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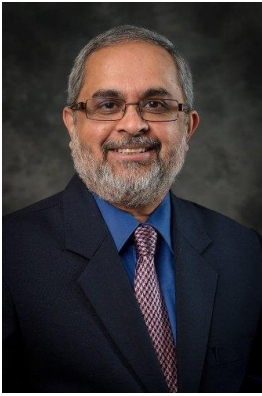
# Genomics and Molecular Biotechnology

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## Course Overview

About 15 years ago, the first draft sequence of human genome became available. Subsequently, genomes of hundreds of microbial, plant and animal species have so far been sequenced, annotated and characterized. This genome revolution has opened up novel avenues in agricultural and medical biotechnology that were unavailable and even unthinkable before. In this course, the technical advances needed for this explosion of information will be reviewed. The knowledge gained from using such approaches will be discussed along with ethical, legal and social wisdom one needs to understand implications and applications of genomics in our day-to-day life. In order to take advantage of all these advances; scientists, teachers, students and lay people should be well versed with the possibilities offered by genomics and molecular biotechnology. All this information is vital for our survival in this century. The highly debatable issues like GMOs, personalized medicine, human cloning, and gene therapy will be discussed at length to provide insights into global understanding of current hot issues in life sciences.

<b>Dates</b>	<b>November 7-18, 2016.      Maximum Number of participants: 30.</b>
<b>You Can Attend if</b>	You are any of the following: Executives, researchers, and teachers from Universities, Government organizations and Private biotechnology industries, including R&D laboratories. Students at all levels (BSc/MSc/PhD) or Faculty from reputed academic institutions and technical institutions.
<b>Fees</b>	<b>One-Time GIAN Registration:</b> Visit <a href="http://www.gian.iitkgp.ac.in/GREGN/">http://www.gian.iitkgp.ac.in/GREGN/</a> <b>Course Fees:</b> People affiliated to SP Pune University or affiliated colleges: Rs. 1000. People affiliated to other academic institutions, research institutes, NGOs, etc.: Rs.2000. People from industry: Rs. 5000. Fees include instructional material provided by the expert faculty, computer access during any tutorial sessions for the course, internet access via the SP Pune University campus network during the course. Out-station candidates need to arrange for transport and accommodation on their own. Full attendance necessary to be eligible for certificate of participation/attendance. Appearing for evaluations/examinations during the course is necessary for certificate of grades in the course.



**Professor Chandrashekhar Joshi**, Chairman of the Biological Sciences Department and Professor of plant Molecular Genetics at Michigan Technological University, is a leading plant biotechnologist. He is working towards deciphering the process of biosynthesis of cell walls in bioenergy trees such as poplars

(<http://www.mtu.edu/biological/department/faculty-staff/faculty/joshi/>). His current research interests include: Molecular genetics and genomics of cellulose and lignin synthesis in trees. He has over 30 years of research experience in genetic engineering of plants. His current research with genetic improvement of bioenergy trees has many direct applications in the areas of bioenergy production, forest and crop productivity, and plant improvement.

Dr. Joshi has recently served as the Director of a 40-faculty strong Biotechnology Research Center and also was the Director of Graduate Programs at School of Forest Resources and Environmental Science. He has authored over 180 journal articles, presentations, patents and book chapters. He is a recipient of NSF-CAREER award; Michigan Tech's 2011 Research Award and is an inductee of Academic of Teaching Excellence at Michigan Tech. During 2009-2013, Professor Joshi visited Chonnam National University in Gwangju, South Korea as a World Class University distinguished visiting professor to establish a Department of Bioenergy Sciences and Technology with 7 other faculty members.

Dr. Joshi will be the main instructor and he will coordinate instructional assignments with other local and Indian scientists as necessary.

**Course Coordinator**  
**Sujata Bhargava**

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**GIAN One-Time**  
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<http://www.gian.iitkgp.ac.in/GREGN/>