dipon
Ushering wellbeing in life

DiponEd Institute of Regenerative Medicine

(Translational Medical Education, Transforming Healthcare)

In Collaboration with
Datta Meghe University & Institute of Medical Sciences

Datta Meghe Institute of Medical Sciences, Wardha

COURSE BROCHURE DIRM

DiponEd
BIOINTELLIGENCE

Introduction to DIRM

The health care ecosystem is going through a rapid transformation like never before. The medical science and clinical world is seeing concepts like Personalized Medicine , Precision Medicine and Regenerative Medicine rapidly becoming reality. DiponEd Institute of Regenerative Medicine (DIRM), is committed to update the knowledge of the busy practitioners through a mix of compact accessible education program using virtual online and AR VR like platforms plus on-site lab and clinical trainings. DIRM also aims at creating basic medical and scientific level awareness, and skill development on latest Personalized health care technologies and treatments through its Participatory Medicine program. Our education program is aimed at advancing health-care and medical sciences, while integrating latest knowledge from genetics, cellular biology, 3D printing, tissue engineering, proteomics, metabolomics, stem cell transplants, cancer immunotherapies, neoantigens, pharmacogenomics etc.

At DIRM https://www.diponed.com/dirm/ we offer National & International University affiliated courses in Regenerative medicine and Personalized medicine to qualified surgeons / physicians. It has a very informative coverage on basics of transfusion and transplantation of human stem cells and other subject areas required for developing and running smart health care and personalized medicine, clinics.

The institute is also offering skill development in Paramedical, Nursing, Medical lab technology, Clinical Research, IVF and laboratory QA/ QC, Diagnostics lab services etc. DIRM is the beginning of our journey in social health care awareness and medical education,and we aim at transforming it into a modern medical

About Translational and Regenerative Medicine

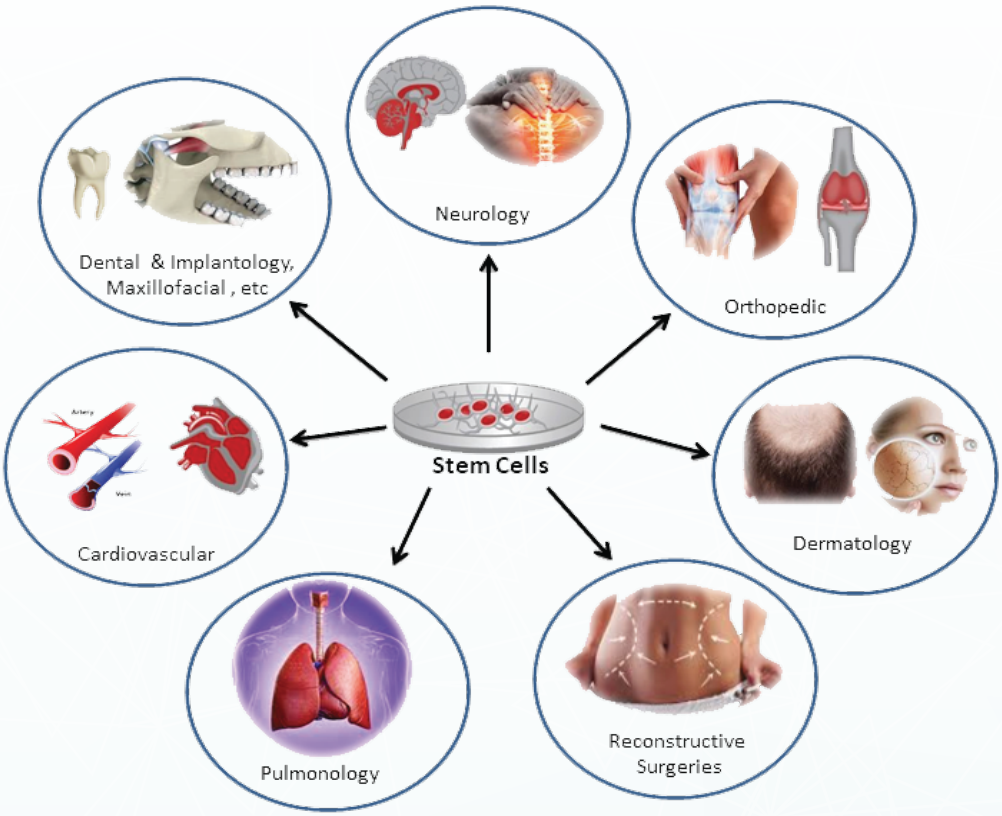
Regenerative Medicine is one of the newest and most powerful approaches in biomedical science; it offers the opportunity to experimentally approach previously intractable biological questions and develop cell - based therapeutics. Its represents the evolution of new treatment options of many unmet medical conditions and illnesses through tissue repair and replacement. The use of various adult cells, and stem cells harvested from the patients themselves are demonstrating extremely promising results in clinical trials and other studies. Referred to as stem-cell therapies, or just cellular therapies, they involve taking stem cells from the body, culturing them, isolating them and putting them back into the body to induce tissue to regrow. Many years of hard work and research are bearing fruit as clinical trials progress according to schedule globally. We can be optimistic that novel therapies will soon make currently untreatable diseases and disorders treatable. It is important for clinicians to remain updated on the latest developments in the field of 3D printing, tissue engineering, cellular transplants, their clinical implications and gear up as the next generation health care providers.

Clinical Areas or Regenerative Medicine Practice

Researchers hope stem cells will one day be effective in the treatment of several medical conditions and diseases. But unproven stem cell treatments can be unsafe—so doctors and patients must get all of the facts before considering offering any treatment. Stem cells have been called everything from cure-alls to miracle treatments. DIRM offers to clear the hype through clinical and scientific updates and educating the stake holders of this field.

Regenerative medicine has the potential to heal tissues and organs damaged by age, disease, or trauma, congenital defects etc. Recent preclinical and clinical data supports the possibility for treating both chronic diseases and acute insults, and abet maladies occurring across a wide array of indications in blood related diseases and disorders, including non-healing dermal wounds, diabetes, auto-immune conditions, infectious diseases, pulmonary diseases, male -, female- infertility, neuro- , ortho- , cartilage- degenerative conditions, cardiovascular diseases and traumas, treatments for certain types of cancer, and many more. The current therapy of transplantation of intact organs and tissues to treat organ and tissue failures and loss suffers from limited donor supply and often severe immune complications, but these obstacles may potentially be bypassed through the use of regenerative medicine strategies.

Stem Cell Specialization



The Indian Council of Medical Research (ICMR), approves the use of minimally manipulated stem cells and hematopoietic stem cells in Blood Related diseases and disorders. Products and procedures like Matrix-induced Autologus Condrocyte implants MACI , and CAR T cells and Car NK cells like cellular products have got approved by FDAs and the clinicians and laboratory scientists need .

Examples of Regenerative Medicine FDA - approved products

Category	Name	Biological Agent	Approved use
Biologics	laViv	Autologous fibroblasts	Improving nasolabial fold appearance
	Carticel	Autologous chondrocytes	Cartilage defects from acute or repetitive trauma
	Apligraf	Allogeneic cultured keratinocytes and fibroblasts in bovine collagen	Topical mucogingival conditions, leg and diabetic foot ulcers
	GINTUIT		
	Cord blood	Hematopoietic stem and progenitor cells	Hematopoietic and immunological reconstitution after myeloablative treatment
Cell-based medical devices	Dermagraft	Allogeneic fibroblasts	Diabetic foot ulcers
	Celution	Cell extraction	Transfer of autologous adipose stem cells
Biopharmaceuticals	GEM 125	PDGF-BB, tricalcium phosphate	Periodontal defects
	Regranex	PDGF-BB	Lower extremity diabetic ulcers
	Infuse, Infuse bone graft, Inductors	BMP-2	Tibia fracture and nonunion, and lower spine fusion
	Osteogenic	BMP-7	Tibia nonunion

Current Courses

Courses	Duration
Certification in Regenerative Medicine(CRM) - Online	6 Months
Fellowship in Regenerative Clinical Medicine(FRCM)	9 Months
PhD in Regenerative Medicine(PhD)	3-5 Year
Lab Training	15 Days
Clinical Training	3 Months

Also -

Customized Interships and Trainings for Students available at different Hospitals / Labs and Partner Educational Sites.

Key Personnel

Scientific / Clinical

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

Minty Gupta
Course Coordinator and Admin

Dr. Murali S
Course Coordinator
DiponEd BioIntelligence, Bangalore

Dr. Padmanaban
Center Coordinator at site

Collaborating Hospitals/Institutes

1.Datta Meghe University Institute of Medical Sciences
2.LK Wellness
3.BMT Unit Dharmsheela Narayan Superspeciality hospitals
4.IIT Hyderabad Stem cells and Tissue engineering labs
5.IIT Hyderabad 3D printing labs
6.Bangalore Medical College, Department of Pulmonology etc.

