MADURAI KAMARAJ UNIVERSITY

UGC-Networking Resource Centre in Biological Sciences

'On-Site' workshop on

"Advances in Computational Genomics"

Venue: Yogi Vemana University, Kadapa - 516 003

February 13-20, 2012

Applications are invited from research scholars, post-docs, young faculty members and scientists from Universities / Research Institutions in Kadapa for the **UGC-NRCBS 'On-Site'** workshop on **"Advances in Computational Genomics"** to be held from February, 13-20**, 2012.**

ELIGIBILITY

Applications are invited from research scholars doing Ph. D, young faculty members and scientists working in research Departments of Colleges or Universities/Research Institutes in Kadapa. Preference will be given to the candidates working or intended to work in the area of Genomics and related areas.

APPLICATION & SELECTION PROCEDURE

The application form can be downloaded from www.nrcbsmku.org or www.yogivemanauniversity.ac.in. Candidates should submit the filled in application form to Dr. A. Chandra Sekhar, Local Organizer, On-Site UGC-NRCBS workshop on "Advances in Computational Genomics", Department of Biotechnology, Yogi Vemana University, Kadapa - 516 003 on or before 8th February, 2012. Applications should be forwarded by their research supervisors/Head of the Department or Head of the Institution. The candidates will be selected based on their qualification and research interests.

REMUNERATION AND TRAVEL

UGC-NRCBS, MKU will provide course material, lab manual and working lunch to the participants as per Madurai Kamaraj University regulations. The participants has to take care of their travel and stay. The training period shall be considered as 'On Duty' by the participant's parent institution.

ABOUT SCHOOL OF BIOLOGICAL SCIENCES

Madurai Kamaraj University, established in 1966, has 18 Schools comprising 74 Departments, 66 affiliated Colleges and 15 Institutions. UGC has recognized MKU as a "**University with Potential for Excellence**". School of Biological Sciences (SBS) founded by late Prof. S. Krishnaswamy, stands as an internationally reputed Centre of Excellence in research in modern biology. The SBS had pioneered in teaching Integrated Biology and Genomic Sciences. The focus of research shifted in consonance with the contemporary developments and the UGC elevated the SBS as the **"Centre for Advanced Studies in Functional Genomics"**. The UGC has also supported SBS to establish the **"Centre for Excellence in Genomic Sciences"**. Recently, UGC has recognized SBS as a **"Networking Resource Centre in Biological Sciences".**

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ABOUT UGC-NETWORKING RESOURCE CENTRE IN BIOLOGICAL SCIENCES

UGC, New Delhi has created Networking Resource Centres in various disciplines at leading University Departments/Research Institutions in India. The major objectives of the centres are to promote collaborative research, to provide access to advanced research facilities and to impart training to young researchers working in frontier areas of their respected subjects. SBS has been recognized as a "Networking Resource Centre in Biological Sciences (NRCBS)". UGC-NRCBS, MKU, with its state-of-the-art infrastructure, is functioning as a resource centre for training and research collaborations. The activities of the UGC-NRCBS include: i) organizing summer and winter schools, ii) guidance to Ph.D students of other Institute on experimental trouble shooting and research methodology, iii) support for Ph.D students who are in need of equipment/laboratory facilities and iv) strengthening the collaborative research initiatives in Biological Sciences among Universities and research institutes.

GENESIS OF "ON-SITE" WORKSHOP PROGRAMME

As there is a great demand for these training programme, conducted by NRCBS MKU and recently, we proposed to conduct these workshops **'On Site'** to cater the need of large number of research scholars/faculty in remote places who are deprived of the modern research facility / mentoring support in Biological Sciences. The faculty and NRCBS team of SBS will visit and conduct the **'On Site'** workshop at the selected Institute/ University and provide **'Hands On'** training and mentoring the researchers working in Biological Sciences. The proposed "On Site" workshop is on the theme of "Advances in Computational Genomics" as per the request received from YV University, Kadapa to train their researchers.

ABOUT THE ON-SITE WORKSHOP

Technological advances over the past two decades have led to the accumulation of whole genome sequence data. As the number of sequenced genomes rapidly increases, searching and comparing sequence features within and between species has become a part of most biological inquires. Comparative genomics helps identifying potential new drug targets, such as putative essential genes and/or those affecting the cell viability that are conserved in pathogenic organisms. Complete genome sequences will be retrieved, analyzed through genome browsers to get the required functional information. Available genomic data can be utilized to design molecular biological experiments, using *in silico* simulations. PCR primer designing and *in silico* simulations can be efficiently used to check the specificity of the designed experiments. Awareness on the available genomic data is limited. Submission of the indigenous sequences derived from the experiments using Sakura and other tools is limited and the participants will be given training on the above aspects. The main objective of this **"On Site"** workshop program is to introduce the resources available in public domain with their applications in the advance functional genomic studies.

NATURE OF THE COURSE

The course will consist of expert lectures and Hands-on practical sessions in Computational Genomics with their applications to facilitate the participants to apply them in their research programmes. The training will be techniques oriented and 80% of the time will be given for the practical sessions and the participants will be allowed to carry out the computational exercises individually.