Walk-in-Interview

[Position of Senior Research Fellow]

A Walk-in-interview will be conducted on **28th February 2017** to select one **Senior Research Fellow** in the area of Structural Genomics, purely on contractual basis at Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi.

The interested candidates may appear for interview all their original certificates, mark sheets, experience certificate with an attested photo copy of each of it and a recent passport size photograph along with the updated curriculum vitae as per the date and time given below. No TA/DA would be provided for attending interview. The candidates not fulfilling eligibility criteria wouldn't be considered for selection process. One copy of curriculum vitae may be send principal investigator in advance (E-mail: mihassan@jmi.ac.in).

Position: Senior Research Fellow (1)
Salary: 14,000/- PM and 30% HRA
Tenure: Two years (may be extended for one more year)

Project Title: Design and synthesis of selective inhibitors against human Carbonic Anhydrase VA to search potential anti-obesity agent: A QSAR and crystallographic approach

Eligibility Criteria: M.Sc. in any branch of Biological Science with 55% marks and **TWO** Years of Research Experience**.**

Desirable: Candidates having experience in Molecular Biology, Biophysical Techniques, Structural Biology and Bioinformatics will be given preference.

Interview Date and Venue: 28th February 2017 (Tuesday) 9:30 AM at the Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi-110025. ***(Reporting time 9:00 AM)***

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Summary

Obesity is an increasing problem in the developed world which increases the health risks for people of all ages. One of the fundamental causes of obesity and diabetes is the mitochondrial dysfunction causing faulty metabolic pathways which alter the metabolic substrate flux resulting in the development of such diseases. Mitochondrial carbonic anhydrase VA (CAVA) inhibitors are currently implicated in the ureagenesis and gluconeogenesis. Hence, this enzyme is considered as a potential drug target and some of its inhibitors may lead to the development of novel anti-obesity therapies. In this project, we first focus to understand the mechanism of enzyme action, conformation of functionally significant residues, mechanism of unique substrate recognition and inhibition. We further perform structure determination followed by structure analysis with docking and MD simulation that actually guide to design potent and selective inhibitors of CAV which will be further validated experimentally. Crystal structure of CA-V with designed inhibitors will further help to increase the specificity and binding affinity of ligands. A combination of crystallization, structure determination, docking, MD simulation, chemical synthesis, enzyme assay, binding and inhibition will help to find a potential therapeutic agent against diabetes and obesity.

Keywords: Mitochondrial Carbonic Anhydrase VA, Crystallization, Structure Determination, Docking, MD Simulation, Chemical Synthesis, Drug Design and Discovery, Cloning and Expression, Enzyme Assay and Potential Inhibitors