Literature for admission in Fellowship / M.Phil /Phd / Fellowship in Regenerative Medicine and Translation Sciences: 2015

The above fellowships program is conducted by the Department of Regenerative Medicine and Translational Science, School of Tropical Medicine, Kolkata, West Bengal, India under the West Bengal University of Health Sciences.T his Department is the first of its kind in India and possibly frst or second clinical course in the world which operates with a view to propagate basic and translational research in Stem Cell science to further the emerging field of healing through cell therapy and its clinical applications. The course feature opportunities for workshops and hands on training in various centers of excellence in the country in core and allied fields of basic and translational aspects of modern medicine.**(M.Phil/PhD) in Regenerative Medicine and Translational Science:**

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. RM 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.

COURSE OBJECTIVE:

The principles and methodologies associated with RM and stem cell biology and technologies will be addressed in this interactive course; it will also highlight how RM is translated and implemented into patient care. A student will be eligible for the M.Phil/PhD course in Regenerative Medicine after successfully completing the two year course as per curriculum and required examinations as per rules. Successful candidates will also be given preference for enrollment in the PhD program in Regenerative Medicine and Translational Science.

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.**

Teaching-Learning Methods:

Course Coordinator and Head of the Department: Dr.Niranjan Bhattacharya, D.Sc, MD, MS, FACS, FICS, FICOG, FSOG (Department of Regenerative Medicine and Translational Science, Stem Cell and Progenitor Cell Research).Centenary Professor: Prof. Andrew Ross Burd, MB ChB, FRCSEd, MD (Epidemiology, Surgery, Plastic Surgery)Global stalwarts in the field of Regenerative Medicine who were involved in formulation, instruction and execution of the previous edition of the course included:Prof Elaine Gluckman, Emeritus Prof University of Paris, France. Prof David Harris, University of Arizona

3. Prof Ian McNiece, MD Anderson Hospital, University of Texas

4.Prof Zygmunt Pozda , Curie Institute, Poland

5. Prof Himansu Basu, Ex Vice President, RCOG, London , U.K

6.Prof Phillip Stubblefield, Emeritus Prof University of Boston USA

7)Prof S.Arulkumaran, Emeritus Prof University of London , U.K

(1)The course combines lectures, tutorials with hands-on experiments, demonstrations.

(2)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.

Method of Selection:

Selections for M.Phil/PhD and Fellowship are through a 3 – stage performance evaluation:

Stage I: Candidates will appear for an entrance examination (theory test) for 90 marks of 90 minutes duration in the subject. The result will be displayed the following day on the Notice Board of Examination Section. No individual communication will be sent. Special preference would be given to students who have successfully completed the Fellowship in Regenerative Medicine and Translational Science.

Stage II: Based on the performance in the theory test (stage I), candidates will be called for Departmental clinical assessment on the third day to assess the suitability of the candidate, 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. A maximum 90 marks have been determined for Departmental clinical assessment.

Stage III: Those candidates who secure 50% marks (out of 180 marks) or above in theory plus Departmental clinical assessment will be finally interviewed on the fourth/fifth day by the selection committee under the chairmanship of HOD Regenerative Medicine and Translational Science. A maximum of 20 marks have determined for the interview. 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.

Course Structure:

Registration and welcome to the M.Phil/PhD and Fellowship courses: (1) Post-registration: Continuous assessment class room (CR) Sessions8 CR Modules150 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 2yrs eventually moving into a PhD Research work with appropriate funding.
For Fellowship: Research proposal in the first year eventually moving into a M.Phil/PhD program for the subsequent years with the option of carrying previous research thesis during fellowship program in the next year.

(7) Continuous and summative assessment. To be completed in not more than 2 yrs, Internship Assignment (2yrs).

Fellowship Eligibility criteria:

No. of seats: 100 (One hundred only)

Duration of Course: 1 year eventually leading to M.Phil/PhD.MBBS (for Doctors), MD, BDS, MDS, M.Sc in any branch of Life Science /M Tech Biotechnology /BDS/B.VSc or equivalent degree and background; Students with Clinical Embryology and other paramedical courses and a minimum of 50% marks in aggregate, are also eligible. Admission based on personal interview conducted by the University:
Citizenship: Indian nationals can apply under the General Category. Foreign nationals or Non Resident Indians or Indian nationals supported by NRI relatives can apply under the Foreign/NRI Category

Eligible international applicants will be interviewed through Skype.

Session: 2015-2016Age: No upper age limit.
Course Fees:
Rs. 1,00,000/ only (Approx. 1518 US Dollar) which includes registration fee, tuition fee, distance learning (online) charges, examination fees, library fee, course kit for 1 year.
M.Phil/PhD Eligibility criteria:

The course is offered at the postgraduate research level. Candidate aspiring to join the course must have any of the following degrees:

(1) MBBS (for Doctors), MD, BDS, MDS, M.Sc in any branch of Life Science /M Tech Biotechnology /BDS/B.VSc or equivalent degree and background; Students with Clinical Embryology and other paramedical courses and a minimum of 50% marks in aggregate, are also eligible.
(2) Students will be admitted on the basis of a Theory exam/ Viva to assess research aptitude / or other examination method as decided by the university from time to time.

(3)All students who successfully completed the Fellowship course in Regenerative Medicine and Translational Science from the same department will get preferential treatment in M.Phil/PhD admission.
(4) Citizenship: Indian nationals can apply under the General Category. Foreign nationals or Non Resident Indians or Indian nationals supported by NRI relatives can apply under the Foreign/NRI Category.
No. of seats: 30 (Thirty)
Duration of Course: 2 (two) years eventually leading to a PhD.
Eligible international applicants will be interviewed through Skype. Age: No upper age limit.
Course Fees:
Rs. 3, 00,000 only (approximately 4554 USD) which includes registration fee, tuition fee, distance learning (online) charges, examination fees, library fee, course kit for 2 yrs.
Payment type: All students are requested to submit their full tuition fees at the time of admission to the School of Tropical Medicine, Kolkata.
Opportunities for M.Phil/ and FRMTS eligible students:
Salary: Stipends considerable for eligible/selected candidates for both M.Phil/PhD and fellowship courses as per government Rules & regulations. Current stipend provided is 3, 37,000 Indian Rupees annually (approximately 5130 USD per annum according to today's foreign exchange rate) according to the current standards in West Bengal
.**Full-time Course:** The duration of the full-time M Phil course shall be 24 months. If an M.Phil student is unable to complete his dissertation within this period, he will be allowed to do so within an additional period of one year.