

Literature for admission in Fellowship & M.Phil in Regenerative Medicine and Translational Sciences:

Academic session starting 2017, School of Tropical Medicine, Kolkata, The West Bengal University of Health Sciences

Summary:

The Unit of Regenerative Medicine and Translation Science, Calcutta School of Tropical Medicine under The West Bengal University of Health Sciences is among the few centres in the world focused on clinical applications of cell based therapies.

Background and Rationale:

Regenerative Medicine (RM) is a branch of medical science which studies the replacement or regeneration of human cells, tissue and organs, to counter chronic diseases that debilitate organs and hence bodily function. It includes biomedical approaches to clinical therapies that may involve the use of stem cells by injection of stem cells or progenitor cells. It may also be done by inducing regeneration by biologically active molecules or by transplantation of in vitro grown organs and tissues through tissue engineering. Regenerative Medicine is an exciting new field that holds much promise for generating innovative therapies for a wide variety of diseases and disorders. Regenerative Medicine focuses on harnessing the body's own repair mechanisms to replace or heal damaged tissues and organs. This field has the ability to touch every ailment, ranging from cancer to heart disease to nervous disorders. This multidisciplinary field incorporates stem cell biology, tissue engineering, biomaterials engineering, and transplantation science. In addition, it also includes various enabling technologies and clinical application areas, with the ultimate goal of improving patient lives.

The course objectives are:

1. To spread knowledge about this newly emerging field of modern medicine and cell therapy as this holds immense potentialities for future clinical and experimental therapies.
2. To explain the principles and clinical applications of stem cell therapy for regenerative purposes.
3. To promote theoretical and practical knowledge on the subject.
4. To teach stem cell biology and the application of technologies therein.
5. To develop research and analytical skills.
6. To promote independent/group original research and project work.

Course coordinator:

Prof. (Dr).Niranjan Bhattacharya, (Department of Regenerative Medicine and Translational Science, Stem Cell and Progenitor Cell Research).

The course combines lectures, tutorials with hands-on experiments, demonstrations. The course joins together a unique group of renowned international experts with the aim of exchanging scientific knowledge on cells, biomaterials and strategies for tissue regeneration. Attendees will also have the opportunity to discuss ideas directly with the resource persons.

Academic assessment and evaluation of M.Phil and Fellowship courses:

- (1) Post-registration: Continuous assessment class room (CR) Sessions 8 CR Modules 150 hrs/yr. The Regenerative Medicine and Translational Science Department has outstanding faculty members based at top tier level Universities in the world. Invited talks and lectures from foreign faculty professors round the year are an essential component of the learning methods and students are also expected to actively participate during such interactions.
- (2)Distance Learning (DL), No. of Sessions: 4. Distance Learning Sessions: 20 hrs
- (3) Clinical and pre clinical rotation. Submission of Log Book.
- (4)Practicals: Hands-on practical in laboratory work pertaining to cell therapy and Clinical ward study.
- (5) Group Dynamics and Practical Sessions. Method: 4 Group Dynamics: 80 hrs.
- (6)Dissertation Work: Subjects are to be selected by the learner 150 hrs.

For M. Phil: Research proposal and work to be completed in 2 years.

Selection of Candidates for M.Phil and Fellowship are through a 3 stage performance evaluation:

Stage I: Candidates will appear for an written entrance examination.

Stage II: Based on the performance in the theory test (stage I), candidates will be called for assessment keeping in view the practical knowledge of the candidate, ability to attain the high academic level in the discipline and aptitude for research and teaching.

Stage III: Those candidates who secure 50% marks or above in theory plus departmental assessment will be finally interviewed by the selection committee under the chairmanship of HOD Regenerative Medicine and Translational Science.

Candidates, who fail to attend any of the three stages mentioned above or secure less than 50% aggregate marks in the above three stage performance evaluation, will not be considered for admission.

Fellowship Eligibility criteria:

Duration of Course: 1 year.

M.Phil Eligibility criteria:

Duration of the course: 2 years.

Minimum eligible degree requirements for Fellowship course:

MBBS/MBBS with PG Diploma, BDS, M.Sc. in Botany/Zoology/Physiology and other life sciences, B. Pharm, B.Tech in Biotechnology, BUMS, BHMS, BAMS, B.VSc or equivalent degree and students with Clinical Embryology and other paramedical courses and a minimum of 50% marks in aggregate, are also eligible.

Minimum eligible degree requirements for M.Phil course :

MD, MS, M.Ch, DM, M.Tech in Biotechnology, M.Pharm, M.VSc, MDS, MBBS/ MBBS with PG Diploma, M.Sc in Biotechnology/Biomedical Science/Stem cells/Genetics/Molecular Biology/Microbiology/Biochemistry. Candidates with M.Sc in Zoology/Botany/Physiology with relevant experience in biotech or pharmaceutical industry/laboratory/clinical research or fellowship in regenerative medicine previously are also eligible to apply. Students with previous background in fellowship in Regenerative Medicine and Translational Science are also eligible to apply.

Eligible international applicants will be interviewed through Skype.

Age: No upper age limit.