MHRD/ AICTE APPROVED SHORT TERM COURSE

ON

ENVIRONMENTAL GENOMICS AND BIOTECHNOLOGY

(UNDER QIP SCHEME)

(2^{nd} December – 9^{th} December, 2011)

Venue: IIT Kharagpur

Organized By

Department of Biotechnology

Indian Institute of Technology Kharagpur

Coordinators:

Principal Coordinator: Dr. Pinaki Sar

Co-Coordinator: Prof. Ananta Kumar Ghosh

Environmental Genomics

The utilization of natural microbial diversity in biotechnology is hindered mainly by our inability to culture the vast majority of microorganisms. Understanding microbial community structure, function and evolution in natural environment is required to meet the promise of microbial biotechnology. In order to meet these new challenges, microbiologists are applying tools of genomics and other high throughput technologies to both cultured microbes and related environmental samples.

Environmental genomics seeks to envisage an organism(s) response at the genetic level with respect to changes in their external environment. These genome responses are diverse and, as a result, environmental genomics integrates molecular biology, physiology, toxicology, ecology, systems biology, epidemiology and population genetics into an interdisciplinary research program. Two significant advances create opportunities to finally link gene-environment interactions to the fitness of individuals and to population-level outcomes: (1) Growing number of Genome and transcriptome sequences for species whose ecology and physiology are well understood and (2) Accessibility of sophisticated tools for high-throughput biology, statistical analysis and informatics.

Objectives

The objective of this course is to introduce the concept and techniques of microbial genomics to enhance the application of microbial resources in biotechnology

Areas to be covered in the course

- Genomics: Concept, methods and applications
- Bioinformatic tools, application in '-omics'-studies
- Genome diversity and polymorphisms
- Gene expression profiling, transcriptomics and microarray
- Metagenomics: Concepts, methods and application
- High throughput analytics in genomic studies
- Proteomics: tools and application

Faculty

Faculty from I.I.T. Kharagpur and experts from other reputed institutes will deliver lectures in this course.

Pedagogy:

Lecture through audio-visual presentation, simulation, structured exercise, group discussion, case analysis, and with interactive-brain storming sessions.

Number of Participants: 30 (Thirty only)

Eligibility:

Faculty from AICTE approved colleges, institutes and universities are eligible to participate in this course.

Approval Letter from concerned authority is mandatory

Minimum PG qualification is required

Course Fees: No course fees.

The course is fully sponsored by MHRD/AICTE under the quality improvement programme (QIP). QIP candidates from AICTE-approved colleges and Institutes will have to send a caution deposit of **Rs 1000** with their application (by bank draft in favor of **CEP-STC, IIT Kharagpur** payable at Kharagpur). This will be refunded when the QIP candidate attends the course. For any cancellation of participation after 10th November, 2011, the caution deposit of Rs 1000 will not be refunded (cancellation intimation (email/fax/letter) must reach Coordinator's office by 10th Nov, 2011).

TA/DA:

TA/DA will be reimbursed to all the participants as per AICTE rules (Up to 3-Tier AC Rail fare by shortest route).

Accommodation:

Accommodation and other logistic arrangements will be made by IIT Kharagpur (Ashutosh Mukherjee Hall and CEP Guest House).

Certificate:

The participants will be provided certificates on successful completion of the programme.

How to Apply?

Application for this course is to be made using the application from (Pl see below). The form should be properly filled up by the participant and should be endorsed with seal and signature of HOD/ Director / Principal or similar appropriate supervising authority. A hard-copy of the duly filled-in form along with a 1 page CV of the applicant is necessary; however, an advance copy as an attachment may be sent to the e-mail address of the Coordinator. **There are only 30 seats**.

Important Dates:

Last date for receiving Application: 10th October, 2011

Intimation to Participants latest by: 23rd October, 2011

Arrival of Participants at IIT Kharagpur: 1st December, 2011, Afternoon

Completion of the Course: 9th December, 2011- Afternoon

About IIT Kharagpur

Situated about 120 km west of Calcutta, Kharagpur can be reached in about 2.5 hrs from the Howrah railway station of Calcutta. Kharagpur is also connected by direct train services to most major cities of the country. The Institute is about 10 minutes drive (5 km) from the Kharagpur railway station. Private taxi, auto rickshaw or cycle rickshaw can be hired to reach the Institute.

Address for Correspondence

Dr. Pinaki Sar, Principal Coordinator

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Indian Institute of Technology, Kharagpur
Kharagpur – 721302, WB, India
Tel: 03222-283754 (Off.); 03222-283755 (Res.)
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Email: psar@hijli.iitkgp.ernet.in / sarpinaki@yahoo.com

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APPLICATION FORM

MHRD/AICTE QIP Short Term Course

ENVIRONMENTAL GENOMICS AND BIOTECH

2ND – 9TH DECEMBER, IIT KHARAGPUR

1. Name:

2. Designation:

3. Name of Organization:

4. Full Address for Communication:

5. Highest academic qualification:

6. Phone No / Mobile (**compulsory**):

7. Fax No:

8. Email (**compulsory**):

9. Draft (Caution money) details:

Name of the bank D.D. No. and date Amount

Date: Signature of Applicant

Certification and Approval for QIP Candidacy
This is to certify and approve the above applicant as a QIP candidate for the short term course on "Environmental Genomics and Biotechnology", Dec 2-9, 2011 organized by Dept of Biotechnology, IIT Kharagpur.

Date: Signature of Approving Authority

Seal of Approving/Sponsoring Authority