NIBMG Winter School

GENETIC DISSECTION OF A COMPLEX DISEASE: ANALYTICAL APPROACHES

In Celebration of the Tenth Anniversary of the Human Genome Project

January 3-10, 2012

Organized by

National Institute of Biomedical Genomics, Kalyani, India

Sponsored by

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In view of the rapid progresses made in the analytical approaches – experimental, statistical and computational – to dissection of genetic underpinnings of complex diseases, the National Institute of Biomedical Genomics is organizing this Winter School. Classroom format – primarily lectures with some computer demonstrations and exercises – will be followed, with an emphasis on statistical and computational approaches. There will be some Special Lectures on contemporary issues of general interest. The course is open to all students enrolled for a Ph.D. degree and to junior faculty members of all Indian institutions. No more than 40 participants will be selected. Application forms and other relevant information are available on: http://www.nibmg.ac.in/stprog.php

Only electronic applications will be accepted.
Email applications to: winterschool@nibmg.ac.in
Deadline for Receipt of Applications: December 7, 2011.

TOPICS

(1) Genetic Dissection of a Complex Disease: Study Designs
(2) Genetic Dissection of a Complex Disease: Experimental Approaches
(3) Case-Control Study Design: Analyses of SNP-chip Data: Data Curation; Assessment of Population Stratification; Estimation of Association with Common & Rare Variants; Corrections for Multiple Testing; Graphical Display of Results; Sample Size Requirements & Issues; Data Imputation
(4) Population Genetics of SNPs: Tag-SNPs; SNP Databases; Linkage Disequilibrium, LD Blocks
(5) Haplotype Analysis: Phasing, Estimation of Haplotype Frequencies; Estimation of Haplotype Association
(6) Family-based Study Design: Assessment of Genotyping Errors in SNP-chip Data; Association Analysis
(7) The Problem of Missing Heritability
(8) Structural Variation and Disease
(9) Analysis of Quantitative Traits: Linear and Logistic Regression; Control of Covariates
(10) Assessment of Genetic Risk in Populations, Families and Individuals
(11) Understanding the Functions of Associated SNPs: Experimental and Other Approaches
(12) Systems Biology Approaches to Deciphering Biological Pathways