



# On the Trail of Genomic Pioneers



Meet Dr. Akbar Masood  
Head, Department of Biochemistry  
University of Kashmir

## **1) Can you tell us a bit about your research interests?**

My current research interests include development of computer database on medicinal and aromatic plants of Jammu & Kashmir, Isolation & purification of proteins (enzymes and lectins) and screening of plants for their medicinal properties. The main emphasis is on understanding the etiology of esophageal cancer (EC) in Kashmir. The high incidence of the malignancy in the area and inadequate available literature to pin point the causative agents or processes warrant such type of research in the area. To achieve the goals I have been able to grab two research grants one from ICMR and another from World Cancer Research Fund.

## **2) Which research study or work has strongly influenced your thought and research goals?**

Millions of people die of cancer world wide annually and scientific community is still to cope up with diverse possible mechanisms of development of more than 100 types of malignancies. Various approaches are being used to cure and one of such strategies is induction of apoptosis which is comparatively a newer one. Most of the cancers evade apoptosis and when it can be induced seems a potential way to develop therapeutic interventions for cancer. The work has touched me significantly.

## **3) What are the unique features of the biotech department?**

The unique feature of the department is a team of researchers from different areas of expertise working together to achieve some common goals. We invite experts from outside for extension lectures on regular basis.

## **4) What are the new initiatives you have taken to incorporate and help early stage researchers and students to develop research temper?**

During their Post Graduation the students visit various research centers of excellence and academic institutions. They also spend about four months there for completion of research projects.

## **5) What are your collaborations with the Industry? How do you think Industry can develop better collaborative models with Academic Research efforts?**

The industries have money and the academic institutions have expertise. This I consider as symbiotic relationship. A combination of the two is excellent instrument for the development and growth of both.

## **6) Can you tell us about research projects that students or faculties have initiated at your department?**

Various projects taken up by the faculty are:

- Screening of local plants for their medicinal properties
- Esophageal cancer epidemiology



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- Genetic analysis of EC specimen
- Development of computer databases
- Isolation and purification of proteins

**6) Can you tell us about research projects that students or faculties have initiated at your department?**

We work on disease related research in our department basically cancer, tissue regeneration using stem cells. etc.

**7) What are initiatives taken by the institutes to familiarize the students with the industry?**

We have established an entrepreneur development cell where the students interact with industry people. Based on their exposure during Post Graduation the students also develop small modules that they could setup small scale industries after completion of their studies.

**8) Anything you want to say to the students that will inspire them to pursue career in biotechnology?**

Don't be a job seeker but try to be job provider. With Biotechnology/Biochemistry exposure, the sky is the limit. The only thing they require is dedication, hard work and patience

**9) What are the new genomic tools or technologies you used for your research?**

The basic genomic techniques used

- Genomic DNA Extraction
- PCR
- Restriction Digestion
- Gel Electrophoresis to Evaluate FLP

We are planning to start entire genome analysis of EC patients. A project for financial assistance has been submitted to DST.