry of Public Health, Thailand | 2011.7.3-2011.7.30 2012.2.20-2012.2.27 |

| | | |
|--------------------------|--|-----------------------|
| Pannamthip Pitaksajikul | Mahidol University, Thailand | 2011.12.12-2011.12.19 |
| Anicha Leuungchaichaweng | Medical Biotechnology Center, Ministry of Public Health, Thailand | 2012.2.20-2012.2.27 |

Other Guests/Visitors

| Name | Affiliation | Staying Period |
|-------------------------|--|----------------|
| Virendra Swarup Bisaria | Indian Institute of Technology-Delhi, India | 2011.6.3 |
| Nguyen Thanh Phuong | Can Tho University, Vietnam | 2011.6.20 |
| Nguyen Cong Ha | Can Tho University, Vietnam | 2011.6.20 |
| Nguyen Trong Ngu | Can Tho University, Vietnam | 2011.6.20 |
| Le Nguyen Doan Duy | Can Tho University, Vietnam | 2011.6.20 |
| Nguyen Thi Ngoc Hue | Nha Trang Pasteur Inst., Vietnam | 2011.6.20 |
| Dao Thi Van Khanh | Nha Trang Pasteur Inst., Vietnam | 2011.6.20 |
| Ho Phuoc Hai | Binh Dien Whole Sale Market Co., Vietnam | 2011.6.20 |
| Truong Van Nhut | Binh Dien Whole Sale Market Co., Vietnam | 2011.6.20 |
| Anas M. Fauzi | Bogor Agricultural University, Indonesia | 2011.7.25 |
| Rinekso Sukmadi | Bogor Agricultural University, Indonesia | 2011.7.25 |
| Sakarindr Bhumiratana | King Mongkut's University Thonburi, Thailand | 2011.10.4 |
| Alisa S. Vangnai | Chulalongkorn University, Thailand | 2011.10.16- |
| Nguyen Anh Tuan | Can Tho University, Vietnam | 2011.11.8 |
| Le Viet Dung | Can Tho University, Vietnam | 2011.11.8 |
| Nguyen Van Be | Can Tho University, Vietnam | 2011.11.8 |
| Tran Thi Thanh Hien | Can Tho University, Vietnam | 2011.11.8 |
| Nguyen Mih Tri | Can Tho University, Vietnam | 2011.11.8 |
| Raymond L. Rodriguez | University of California, Davis, USA | 2011.12.15 |
| Irfan D. Prijambada | Gadjah Mada University, Indonesia | 2011.12.19 |
| Le Phuoc Minh | National Institute of Education Management, Vietnam | 2011.12.21 |
| Nghiem Xuan Minh | Ministry of Science and Technology, Vietnam | 2011.12.21 |
| Le Minh Sat | Ministry of Science and Technology, Vietnam | 2011.12.21 |
| Nguyen Phuck Khanh | Ministry of Science and Technology, Vietnam | 2011.12.21 |
| Ngo Sy Duoc | Ministry of Science and Technology, Vietnam | 2011.12.21 |
| Dang Guoc Bao | Ministry of Science and Technology, Vietnam | 2011.12.21 |
| Phan Hong Duong | Ministry of Science and Technology, Vietnam | 2011.12.21 |
| Soo-Hwan Yeo | National Academy of Agricultural Science, Korea | 2011.12.22 |
| Dewey D. Y. Ryu | University of California, Davis, USA | 2012.2.9 |
| Hoang Le Tuan Anh | Vietnam Academy of Science and Technology, Vietnam | 2012.2.13 |
| Ermie Bacarra | DOST, Philippines | 2012.2.1 |

Foreign students enrolled in ICBiotech

Japanese Government (Monbukagakusho) Scholarship:

Nguyen Havy (Vietnam National University, Ho Chi Minh City, Vietnam)

Ivy Grace U. Pati (BIOTECH, University of the Philippines at Los Banos, Philippines)

Mustafa Nabilah Sari (Gadjah Mada University, Indonesia)

International Program of “Frontier Biotechnology” for short term:

Nuttida Teerawattanakijipakorn (Thailand)

Privately financed:

Nguyen Viet Thi Minh (Hanoi University of Agriculture, Vietnam)

Ly Nhung Hong (Vietnam National University, Ho Chi Minh City University of Technology, Vietnam)

Mario Rovani Hendriyanto (Indonesia)

IX. COMMITTEE MEETING

Steering Committee Meetings of ICBiotech were convened as follows:

May 19, 2011

Discussion on inviting a Visiting Research Scholar: Dr. Marasri Ruengjitchachawalya, King Mongkut’s University of Technology, Thailand (September 1-30, 2011).

November 17, 2011

Discussion on inviting a Visiting Research Scholar: Dr. Irfan Dwidya Prijambada, Gadjah Mada University, Indonesia (February 1-29, 2012).

Discussion/Approval on the concurrent position of Professors T. Nihira and K. Fujiyama in International College, Osaka University (November 1, 2011-March 31, 2012).

March 16, 2012

Report on:

Renovation of ICBiotech building.

JSPS Core University Program for Cooperative Research in Asian countries.

JICA-JST Cooperative Project.

UNESCO Biotechnology School in Asia/Training Project.

UNESCO/ODA Project.

JASSO SS&SV Program.

Discussion on:

Renewal of Steering Committee members.

Conferring the title on visiting professors from abroad for 2012.

Conferring the title on visiting professors assigned from Japanese universities.