

CENTRE FOR GENOMICS

MASTER OF SCIENCE IN MOLECULAR AND HUMAN GENETICS

[Supported by DBT, Govt. of India, New Delhi]

About the program

The Centre for Genomics at Jiwaji University offers outstanding interdisciplinary training and research opportunities for graduate students coming from life science and medical background, through its M.Sc. Program in Molecular and Human Genetics. The M.Sc. Program comprises 4 semesters of 6 months duration each. The students shall carry out a short project work in the subject related to the course under the supervision of the faculty involved or at any other national research institute/ University of high repute and submit the dissertation report along with a presentation for evaluation. The students will participate in monthly seminars and journal clubs, to meet the needs in their aim to become an interdisciplinary researcher. The Centre also conducts Ph.D. program in Molecular & Human Genetics and allied fields.

Scope and Career/Job Opportunities

The goal of the Centre for Genomics is to prepare its students to have a better job prospects in R & D divisions of pharmaceutical and biotechnology industries, whose numbers are rapidly growing in India. It also provides students opportunities for a successful research career as University/College faculty, research scientist in national and or private organizations in the areas of Medical Genetics, Molecular Biology, Human Genetics, Clinical Genetics and Genetic (Molecular) diagnosis, in Hospitals and Clinics as well as other organizations related to biotechnology (e.g. agriculture, dairy sectors, etc.). In addition, the students who have completed this course can also establish their own genetic diagnosis and counseling centre for inherited and non-inherited human diseases as well as IVF clinics in association with medical practitioners.

Teaching Infrastructure

The Centre for Genomics has sophisticated infrastructure with state-of-art technology instruments and equipments for advanced training in molecular and clinical research. The department is equipped with spacious classrooms and laboratories, Molecular biology lab, tissue culture lab, Biosafety lab, PCR room, Gel-documentation room and microscopy room. The Department of Biotechnology, Govt. of India, New Delhi, has substantially supported the Centre for Genomics to develop equipment, lab and library facilities of the department.

Research and Training

The ongoing research programs at the Centre for Genomics include study on Human Genome Diversity with special reference to primitive tribes in this region, identification of molecular genetic markers of disease susceptibility, cellular and molecular biology of stress, molecular pathogenesis of cancer, clinical genetics of inherited diseases, genetics of tuberculosis, genetic conservation of endangered species, etc. These programs are funded by various government agencies, including DAE-BRNS, ICMR, DST, DBT and MPCST, which have generated a self-sufficient laboratory in many respects. The Centre has already organized several short-term hands-on training workshops for teachers and research scientists on Molecular biology, Clinical Cytogenetic techniques and Bioinformatics' tools, and is establishing a genetic diagnostic centre as a regional facility for diagnosis and counseling of genetic diseases.

Following facilities are available at the Centre for Genomics:

Real time PCR (Bio-Rad & ABI),	Milli-Q Ultra Pure Water Purifier (Millipore)
Thermocycler (Eppendorf, Germany)	Biosafety Cabinet Class II Type B2 (Kartos)
Gel documentation system (Bio-Rad and UVi Tech)	UV-Visible spectrophotometer (Thermo)
2D Gel electrophoresis system (GE Healthcare)	Fluorescence Microscope (Leica, Germany)
CO₂ incubator (Sanyo, Japan)	Bright field Microscope (Leica & Nikon)
Cooling water bath (MRC, Israel)	Inverted Microscope (Leica, Germany)
-86°C Ultra Deep Freezer (Panasonic, Japan)	Stereozoom Microscope (Leica, Germany)
Nanodrop UV Spectrophotometer (Implen, Germany)	Hybridization Oven (Zenith)
BOD Incubator (Zenith & Macro Scientific)	Inspissator (Zenith)
-20°C Deep Freezer (Voltas), Shaker Incubators and water baths, Ovens, pH meter, Centrifuge (Cooling), Autoclave, etc and other commonly used equipments.	

