

Proceedings of Extension Lecture Series

Department of Biotechnology, Jamia Millia Islamia

February 15, 2010

10:00 AM

Recitation of the Holy Qur'an

10:05AM

Key Note address by Prof. Arif Ali, Head Department of Biotechnology, JMI

Prof. Arif Ali started with brief overview of the history of Jamia Millia Islamia citing the motive of the cause of foundation of the university. He preceded with the importance of the advance most area of education and research, Biotechnology, in the service of mankind. His address highlighted the need of biotechnology to face the challenges of poverty, food shortage and current environmental crisis. He inspired students for not hesitating to put questions for the Key speakers to get answers and clear their curiosity. According to him, "most silly questions were those which are not asked". He finished his address with a warm and hearty welcome to all the delegates, students and speakers.

10:15 AM

Introduction to the Department of Biotechnology; Dr. M. Irfan Qureshi

Summary:

Department of Biotechnology of Jamia Millia Islamia is highly motivated by the hearty desire of its present Honorable Vice Chancellor 'to make Jamia Millia Islamia one of the best educational and research institute of international level'. The department pledges to contribute to this noble desire at its level best and shall leave no stone unturned to achieve this tough but achievable goal. Department of Biotechnology, Jamia Millia Islamia was formed in the year 2008 and is working day out and night in to materialize the objective set by its faculty members. In the year 2009, four faculty members from Department of Biosciences were transferred to the newly formed department. In its very first year, the Department of Biotechnology occupied 14th rank all over India among public funded institutes, a survey conducted by Biospectrum, India.

Current objective of the department is to achieve a position among top ten biotechnology departments in the country in next five years. The other major objectives of the Department of Biotechnology are:

1. To provide undergraduates and graduates with basic and competent education assisted with multimedia devices,
2. To provide research guidance to doctoral students in advance areas of research with quality research publications,
3. To generate funding for the improvement of teaching, research and infrastructure development from national and international agencies and

4. To contribute to the progress of the university and Nation in field of education, research and biotechnology.

Current academic programmes running in the department of Biotechnology, JMI are as follows:

M.Sc. Biotechnology (four semester programme of two years) with 30 annual in take. The programme was earlier running in the Department of Biosciences since 2001.

B.Sc. Biotechnology (three year program) with 20 annual in take. The programme was earlier running in the Department of Biosciences since 2001.

Ph.D. Programme in Biotechnology.

Head of Department, **Prof. Arif Ali (Gene Expression Lab)** is working in the area of recombinant bacterial biotechnology for soil remediation.

The main objectives of his labs are:

Manipulation of microbes for soil remediation and other beneficial purposes.

Genes encoding bacterial enzymes that help in bioremediation are isolated, sequenced & characterized. These genes are exploited to create transgenics and to develop biosensors.

Screening of the genes that encode bacterial enzymes which play an important role in the cleaning of metal pollutants from the soil known as soil remediation.

Molecular characterization of developed transgenics

Dr. Mohammad Husain (Virology Lab) is working as Associate Professor and his research area is molecular biology of HIV with the following objectives:

Investigation of the molecular mechanism involved in host-HIV interaction

Screening of novel plant secondary metabolites possessing anti-HIV activity with emphasis on Indian herbs screening for anti-HIV activity

Modeling Genetic Regulatory Network

Genotypic characterization of HIV-1 strains from Rapid Progressors (RPs) and Long-term Nonprogressors (LTNPs)

Dr. M. Irfan Qureshi (Proteomics & Bioinformatics Lab) is working as an Assistant Professor and his research area is proteomics and bioinformatics with the following objectives:

Mapping of proteomes in model plants Arabidopsis, Spinach, Mustard and Mungo and studying differential changes under abiotic stress

Proteomics of Chloroplast, Nodules and Blood to study nutrient stress and its impact on protein profiles.

Identification of novel protein responding to abiotic and nutrient stress by their sequencing employing MALDI-TOF, LCMS, QTOF, etc.

2D, 3D and Blue native gel Electrophoresis, protein sequencing and secondary metabolite extraction & purification.

Proteomics of Human disease

Mr. Kapil Dev is working as an Assistant Professor and about to submit his Ph.D. His thrust area of research has following objectives:

Molecular Biology of Cancer to understand the mechanism of cancer progression using advanced techniques

To assess natural compounds for cancer suppression activity

Designing of anti-cancerous compounds

Dr. Meetu Gupta (Ecotoxicogenomics Lab) is working in the field environmental plant sciences at genomic level. Objective of her labs are as follows:

To study gene response of plants to a number of environmental factors using hyperaccumulator Mustard as model plant.

Enzyme extraction and measurements, Semi-quantitative RT-PCR analysis of phytochelatin synthase (PCS) gene.

Isoenzymic profile of guaiacol peroxidase and superoxide dismutase, in-gel MAP kinase assay.

The experimentation mainly involves DNA sequencing, Primer designing, PCR, blottings, cDNA library development, etc.

