



## **CHANDIGARH REGION INNOVATION AND KNOWLEDGE CLUSTER**

### **1<sup>st</sup> Bio-Club (CRIKC) MEET November 08, 2014 Panjab University, Chandigarh-160014**

The first lecture series of Bio-club under the aegis of Chandigarh Region Innovation and Knowledge Cluster (CRIKC) was held in Panjab University, Chandigarh on November 8, 2014 from 10 am to 1:30 pm. This meet was attended by over 200 young research scholars and scientists of various institutes situated in and around Chandigarh. The theme of the meet was to lay a roadmap for promoting quality education and interdisciplinary research in Chandigarh region. Prof. Arun K. Grover, Vice-Chancellor, PU introduced the theme and highlighted the importance of collaborative research in science. He said that Chandigarh region can become a hub of innovative research because of the existence of institutions of higher education (PU, IISER, IIT-Ropar, PEC University), government funded research institutes (IMTECH, NIPER, NABI, BPU, INST, TBRL) and also medical research centers like PGI and GMCH. He also suggested that the next meeting of CRIKC should preferably happen in 2014 itself and the bus service between CRIKC institutes should hopefully be running by then. Dr. Girish Sahni, Director, IMTECH appreciated the top level research being carried out in PU and passionately called for increased interactions amongst scientists and young researchers which would lead to meaningful research having societal impact. He stressed upon the potential benefits of such collaboration for students, and urged everyone to strive for creating a collaborative research platform, which no other place in the country presently has. Prof. M. M. Gupta from PU then briefed the audience about the mission statement and aims of CRIKC and Bio-club series. He deliberated over the hard work and planning that has gone into initiating the CRIKC cluster in the past two years. He further stressed that younger faculty should actively participate in this program, as synergistic, concerted efforts are critical for successful implementation of CRIKC. Dr. K.K. Bhutani, Director NIPER emphasized the need for sharing library facilities including access to online journals of the institutes by all the researchers of the region. He also floated the idea of uploading scientific lectures on the CRIKC website for the benefit of students.

Dr. Rakesh Tuli deliberated on the complex nature of biology, and suggested that multi-disciplinary, multi-centric collaborative projects are the need of the hour, and they should be strived for under CRIKC umbrella. Prof. Somdatta Sinha (IISER, Mohali) urged the scientific community to shun individualistic approach and go in for inter-disciplinary collaborative research mode, as is the scenario in the developed countries. Prof. Pallab Ray, PGIMER, Chandigarh stressed the importance of innovation in science, and encouraged all the researchers to focus on ideas, and be a part this initiative.

Dr. Javed Agrewala from IMTECH delivered a scientific talk entitled “Lipidated peptides as successful vaccine against tuberculosis”, and shared his scientific inputs in the development of a novel TB vaccine which is far more effective than the currently used BCG vaccine. The presentation highlighted the immunogenicity problems associated with BCG vaccine in TB endemic countries that result in poor protection and discussed how this problem may be solved by using novel lipidated peptide based vaccine as being developed by him. The potential vaccine candidate developed by Dr. Agrewala consists of immunogenic peptide epitopes from *Mycobacterium tuberculosis* that induce both humoral- and cell-mediated immunity, conjugated with Pam2Cys – a TLR2 ligand. The vaccine candidate has been demonstrated to induce desired level of protective immune response without the aid of any adjuvants in mice, guinea pigs and human peripheral blood mononuclear cells. Work is underway to evaluate its potential in human volunteers. Once successful, the vaccine has potential to change the course of our fight against TB.

Prof. Prince Sharma from PU talked about the versatility of microbes especially extremophiles for their industrial applications. The presentation was aptly titled ‘Thermophiles – A Bioresource for industry’. He informed the audience about the restriction enzyme technology that he has transferred to an international company, New England Biolabs. He also discussed his results on the isolation of a thermostable Amylase, whose production was increased by more than 100 fold using a combination of scale-up and growth condition optimization techniques. The work carried out by him on the role of quorum sensing in biofilm formation in paper industry was particularly interesting from the application point of view. Prof. Sharma then further shared his endeavors to study the diversity of microbes in various hot springs of India. Overall the presentation introduced the audience to the world of thermophiles and how they may be used to solve the problems of humanity.

The highlight of this meet was plenary session in which students actively involved themselves and put forward their desire to have more Meets of this kind. They wanted better access to library and instrumentation facility of other institutes falling under CRIKC. All the participants expressed the need for having an active CRIKC website listing the scientific expertise as well as the instrumentation facilities of each of the CRIKC institutes. A need for the creation of a dedicated portal catering to the queries of young minds was also put forward. Other suggestions included setting up of a CRIKC office with dedicated manpower; joint hosting of some invited presentations and lectures; implementation of selected common courses; submission of multi-lateral research projects to funding agencies; and setting up of a common chemical library, cell-line bank, and non-human primate facility. Prof. Arun K. Grover, Vice-Chancellor, PU assured to look into these aspects. The meeting was convened by Prof. Prince Sharma of PU. Dr. Girish Sahni, Director IMTECH volunteered to hold the next meeting of Bio-club at IMTECH.