Fellowship in Regenerative & Interventional Orthobiologics (FERIO) (Under the aegis of Indian Stem Cell Study Group & RML law Univ), affiliated to Trans European Stem cell society – Swiss Clinic

Need for Fellowship

Globally, Regenerative Science in various medical specialties such as Orthopaedics holds the future in treating a spectrum of conditions *(such as Osteoarthritis, uncontrolled Rheumatoid Arthritis, Avascular osseous necrosis among others)* that are difficult to be cured with traditional treatment options. To address the challenges faced by Orthopaedicians due to complete neglect of the science of Regenerative Orthobiologics in their traditional teaching curriculum and to equip them with the state of art regenerative orthopedic solutions, a structured learning program of Regenerative Orthobiologics is needed to enlighten the surgeons with the basics, current evidence, effective treatment protocols and legal guidelines in this field. However, there is a lack of such teaching programs at the National and International levels. The ***Fellowship in Regenerative Orthobiologics*** will thus be the first of its kind International academic joint venture in this regard.

Fellowship shall be started from 2022 under the aegis of the Indian Stem Cell Study Group Trust (ISCSG) in academic collaboration with reputed university/Institute /Society with the laid down criteria (mentioned below)

- The duration of the fellowship shall be for 12 months (online with offline classroom trainin)g programmes at various subcentres as Surat ,Trichy & Lucknow ,publication / project work and simultaneous case based online discussion classes) From Nov they would be presenting their research wrk along with FERIO-FEIORA Journal club

- The fellowship shall be conducted in a hybrid manner with both online and offline teaching modules.

- There shall be clinical observership sessions in Centres of national repute in the field

- The teaching Curriculum shall also take care of legal aspects of regenerative medicine along with insights & guidance into the medical litigations in the clinical practice

- One Research publication shall be made mandatory for the fellows.

- One academic presentation at the ISCSG/IORA conference is mandatory for the fellows

- Academic collaboration with a reputed university /International Society and Indian Orthopaedic Rheumatology Association shall be established by ISCSG for this purpose.
- The fellowship shall be jointly awarded by the ISCSG and collaborating university/Institute/Society
- Fellows later can write in their resume FERIO (Orthobiologics)

The finer details of the course module for this fellowship, laid out by the scientific committee members of ISCSG shall be shared at an appropriate juncture with all the stakeholders. The currently selected center for clinical observership includes SRKRC institution in Surat *(NABH accredited Regional Blood Transfusion & Research Centre)* and MCRC at Trichy. A registered scientific ethics committee from Lucknow is in place for ethical approval and guidance of fellows in their research journey and publication.

Course details

No of Fellows intake – 5 (Max)
Minimum requirements for selection:

i. Age limit: under 40 years of age.
ii. Life member of ISCSG ,IORA
iii. Two years of clinical experience post Masters' degree or equivalent qualification in Orthopaedics
iv. Five years of clinical experience post Diploma in Orthopaedics
v. Demonstrates academic and research interest in the field of Orthopaedics with minimum 5 research publications preferably in the subspecialty of Regenerative Orthopaedics

Course fees:

a) Indian nationals – Rs 50,000/- (INR)
b) SARCC Nationals – $ 1500/- (USD) and
c) Foreign nationals other than SARCC – $ 2000/- (USD)

Outline of Course curriculum

Sl. No	Exposure
1	Induction at Lucknow – 1/2 days training in • Basics of Regenerative Clinical Medicine • Research, analytics & manuscript writing. • Legal aspect on the use Regenerative Clinical Medicine
2	Online lectures on various aspects of Regenerative Orthobiologics
3	Surat – 2 days 2 days of practical training in Regenerative Orthopaedic procedures
4	Oral presentations and other assigned academic work in either ISCSG or affiliated IORA conference
5	Regenerative lab Training at Trichy – 2 days
6	Lucknow – Final Exit Exam
7	Convocation at the next ISCSG/IORA annual conference

The boarding arrangements would be facilitated by the ISCSG trust for offline teaching sessions, the payments of which shall be borne by the fellows.

Application for the fellowship:

Requirements:

a. Letter of Intent - *Why the candidate should be included in the fellowship program?* (Min 250 words)
b. Statement of purpose – *How the fellowship will help the candidate?* (Min 250 words)
c. Brief CV (not more than 4 pages)
d. MCI/NMC recognized Degree certificates for under-graduation and post-graduation
e. Abstract proposal (350 words) for research work during the fellowship
f. Two letters of recommendation from previous mentors.

