

CALL FOR APPLICATION

Human Resource Development Program in Biotechnology 2015



The National Center for Genetic Engineering and Biotechnology (BIOTEC) invites research scientists from developing countries in ASEAN to participate in the Human Resource Development Program in Biotechnology for year 2015. 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 fellowships 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 October – 30 December 2015 for a fundamental course or 1 October 2015 – 31 March 2016 for an advanced course**.
- 5) Must not be older than 32 years of age as of 1 October 2015.
- 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 the application form.

List of Eligible Countries

Application is open to developing economies in ASEAN, according to the World Bank data. These countries are Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines and Vietnam

Sponsorship

Selected candidate will be provided with monthly allowance, and accommodation. **The international roundtrip airfare 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*	Improvement of Laotian rice variety for biotic and abiotic stress by Marker Assisted selection (MAS)	<ul style="list-style-type: none">▪ Rice breeding▪ DNA analysis▪ MAS▪ Validation
F-2*	Identification of QTL for cooking elongation in Myanmar rice	<ul style="list-style-type: none">▪ DNA analysis▪ Evaluation of grain quality▪ Identification of QTL
F-3	Reconstruction of nitrogen assimilation pathway related to the starch biosynthesis in cassava	<ul style="list-style-type: none">▪ The metabolic pathway of carbon assimilation towards starch biosynthesis partly involves in nitrogen assimilation which may contribute to the starch formation in cassava root.▪ Reconstruct the nitrogen assimilation pathway related to the starch biosynthesis in cassava using the available genome sequence data and bioinformatics techniques
F-4	Identification of Begomovirus in tomato, pepper and cucurbits in Thailand	<ul style="list-style-type: none">▪ Identification of Begomovirus in infected plants by ELISA▪ PCR▪ Phylogenetic analysis
F-5	Gene and protein expression during ovarian development of <i>Penaeus monodon</i>	<ul style="list-style-type: none">▪ Gene expression▪ RNA extraction and cDNA synthesis▪ RT-PCR▪ Real time PCR▪ Protein expression▪ In vitro expression protein in bacterial system▪ Western blot analysis
F-6	Screening of vegetative insecticidal protein from <i>Bacillus thuringiensis</i> local isolates	<ul style="list-style-type: none">▪ Screening Vip3A protein by using SDS-PAGE & PCR
F-7	Metagenomic exploration of uncultured-microbial bioresources in marine environment	<ul style="list-style-type: none">▪ Exploration of uncultured-microbes in marine environments▪ Using tagged amplicon high-throughput sequencing and shotgun sequencing on Ion Proton/PGM or Pac RSII platforms
Advanced Course (6 months)		
A-1*	Identification of resistance genetic markers from drug resistant malaria parasites	<ul style="list-style-type: none">▪ Aseptic cell culture▪ Drug testing▪ Molecular biology (PCR, molecular cloning, DNA sequencing)
A-2*	Extracellular matrix components of Vibrio bacteria biofilms and their roles in biofilm formation	<ul style="list-style-type: none">▪ Functional characterize of proteins and carbohydrates▪ Bacteria culture▪ Protein purification▪ Identification by mass spectrometry▪ Microscopic techniques
A-3	Strategies for control shrimp early mortality syndrome	<ul style="list-style-type: none">▪ Determine the risk of EMS in shrimp developmental stages▪ Design the strategies to reduce the risk
A-4	Evaluation of technical enzymes for green industrial application	<ul style="list-style-type: none">▪ Characterization and testing of the selected enzyme candidates with the substrates and conditions in Thailand in laboratory-scale
A-5	Association between Vibrio parahaemolyticus biofilm and acute hepatopancreatic necrosis in shrimp	<ul style="list-style-type: none">▪ Bacterial culture (both planktonic and biofilm)▪ Shrimp histopathology▪ Microscopy (light and electron)▪ Bacterial identification▪ PCR, and other molecular techniques

***Courses no. F1, F2, A1 and A2 are open to candidates from Cambodia, Lao PDR, Myanmar 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) in PDF format to papawee.nup@biotec.or.th by 30 June 2015. Successful candidates will be informed by July 2015. For application submission and further inquiries, please contact:

International Cooperation Section

c/o Ms. Papawee Nupason

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