

CALL FOR APPLICATION
Human Resource Development Program in Biotechnology 2012

The National Center for Genetic Engineering and Biotechnology (BIOTEC) invites research scientists from developing countries in East Asia, Southeast Asia and the Pacific to participate in the Human Resource Development Program in Biotechnology for year 2012. The Program aims to build up R&D capability for developing countries as well as fostering research network among countries in this region. The Program places importance on improving research skill, thus it is designed to be an on-the-job and research-based training in BIOTEC's laboratories. Two types of training will be on offer: fundamental courses (3 months) and advanced courses (6 months). The training course consists of classroom session, designing and conducting a mini research project and site visit to factories or project sites. A total of 12 scholarships will be provided.

Eligibility

- 1) Must be scientists currently being employed in either a public or private academic institute, OR a governmental research organization in the list of eligible countries. Some courses are only open to specific countries, so please check the detail in the available course section.
- 2) Must hold at least a **Bachelor's degree in sciences for application to a fundamental course** or at least a **Master's degree in sciences for application to an advanced course**. All applicants must have finished course work in biology, microbiology or any related areas that will be required for particular training topics.
- 3) Must have good command in English.
- 4) Must be able to attend the course, during 1 July – 28 September 2012 for a fundamental course or 1 July – 31 December 2012 for an advanced course.
- 5) Must not be older than 32 years of age as of 1 July 2012.
- 6) Since the training is research-based and trainees will be working in the laboratories, applicants must show on his/her application form that his/her current job involves research, not administrative work.
- 7) Each selected grant recipient will be assigned to ONE of the available courses. Applicants will have to identify only ONE course on their application form.

List of Eligible Countries

Applicants from the following countries are eligible to apply for Human Resource Development Program in Biotechnology 2012:

East Asia	Southeast Asia	Pacific Islands	
<ul style="list-style-type: none"> ▪ China ▪ Mongolia 	<ul style="list-style-type: none"> ▪ Cambodia ▪ Indonesia ▪ Lao PDR ▪ Malaysia ▪ Myanmar ▪ Philippines ▪ Vietnam 	<ul style="list-style-type: none"> ▪ American Samoa ▪ Fiji ▪ Kiribati ▪ Marshall Islands ▪ Micronesia ▪ Northern Mariana Islands ▪ Palau 	<ul style="list-style-type: none"> ▪ Papua New Guinea ▪ Samoa ▪ Solomon Islands ▪ Tonga ▪ Timor-Leste ▪ Vanuatu

Sponsorship

Selected candidate will be provided with monthly allowance, on-campus or near-by accommodation and health insurance.

The international roundtrip airfare funding will only be available for the successful applicants from Laos, Myanmar and Cambodia. However, applicants from those countries who are able to obtain airfare from their own institutes or other funding agencies are strongly encouraged to indicate this fact on the application form.

Available Courses

Course No.	Project Title	Course Content
Fundamental Course (3 months)		
F-1*	Screening for new sources of brown planthopper resistance in rice germplasm	<ul style="list-style-type: none"> ▪ Collecting and rearing brown planthopper ▪ Screening for brown planthopper resistance
F-2*	Marker-assisted selection in rice breeding program	<ul style="list-style-type: none"> ▪ Introduction on gene/QTL information for marker-assisted selection (MAS) ▪ Introduction on molecular markers for MAS ▪ Introduction on laboratory equipment/supply and hands-on experience using MAS
F-3*	Physiological and anatomical responses to salinity in rice culture	<ul style="list-style-type: none"> ▪ Basic plant in vitro culture ▪ Experiments on the factors affecting the responses to salinity ▪ Growth measurement and histological work
F-4*	Leaf litter fungi	<ul style="list-style-type: none"> ▪ Material collection ▪ Isolation, identification and preservation of fungi
F-5*	Crustacean histology and pathology	<ul style="list-style-type: none"> ▪ Crayfish and shrimp sample collections ▪ Processing of shrimp and crayfish samples for paraffin embedding ▪ Sectioning, staining and histological studies ▪ Disease detection by PCR methods.
F-6	Ultrasensitive and simultaneous detection of DNA hybridization or protein based on nanoparticle-assisted signal amplification	<ul style="list-style-type: none"> ▪ Nanobiotechnology ▪ Biosensors and diagnostics ▪ Biochemistry and molecular biology ▪ Chemistry of materials
F-7	Toxicity improvement of a mosquito-larvicidal toxin from <i>Bacillus thuringiensis</i>	<ul style="list-style-type: none"> ▪ Basic genetic engineering & DNA manipulation ▪ Gene expression ▪ Protein analysis and bioassay
F-8	Physiological and anatomical responses to salinity in rice culture	<ul style="list-style-type: none"> ▪ Basic plant in vitro culture ▪ Experiments on the factors affecting the responses to salinity ▪ Growth measurement and histological work
F-9	Characterization of genes in the fungus <i>Beauveria bassiana</i> on their roles in insect pathogenesis	<ul style="list-style-type: none"> ▪ Fungal biology ▪ Molecular biology ▪ Insect-fungus interaction ▪ Biocontrol
Advanced Course (6 months)		
A-1	Identification and validation of drug target in <i>Plasmodium</i> parasites	<ul style="list-style-type: none"> ▪ Techniques in bioinformatics (genome search, comparative genomics) ▪ Molecular biology (PCR, molecular cloning, Southern blotting) and cell culture.
A-2	Effects of organic fertilizers on rice growth	<ul style="list-style-type: none"> ▪ Phenotypic and molecular analysis of rice responsive to organic fertilizers ▪ Molecular analysis involves PCR, cDNA-AFLP ▪ Sequencing, RT-PCR and bioinformatic

*** Courses no. F1, F2, F3, F4 and F5 are open to candidates from Cambodia, Lao PDR, Myanmar and Vietnam only.**

Application Procedure

Each applicant should submit a completed application form along with an English university-transcript, full curriculum vitae, certificate of health and copy of passport (if any) to BIOTEC. The deadline for receipt of application is 15 March 2012. Selected applicants will be notified by 15 April 2012. For application submission and further inquiries, please contact:

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