Proposed Faculties

National:

1. **Prof. Dr. Manish Khanna**
2. **Prof Sandeep Shrivastava**
3. **Prof Alok C Agrawal**
4. **Dr. V R Ravi**
5. **Dr. Kanchan Mishra**
6. **Dr Sairam**
7. **Dr. Manoj Bansode**
8. **Dr. Madhan Jeyaraman**
9. **Dr Surya Prakash**
10. **Dr Karun Jain**

International

1. **Dr Marco Traub, TESCT Switzerland**
2. **Prof Dimitrios Tsoukas**
3. **Dr Charan Reddy USA**

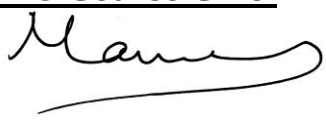
Research Methodology Faculty

Dr Anamika Pnadey

Medical Law Faculty

Dr A K Pandey,Dr RML NLU,Lucknow
Dr N J Karne
Dr Rahul Katta
Dr Prince Paul

FERIO Course Chief



Prof Dr Manish Khanna
ISCSG,India
FERIO ,Course Chief

Contact drmanishkhanna@gmail.com ; manishvenus@rediffmail.com

Dr (Prof) Manish khanna MS FIMSA
National Course Chief,FERIO
Orthopaedic Rheumatologic Surgeon & Regenerative Orthobiologist
President Emeritus, IORA
Chairman & Charter President ,ISCSG
Chair,Educational Day Committee,SICOT

Dean Academics, DR KNS MIMS, Barabanki ,Lucknow
EditorinChief,InternationalJournalOrthoRheum
Editorinchief , Text Book Of Orth Rheum (Jaypee)
Chair,FEIORA

Syllabus for FERIO

Module 1: Introduction

1.1 Introduction to Regenerative Medicine
1.2 Introduction to stem cells
1.3 Introduction to Medico-legal aspects

Module 2: Platelet Biology

2.1 Platelet Biology
2.2 Platelet rich plasma – Preparation, types of PRP, pre and post procedural care
2.3 Platelet rich fibrin – Preparation, types of PRF
2.4 Lysophilised platelet products – Biology and preparation
2.5 Application of platelet products in various diseases

Module 3: Stem Cells

3.1 Stem cell biology
3.2 Characterization of stem cells
3.3 Culture of stem cells
3.4 Various sources of stem cells
3.5 Stem cell banking

Module 4: Types of stem cells

4.1 Embryonic stem cells
4.2 Adult stem cells
4.3 Mesenchymal stem cells
4.4 Induced pluripotent stem cells

Module 5: Mesenchymal stem cells

5.1 Biology of MSCs
5.2 Characterization of MSCs
5.3 Sources of MSCs
5.4 Various sources of MSCs
    5.4.1 Bone marrow MSCs
    5.4.2 Adipose tissue derived MSCs
    5.4.3 Placental derived MSCs
    5.4.4 Amniotic fluid MSCs
    5.4.5 Miscellaneous sources of MSCs

Module 6: Forms of MSC applications

6.1 MSC therapy
6.2 BMC and BMAC therapy
6.3 Adipose derived products applications – ASC, Macrofat, Microfat, Nanofat, Microvascular fragments
6.4 Placental and amniotic fluid product applications
6.5 iPSC therapy

Module 7: Recent advances

7.1 Exosomes – Biogenesis, characterization, preparation
7.2 Application of exosomes in various clinical applications
7.3 Genetically engineered stem cells

Syllabus for the Challenging Medical litigations in Orthobiologics Clinical Practice and legal aspects of Regenerative medicine

Doctor and Patient Relationship
Medical Jurisprudence

- Function of Medical Law
- Benefit of Medical Jurisprudence
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Consent in Medical Treatment

- Informed
- Necessary
- Emergencies

- Right to deny consent
- Right to Refuse Treatment

Medical Negligence

- Negligence
- Damages
- Compensation

Illegal Practice and Consumer Law

- Professional Liability
- Criminal Liability
- Vicarious Liability

Defense and Limitations

- Claims
- Addendum
- Medical Negligence as an Indictment

Stem Cell Therapy

- Challenges
- Litigations

Regulatory provisions in novel drug therapy CDRC guidelines
Disability assessment in RA
Ethical issues in ortho rheumatology