

SPECIAL FEATURES OF THE WORKSHOP

- Participatory lectures by renowned scientists.
- Free Course Material.
- Hands on training.
- Live Demonstration and Discussion.
- 24hrs internet and lab access.
- Individual desktop for hands on training.
- Lunch and refreshments are our courtesy.

ACCOMMODATION

Boarding and lodging will be arranged for the needy inside the college premises on prior request.

REGISTRATION FEE

- Students Rs 500/-
- Research Scholars Rs 600/-
- Teachers Rs 1000/-

ADDRESS FOR CORRESPONDENCE

Dr. M. C. John Milton

Convener,

Environmental Monitoring Research Laboratory

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ORGANIZING COMMITTEE

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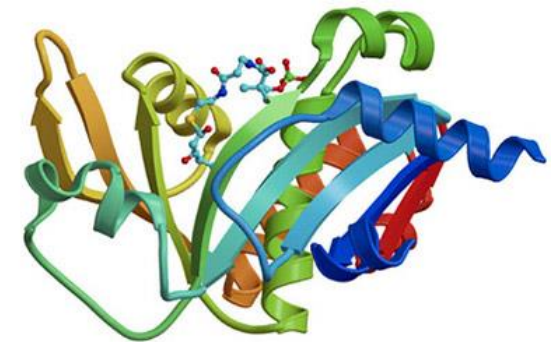
Dr. V. Raja

Dr. Sherafin Jancy Vincy

Dr. M. Chandrasekar

National Workshop on "Structural Biology and Functional Genomics"

10th to 14th February, 2020 (5 days)



Organized by

Environmental Monitoring Research Laboratory

PG & Research Department of Advanced Zoology and Biotechnology, Loyola College, Chennai 600034.

INTRODUCTION

Proteins are the targets for structure analysis as these are the main 'doing' molecules of the cell. Proteins are built from a DNA template and the string of amino acids thus synthesized fold into very complex loops, sheets and coils, but this structure dictates how the protein will interact with other structures around it in order to undertake its duties in the cell. It is no longer sufficient to determine simply the structure and biochemical properties of a protein in vitro. In line with the trend towards systems biology, a major challenge now is understanding how that protein functions dynamically within a larger macromolecular assembly or in a cellular pathway or even at the organism level.

Functional genomics refers to intergenic regions of the genome that contribute to different biological processes. It focuses on the dynamic expression of gene products in a specific context. In functional genomics, we try to use our current knowledge of gene function to develop a model linking genotype to phenotype.

Through this workshop the participants would be able to learn the tools and techniques that best explain the structural and functional properties of molecules and broaden their understanding about the function and expression of molecules.

THRUST AREAS OF THE WORKSHOP

Databases and Database Management System

- Biological Databases and Networks
- Database Management Systems
- Data Mining in Bioinformatics
- Basics of Molecular Biology
- DNA structure, Protein Structure

Molecular Simulation

- Homology modeling
- Gene sequence Analysis
- Protein Sequence Analysis
- RNA Structural Analysis
- Simulating a small fragment of DNA
- Ligand Simulation
- Molecular Dynamics Simulation and Analysis
- Simulation of Protein – Protein Complex
- Sequence Visualization,
- structure visualization,
- Animation verses simulation

Cheminformatics

- Active site Prediction (Castp, Qsite finder)
- Ligand searching/designing (Chemsketch),
- Toxicity Prediction, Docking Analysis (Autodock)
- Phylogenetic analysis of macromolecules (Mega, phylip), Primer designing

Drug Designing

- Disease Identification and responsible macromolecule identification.
- Omics (Genomics, Transcriptomics, Metabolomics etc.)
- Elucidation of Gene Functions
- Protein Modeling and Simulation

HOW TO APPLY?

Download application from www.loyolacollege.edu and email the filled in form to drjohnmilton@gmail.com

LAST DATE FOR REGISTRATION

Applications should reach the convener **on or before 5th February, 2020.**

CRITERIA FOR SELECTION

M. Sc, M. Phil and Ph. D Research Students from Life sciences and Teachers can apply. Selected candidates will be intimated on or before **7th February, 2020.** Selected candidates can pay the registration fee on the inaugural day of the workshop.

