



SIAMG-Genzyme Prenatal Genetics fellowship

Program name: SIAMG-Genzyme Prenatal Genetics fellowship

1. **Motivation:** This fellowship is intended to train fetal medicine practitioners in aspects of genetics relevant to their practice. As a significant proportion of conditions affecting the fetus have an underlying genetic basis, recognition of these disorders enables appropriate counseling of couples and facilitates reproductive decision making. Maternal fetal medicine residency programs in other countries involve genetics as part of their curriculum, and practitioners from our country would also benefit from similar training.

2. Program objectives:

1. To train fetal medicine practitioners in basic and clinical aspects of genetics
2. To empower fetal medicine colleagues to guide patients towards appropriate genetic evaluation with aim to detect and manage pregnancies affected with genetic diseases
3. To train obstetric and fetal medicine colleagues in recognition of clinical scenarios necessitating a genetic workup and/or referral
4. To train the professionals in pre and post-test counseling as required for performance of prenatal screening and other basic genetic tests
5. To collaborate with professional bodies dedicated to fetal medicine and prenatal diagnosis, in order to develop standard practice guidelines for genetic screening and diagnosis

Program duration: 12 weeks

Host Institution: Medical Genetics centres with facilities for teaching, clinical and laboratory training in the domain of prenatal genetics

Eligibility: MD/MS in Obstetrics & Gynecology or MD Radiology or equivalent degree with certification in fetal medicine or at least 6 months experience in advanced fetal imaging.

Intake (number of students): 04 candidates per year in batches of 1 per quarter

Mode of selection: Online submission of applications and letter of motivation to the Secretary,SIAMG. Scoring of applications by SIAMG sub-committee, followed by telephonic interview. Assessment would be based on eligibility criteria, clinical and academic aptitude and motivation for joining the fellowship. Weightage to be given to candidates from academic institutions and government organisations.

Program highlights

This fellowship program aims to provide practically applicable knowledge and learning experience in the field of prenatal genetics. This is inclusive of a teaching of basic genetics, practical genetics as applicable in the outpatient clinic, ultrasonography during pregnancy with the aim to diagnose fetal genetic diseases, invasive fetal sampling for genetic diagnosis, fetal post-mortem evaluation and a comprehensive laboratory genetics training as applicable to prenatal testing. This program would enable the trainees towards appropriate management of pregnancies complicated by fetal abnormalities, preconceptional counseling of couples for

primary prevention of genetic diseases, training of medical students under them, and forming a referral base for tertiary genetic centres.

Program structure: This is envisaged to be a comprehensive program covering clinical and laboratory training in the field.

A. Clinical training: The candidates are expected to accompany the teaching faculty during clinical care of the patients and participate in bed-side learning. They are also expected to observe and assist(as per institute policies) in prenatal ultrasounds, invasive diagnosis procedures and fetal autopsies. They would also be observing and be involved in pre-and post test genetic counselling sessions.

B. Laboratory training: The candidates would be observing genetic test experiments, report preparation and interpretation of findings through dedicated posting in laboratory.

C. Academic activities: The candidates would be attending the academic sessions of the host institute. They would be expected to present 02 case discussions and 01 seminar during the duration of the fellowship. They would also be provided access to the online teaching module available on the SIAMG website.

Learning objectives :

1. Experience on suspecting and diagnosing genetic disorders on ultrasound
2. Exposure to amniocentesis, chorionic villus sampling and other invasive fetal procedures
3. Learning to draw family tree and suspect genetic disorders in the clinic
4. Which genetic tests to order for an obstetric/gynaecological patient and when?
5. Reading, interpreting genetic tests reports and counselling of patient
6. Genetic counselling in preconceptional and prenatal period
7. Exposure to post-mortem evaluation of fetuses
8. ABCs of laboratory genetics – karyotype and beyond
9. Screening for genetic disorders in pregnancy- old and new technologies: Test ordering, interpretation and counselling
10. Practical aspects of PNDT act, Ethical, legal and social issues as relevant to clinical care
11. Research in Prenatal Genetics: How to design proposals and guide students

Centres providing Fellowship

1.	All India Institute of Medical Sciences, New Delhi
2.	Gangaram Institute of Postgraduate Medicine and Research, New Delhi
3.	Kasturba Medical College, Manipal University, Manipal
4.	Nizam's Institute of Medical Sciences, Hyderabad
5.	Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow