

DiponEd

Institute of Regenerative Medicine

In Collaboration with Datta Meghe Institute of Medical Sciences

#Effective Learning Experience



About Regenerative Medicine

Regenerative Medicine is one of the newest and most powerful approaches in biomedical science; it offers the opportunity to experimentally approach previously intractable biological questions and develop cell - based therapeutics. DiponEd BioIntelligence offers online Diploma in Regenerative medicine to Doctors and qualified Surgeons/physicians. The present online course in Stem Cell Biology and Regenerative Medicine has a clinical focus, incorporating basic aspects of Cell Therapy and Tissue Engineering. This one-year program will give students a solid understanding of the scientific and clinical underpinnings of stem cell biology and regenerative medicine.

Fees Structure Based on Courses

Courses	Duration	Fees	
		Indian(Rs)	International(USD)
Certification in Regenerative Medicine(CRM)	6 Months	₹15,000/-	\$212/-
Fellowship in Regenerative Clinical Medicine(FRCM)	9 Months	₹75,000/-	\$1060/-
PhD in Regenerative Medicine(PhD)	3-5 Year	₹10,00000/-	\$14145/-

Faculty

Scientific / Clinical

Dr. Sandeep Srivasthava, MS,DNB,PhD
Clinical Course Coordinator
Datta Meghe Institute of Medical Sciences, Wardha

Dr. Krishna Shama Rao, FRCS(Ed), BDS, MDS, FDSRCS (Eng)
Director-Clinical Research
Inga Health Foundation

Mr. Kaniska Mukherjee, FRMTS, MPhil
Associate Director
DIRM

Dr. Ramananda Nadig, MD
Advisory Director
Strategic Alliances

Dr. Rani James, PhD
Scientific course Coordinator
DiponEd BioIntelligence, Bangalore

Dr. Biplabendu Talukdar, MD
Director - Transfusion Med.Immunology
Global Chairman Cardiomersion

Dr. Sarmistha, Deb, PhD
Chief Scientific Officer
DiponEd BioIntelligence, Bangalore

Dr. Santhosh Gopal, PhD
Faculty
DiponEd BioIntelligence, Bangalore

Dr. Kaushik D. Deb, PhD
Founder & CEO
DiponEd BioIntelligence, Bangalore

Dr. Vanitha KP, PhD
Faculty
DiponEd BioIntelligence, Bangalore



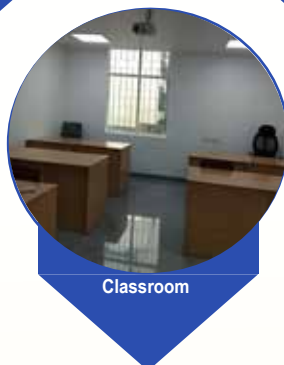
Collaborating Hospitals/Institutes

LK Wellness

Datta Meghe Institute of Medical Sciences

Infrastructure

The DIRM course has been broadly categorized into: basic research; clinical research and industry academiapartnership program. The students get access to hospital facilities ,DiponEd's Cell culture lab gives student hands on training on stem cell isolation and expansion.



Selection Process

Selection will be based on merit and personal interviews

Eligibility

The DIRM course has been broadly categorized into: basic research; clinical research and industry academiapartnership program. The students get access to hospital facilities ,DiponEd's Cell culture lab gives student hands on training on stem cell isolation and expansion.

Qualification

CRM/FRCM: MD, MS, MBBS, BDS, BAMS, PhD.MSc Life Science

PhD: MBBS, MD, MS, MDS

Programmes

Certification in Regenerative Medicine(CRM) (Duration: 6 months)

1 Overview

- The program is conducted over 4 modules broadly covering the fundamentals of stem cell biology(Annexure I)
- High emphasis on practical training during the program.
- Incorporate leading edge technologies to address questions in stem cell biology.

2 *Hands on Training (AnnexureII)

a) On Cell culture Techniques. b) Isolation of hair follicular stem cells.

Course	0-2 nd Month	3 rd Month	4 th Month	5 th &6 th Month
Certification in Regenerative Medicine	Theory classes features cell cycle and cell division	Classes will be conducted on Ex -Vivo expansion of stem cells.	Fouces on current therapies and future directions of Regenerative Medicine.	Demonstration of cellular therapies involving injection of stem cells; regeneration using secreted products by infused cells. *Pratical classeswill be conducted on fridays & Saturdays. Exams will be conducted at the end of each section .

Fellowship in Regenerative Clinical Medicine (FRCM) (Duration: 9 months)

1 Overview

- The program is conducted over 4 modules broadly covering the advanced topics in stem cell biology (Annexure I)
- Specialized training in the development and clinical application of stem cells to achieve regenerative therapies.
- Uniquely positioned to develop successful translational careers in stem cell Biology and Regenerative Medicine.

2 *Hands on Training (Annexure II)

- a) On Cell culture Techniques.
- b) Isolation of hair follicular stem cells.
- c) Isolation of Melanocytes.
- d) Demonstration of Meris Point of Care Devices.
- e) Clinical practical on various indications.

3 Dissertation trial on 20 patients at approved sites(optional) in any

Course	1 st -6 th Month	7 th -9 th Month	
Fellowship in Clinical Regenerative Medicine	The program included 4 modules extensively covering the basics and clinical applications of stem cell therapy. (Ref. Module 1 - 4) Theory classes will be conducted every Fridays & Saturdays. Exams will be conducted at the end of each Module.	Practical classes will be conducted on culturing & Characterization of different types of stem cells at our GLP/GMP certified cell culture lab Practical classes will be conducted every Fridays & Saturdays.	*Clinical trials in the broad area of regenerative medicine will be conducted at our selected centers. Exams will be conducted and certificates will be distributed to all the successful candidates.

PhD in Regenerative Medicine (Duration:3-5 years)

Awards: PhD

Study Modes: Full -time, Part- time

Program website: <http://diponed.com/dirm/>

The PhD Program in Regenerative Medicine offers an inspiring, multidisciplinary and translational education program in the area of Regenerative Medicine for PhD students. Our research focused on the study of stem cells, disease and tissue repair to advance human health. We aimed at developing new treatments for major diseases including cancer, heart disease, diabetes, degenerative diseases such as multiple sclerosis and Parkinson's disease, and liver failure. The Centre has strong collaborative links to other centres, such as Datta Meghe Institute of Medical Sciences and Bangalore BioInnovation Centre.

Training and Support

The PhD Program strongly encourages interaction with colleagues and peers within this highly multidisciplinary field and PhD students will be acquainted with the international perspective of the field of regenerative medicine through frequent contacts with colleagues from various collaborating institutes and the encouragement to participate in international meetings.

Eligibility

Qualification

MBBS, MD, MS, MDS

Selection Process

Selection will be based on merit and personal interviews

DIRM Syllabus, Module 1

Cell Biology Course	Topic
	Cell and Organelle Structure and Function
	Cell Cycle
	Cell Signaling
	Cell Metabolism
	Cellular Aging
Developmental Biology Course	Topic
	Mechanism of Development
	Cell Type Determination, Organogenesis and Morphogenesis
	The Blastocytes and Embryonic Stem Cells
	Alternative sources of pluripotent stem cells
	Mechanisms of Regeneration
Physiology and Anatomy Course	Topic
	Organization of Human Body and Cell Types
	Skeletal System, Skeleton, and Joints
	The Muscle and Muscular System
	The Central Nervous System and the Peripheral Nervous System
	The Endocrine System
Immunology Course	Topic
	Anatomy of Immune System
	Acute and Chronic Inflammation
	Dendritic cells and Vaccine
	Host Defense Against Infections
	Angiogenesis and Immune Regulation
Cancer Biology and Infectious Disease Courses	Topic
	Origin and Overview of Cancer
	Cancer Immunology
	Cancer Systems Biology
	Cancer Diagnostics and Treatments
	Infectious Agents and Cancer
Molecular Biology Course	Topic
	DNA Replication, Recombination, and Repair
	Fundamentals of Gene Structure and Eukaryotic Transcription
	Effect of Chromatin on Gene Regulation
	Analysis of Transcriptional Networks by Proteomics and Functional Genomics
	Mechanisms and Functions of RNA Interference (RNAi) and Micro RNA.

DIRM Syllabus, Module 2

Basics of Stem Cell Biology Courses	Topic
	Introduction to the Concepts of Stem Cell Biology
	Mesenchymal and Hematopoietic Stem Cells
	Neural, Cardiac, Breast, Epithelial, and Stem Cells
	Stem Cells and Cancer
	Stem Cells and Regenerative Medicine
Stem Cell Technologies, Commercialization, and Treatment	Topic
	Introduction to working with hematopoietic progenitor cells, neural stem cells, mammary stem cells, mesenchymal stem cells, and human embryonic and induced pluripotent stem cells
	Ex-vivo Expansion of Mesenchymal Stem Cells
	Stem Cells Reprogramming
	Stem Cell Banking
	Stem Cell and Regenerative Medicine
Basics of Transplantations and Blood Transfusions	Topic
	Basic Immunology of Transplantation
	Principles of immunosuppressive therapy; GVHD
	Bioethics in transplantation: ethical, social, legal and religious aspects.
	The Role of Blood Service and Alternate Blood Transfusions
	Blood Transfusion Management
Hematology/Bone Marrow Transplantations Course	Topic
	Overview of Autologous and Allogenic Stem Cell Transplantations
	Bone Marrow Development and Function
	Ethical Issues in Bone Marrow Transplantations
	Immunological Approaches to Treating Bone Marrow Cancers
	Type of Transplants and Donor Choices
Trauma Injuries Course	Topic
	Overview on Trauma Injuries
	Platelet-Rich Plasma (PRP): From Basic Science to Clinical Applications
	Sports Trauma Management
	Head Trauma Treatment and Management
	Traumatic Injuries: Diagnosis, Treatment, and Complications

DIRM Syllabus, Module 3

Umbilical Cord and Placenta Course	Topic
	An Overview on Umbilical Cord Blood for Transplantation
	Cord Blood banking
	An Overview on Amniotic and Placental Stem cells
	The Placenta and the Fetus: Structure and Function
	Ethical Consideration of Umbilical Cord Blood Banking
Basics of Clinical Research Course	Topic
	Fundamentals of Clinical Trials
	Principle and Practice of Clinical Research
	Regulatory Affairs in Clinical Research
	Ethics in Clinical Research
	Analysis of Clinical Data and Biostatistics
Regenerative Medicine Course	Topic
	A Overview on Organ Failure
	Mechanisms of Cell Regeneration
	Nuclear Reprogramming and Developmental Plasticity
	Directed Differentiation of Stem cells
	Commercial and Clinical Applications of Regenerative Medicine
Basics of Stem Cell Transplantations Course	Topic
	Overview on the Types of Stem Cell Transplants
	Stem Cells Transplantation Process and Post Management
	Ex-Vivo Expanded Stem Cell Transplantations
	Bioethics and Biosafety of Stem Cell Transplantations
	Autophagy in Stem Cells
Cell Therapies	Topic
	Principals of Cell Therapies
	Application of Cell Therapies in Diabetes
	Application of Cell Therapies in Cancer
	Application of Cell Therapies in Cardiovascular Diseases
	Application of Cell Therapies in Wound Healing and Burn Damages

DIRM Syllabus, Module 4

Orthopedics Course	Topic
	Orthopedics and Sports Medicine
	Cellular Therapies in Orthopedics
Transplantation Course	Topic
	Basics of Bone Marrow Transplantation Procedure
	Comparative Analysis of Stem Cells from Cord Blood, Amniotic Fluid, and Peripheral Blood
Dermatology Course	Topic
	Anti-aging Therapies
	Cellular Therapies in Burn Injuries
Hair/skin Course	Topic
	Hair Regeneration
	Skin Regeneration Ex-Vivo and <i>in vivo</i>
Neurology Course	Topic
	Underlying Mechanisms of Stroke and Possible Cellular Therapies
	Cellular Therapies in Neurodegenerative Disease and in Cognitive Functions.
Oncology Course	Topic
	Stem Cells and Cancer
	Radiobiology in Cancer Treatment
Cardiology Course	Topic
	An Overview on Preventive Cardiology
	Cardiovascular Diseases
Pulmonary Course	Topic
	Obstructive Lung Diseases
	Cell Therapies for Lung Diseases
Nephrology Course	Topic
	Overview on Renal Diseases
	Cell Therapies for Kidney Diseases

Annexure II : DIRM Practicals

Sl no-	Techniques
1	Aseptic Techniques in Cell culture
2.	Isolation of Mononuclear cells/stem cells from Peripheral Blood/Bone Marrow/Adipose.
3	Characterization of Stem Cells using Flow Cytometry.
4	Expansion of Mesenchymal Stem cells.
5.	Isolation and cryopreservation of stem cells from Cord Blood.
6	3D printing.
7.	Extraction of Platelet Rich Plasma (PRP) from Peripheral blood.
8	Preparation of Platelet Rich fibrin Matrix (PRFM) from Blood.
9	Platelet Rich Plasma (PRP) therapy for Androgenic Alopecia.
10.	Platelet Rich Plasma (PRP) therapy for Skin wrinkle treatment
12.	Stem cell based therapies for Osteoarthritis.
13.	Isolation and expansion of hair follicular stem cells
14	Isolation and expansion of Melanocytes.
15	Guidelines for good clinical practice.
Sl no-	Clinical Practicals
1	Application of PRP in Osteoarthritis
2.	Isolation of Mononuclear cells from Bone marrow
3	Use of PRP in hair /skin
4.	Application of PRP in Periodontal disease.
5	Autologous Platelet-rich Fibrin Matrix in Non-healing Diabetic Foot Ulcer
6	Infusion of activated NK/T cell therapy in cancer patients.

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CERTIFICATE

*This is to certify that Dr _____
has successfully completed Fellowship in Regenerative
Clinical Medicine (FRCM) during the academic Year
2018-2019. The course comprehensively covers the potential
application of Stem cells in Regenerative Medicine.*

CSO
XXXXXXXXXX

Course Coordinator
XXXXXXXX

Director
XXXXXXXX





APPLICATION FORM

Please complete this form legibly and return it on or before the closing date specified in the advertisement. All information given will be treated with the strictest confidence. Continuation sheets may be added if necessary.

Course applying for*

1. CRM: ☐

**Note: Please tick on the appropriate box*

2. FRCM: ☐

** Mandatory information*

3. PhD: ☐

1. PERSONAL DETAILS*

Name:	Address:
Sex:	Telephone:
Age:	Email Address:

2. Academic Background*

Degree	Duration	Name of Institution	Subjects Taken	Grades/Percentage of Marks Obtained

3. EMPLOYMENT RECORD (If Employed)

Name and Address of Employer and Nature of Business	Duration	Job Title: Job Function/ Responsibilities:

4. ACADEMIC/PROFESSIONAL TRAINING

Details of training courses attended and awards achieved, including dates, if appropriate:

5. VERIFICATION OF INFORMATION*

I certify that all information that I have provided is correct. I understand that any false information given may result in an offer being withdrawn.

Signature:

Date:

Note: Please send your updated CV ,scanned photocopies of valid educational certificates, along with this form and email the application form to the address below.

Dr.Rani James
Scientific Course Coordinator
Faculty at DiponEd Institute of Regenerative Medicine
DiponEd BioIntelligence LLP
Merisis Therapeutics
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