The faculty members have impressive publications to their credits with more than 100 research articles/book chapters in journals/books of international repute. The important journals with publications include journal of Clinical Investigations, AIDS, JBC, Kidney International, Renal Failure, Journal of Plant Physiology, Environmental Experimental Botany, Plant Science, Chemosphere, Molecular Cellular Physiology, Genome, Current Microbiology and many more.

In terms of funding too, the faculty members of Department of Biotechnology have handled/handling extramural research funding in crores of rupees with around 10 research projects in Jamia Millia Islamia itself. Major national funding agencies include University Grants Commission, Department of Science & Technology, Department of Biotechnology, Ministry of Environment, ICMR, AYUSH and CSIR.

Around 40 students have completed their Ph.Ds with around 30 research students pursuing their Ph.Ds.

The department organizes extension lecture delivered by eminent national and international scientists, class seminars and student presentations. Recently, a special grant to research programme for undergraduates has been received from UGC, Government of India which is a unique programme itself through out India at undergraduate levels.

In terms of departmental output/placements, our M.Sc. pass out students are pursuing their Ph.Ds from JNU, IITs, AIIMS, CDFD, NII, ICGB, IGIB, DU, CSIR, NIPGR, IARI, NBRC, etc. and doing jobs in best Pharmaceuticals and Biotechnological firms through out India. Thanks!

10:30 AM – 11:30 AM

LECTURE 1: Mitogen activated protein kinase cascade in rice: A point of signal integration and distribution

Speaker : Dr. Alok Krishana Sinha, Staff Scientist, NIPGR, New Delhi

11:30 AM – 12:00 PM

High Tea

12:00 PM – 01:00 PM

LECTURE 2: Recent trends in Expression & functional proteomics

Speaker : Dr. Nanadh Kumar Balal Subramaniam, Global Marketing Manager, Bio–Rad, USA

01:00 PM – 02:00 PM

Lunch and Poster/Photography Competition on the theme, "**Challenges before Biotechnology**"

02:00 PM – 03:00 PM

LECTURE 3: Innate Like Lymphocytes in Allergy and Autoimmune Inflammations

Speaker: DR. Gobardhan Das, International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi

3:00 PM – 4:00 PM

LECTURE 4: What makes us human?

Speaker: Dr. Shahid Jameel, International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi

4:00 PM – 4:15 PM: Prize Distribution by: Dr. Shahid Jameel, ICGEB

4:15 PM – 4:30: Vote of Thanks, Mr. Kapil Dev

Mr. Kapil Dev, Adviser, Biotechnology Subject Association (BIOTA) thanked all the participants of the extension lecture series. He specially thanked the scientist who made it possible to deliver informative talks of the research field of their expertise out of their busy schedule. He acknowledged the help of all the members Biotechnology Subject Association (BIOTA) and declared the event closed.

4:30 PM: Tea

DATE
February 15, 2010

VENUE
Auditorium
F/O Engineering & Technology
JAMIA MILLIA ISLAMIA
NEW DELHI-110 025

Faculty Members

1. Prof. Arif Ali, Head
2. Dr. Mohammad Husein
3. Dr. M. Irfan Qureshi
4. Mr. Kapil Dev
5. Dr. Meeta Gupta

Thrust areas of research

1. Soil remediation using bacterial genes
2. Molecular biology of AIDS
3. Chloroplast and nodule proteomics
4. Molecular biology of cancer and drug designing
5. Ecotoxicogenomics



DEPARTMENT OF BIOTECHNOLOGY
EXTENSION LECTURES **JAMIA MILLIA ISLAMIA, NEW DELHI**



Programme

10:00 AM INAUGURATION
Head, Department of Biotechnology

10:15 AM Introduction to Department
By: Dr. M Irfan Qureshi, Assistant Professor

10:30 AM LECTURE 1: Mitogen activated protein kinase cascade in rice: A point of signal integration and distribution
DR. ALOK KRISHNA SIMA, STAFF SCIENTIST, IIPGR, NEW DELHI

11:30 AM HIGH TEA

12:00 PM LECTURE 2: Recent trends in expression & functional proteomics
Dr. Narend Kumar Dhill Sabherwal, Global Marketing Manager, Bio-Rad USA

LUNCH

01:00 PM POSTER DISPLAY AND EVALUATION

02:00 PM LECTURE 3: Innate Like Lymphocytes In Allergy and Autoimmune Inflammations
DR. GOSWAMI DATTA, International Centre for Genetic Engineering & Biotechnology (ICGEB), New Delhi

03:00 PM LECTURE 4: What makes us human?
DR. SHAHID JAMEEL, International Centre for Genetic Engineering & Biotechnology (ICGEB), New Delhi

04:00 PM Prize distribution
By: Dr. Shahid Jameel, ICGEB, New Delhi

04:15 PM Vote of thanks
Mr. Kapil Dev
Assistant Professor
Advisor, Biotechnology Subject Association

04:30 PM TEA



PROF. M. AMIN
Faculty, Department of Biotechnology, JMI



We recognise and salute
A great visionary | A competent scientist
Our living legend!