Job/Research Placements

Many of the pass out students from the Centre for Genomics have been recruited by several well known companies, while several others are working at various prestigious research institutions for their PhD/Post-Doc or at various research positions in India as well as abroad. The students are also eligible to appear for the DBT-BET which is conducted by DBT to award JRF fellowship only to those students who qualify the test and whose institutes are supported by DBT every year. **A good number of students have also qualified national level examinations, like UGC-CSIR NET, DBT-BET and GATE.** Students are also being selected as industrial trainees (6 months) by various biotech companies through DBT-Biotech Consortium India Limited program, with an objective to absorb them as employees in these industries. **So far in the last 3 years, 10 students have been selected by different biotechnology industries for their training and job placement under this program.**

Awards Received by Students and Research Scholars (2012-14)

The research students at the Centre have received several research and travel awards, including JSPS HOPE Fellow by Japan Society for the Promotion of Science (2014), Young Scientist Awards from Madhya Pradesh Council for Science and Technology Meets (2009, 2010, 2013, & 2014), International Travel Support to attend the 6th HOPE Meeting with Nobel Laureates from DST, New Delhi, held at Tokyo, Japan (2014), International Travel Grant from ICMR, New Delhi to present work at the 44th Union World Conference on Lung Health held at Paris, France (2013), International Travel Grant from DST, New Delhi, to present work at the 11th MEEGID Conference held at Loyola University, New Orleans, USA (2012), Prime Minister's Fellowship for Doctoral Research which is jointly promoted by Science & Engineering Research Board (SERB) & the Confederation of Indian Industry (CII), (2013), etc.

Contact Person

Prof. Ishan K Patro (Coordinator), Email: ishanpatro@gmail.com
Prof. P. K. Tiwari, Email: pk_tiwari@hotmail.com

Faculty

Prof. IK Patro

Prof. PK Tiwari

Visiting Faculty

Prof. Suraksha Agrawal (SGPGIMS, Lucknow)

Prof. JK Roy (BHU, Varanasi)

Prof. Bechan Sharma (Allahabad University)

Dr. Raj Kamal Tripathi (CDRI, Lucknow)

Dr. Rajnikant Mishra (BHU, Varanasi)

Dr. Arundhati Sharma (AIIMS, New Delhi)

Prof. K. Balakrishnan (MK University, Madurai)

Dr. Rajeev Mishra (BHU, Varanasi)

Teaching Assistants

Ms. Gunja Mishra, PhD student
Mr. Tekcham Dinesh Singh, PhD student
Ms. Shushruta Bhunia, PhD student
Ms. Preeti Sharma, Research Fellow

Mr. Ravi Prakash, PhD student
Mr. Satish Poojary, PhD student
Mr. Rahul Gupta, Research Fellow
Ms. Jyotsna Singh, Research Fellow

Course Structure

The syllabus of the course is so designed that it covers the major topics of the UGC-CSIR NET exam. The detailed syllabus can be downloaded from our website, www.centreforgenomics.ac.in

Fees for the course (Open Seat)

Course Name	1 st Semester	2 nd Semester	3 rd Semester	4 th Semester
M.Sc. Molecular & Human Genetics	Rs. 25615	Rs. 21725	Rs. 23075	Rs. 21725

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Eligibility

Bachelor of Science with 50% marks with Biology / Life Science / Genetics / Zoology / Microbiology / Botony / Biochemistry / Biotechnology and other allied subjects with Chemistry as one of the papers. MBBS students are also eligible for admission.

Available Seats Open Seats: 10 Payment Seats: 05 NRI: 02

Mode of Selection On the basis of the **Index based on the merit** in qualifying examinations

How to Apply?

Apply online through <http://www.mponline.gov.in> Application fee is Rs. 500/- payable through credit/debit card/net banking. After filling in the form submit the printout of it with necessary enclosures to the CHAIRMAN ADMISSION COMMITTEE, School of Studies in Physics, Jiwaji University, Gwalior- 474011 through Speed Post or by hand at School of Studies in AIHC&A, Computer Science & Applications and the Central Library. Reservation to SC, ST, OBC, FF & Physical handicapped will be as per MP Govt./ University rules.

IMPORTANT DATES

May 20, 2014: Online application submission through www.mponline.gov.in

June 15, 2014: Last date for application without late fees

June 20, 2014: Last date for application with late Fees of Rs. 500/-

July 02, 2014: DATE OF ENTRANCE EXAMINATION

July 05-07, 2014: Counseling for admission

Give us a visit at: www.centreforgenomics.ac.in

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