INDIAN FACULTY

DR. SANDEEP SRIVASTAVA
Orthopedic

DR. SHASHI BHUSHAN
Pulmonary Medicine

DR. NATARAJAN M
Pathologist

DR. Sanjay Sharma
Diabetic Foot Ulcer, Podiatry

DR. Sphoorthi Belludi
Dental

DR. ARUN PANDA
Facial Plastic & Cranio Maxillo - Facial Surgery

DR LENNY DA COSTA
Functional Medicine

DR. KALPANA SHEKHAWAT
Functional & Metabolic Medicine Academy

DR. MANOJ BANSODE
Regulatory and Clinical Studies

DR. SRIKANTH KN
Orthopedic

DR. VENKATARAM MYSORE
Dermatologist

DR. AARUSHI PASSI
Aesthetics & Cosmetic Solution

DR. RAJESH RAJPUT
Hair Regenration & Psychology

DR. MURALI S
PhD, Biotechnology

INTERNATIONAL FACULTY

PROF. DR. MARCO TRAUB.MD

DR. RAJIKA ROY.PHD

DR. TZACHI SHELKOVITZ.MD

DR. OLDRICH CAPEK

Infrastructure

The DIRM courses have been broadly categorized into: Educational training; Clinical Training and Industry Academia Partnership Programs. The Students get access to Student Study Material, Hands on Training, Internship and Corporate Training.


Cell Culture Lab


Clean Room cGMP


Culture Lab Equipments


Classrooms


Clinical Sites


Research

Selection Process

Selection will be based on merit.

Qualification

CRM	MBBS,BDS,M.Sc Biotechnology, Biochemistry, Any Lifescience, BAMS
FRCM	MD, MS, MBBS, BDS, BAMS, MDS
PhD	MBBS, MD, MS, MDS
Lab Training	MBBS,BDS,M.Sc Biotechnology, Biochemistry, Any Lifescience, BAMS, MD, MS, MBBS, BDS, BAMS, MDS
Clinical Training	MBBS,BDS,M.Sc Biotechnology, Biochemistry, Any Lifescience, BAMS, MD, MS, MBBS, BDS, BAMS, MDS

Programmes

Certification and Advanced Certification in Regenerative Medicine (CRM)
(Duration: 4 months)

1 Overview

- The program is conducted over 4 modules broadly covering the fundamentals of stem cell biology (Annexure I).

2 *Hands on Lab Training (AnnexureII) (OPTIONAL)

- Candidates after completion of CRM program, may enroll further in the Advanced CRM Lab Training program, covering,

a) Cell Culture Techniques.
b) Isolation and characterization of stem cells.
c) Use of point of care (POC) biological devices.
d) Molecular diagnostics test.

Course	0 - 2nd Month	3rd Month	4th Month	OPTIONAL 5th Month
Certification and Advanced Certification in Regenerative Medicine	Theory classes features cell cycle and cell division.	Classes will be conducted on Ex -Vivo expansion of stem cells. Different Point of Care Medical Devices.	Fouces on current therapies and future directions of Regenerative Medicine.	Advanced CRM Hands on Lab Training

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 and cellular therapies.

2 *Hands on Lab Training as described in Annexure II

3 Dissertation or clinical trial on patients at IRB / IEC approved sites.

- Candidates after completion of FRCM program, may enroll further in the Clinical Training program, under the guidance of specialized of DIRM faculty.

Course	1st - 4th Month	5th - 8th Month	9th 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) Exams will be conducted at the end of each Module.	Interactive weekend sessions with video webinar by our specilized clinical faculty in divisions like, Orthopedics, Oncology, Dermatology, Aesthetics, Dental, Infertility, 3D Printing, Genetics, etc.	Pratical classes will be conducted on culturing & Characterization of different types of stem cells at our GLP/GMP certified cell culture labs. Clinical & Handson training on point of care medical devices. Exposure to transplant and protocols.

PhD in Regenerative Medicine

Awards: PhD

Study Modes: Full - time , Part - time

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

DIRM Labs and it's faculty is offering both guidance & external training to aspirants for PhD Program in Regenerative Medicine, an inspiring, multidisciplinary and translational education program. Our research focuses on the study of stem-cells, disease and tissue repair to advance personalized health care. We aim at developing new technologies and treatments for major diseases including cancer, heart disease, diabetes, neuro - degenerative diseases such as multiple sclerosis and Parkinson's disease, and liver failure.

Focus areas :

Cellular Therapeutics, 3D Printing, Genetics, Aging, Degenerative Clinical Conditions, Devices, Diagnostics, Blood related diseases & disorders.

Eligibility :

Student must be a Post Graduate with fellowship from CSIR, ICMR, NET, GATE, or any other funding bodies. Must have identified external PhD guide.

Qualification

MBBS, MD, MS, MDS, MSc, BAMS, BHMS, BDS, BE, BTech, MTech

Selection Process

Selection will be based on merit and personal interviews, Students who have identified a recognized guide, and got acceptance from any university will be given top priority.

Lab Training

A 15 days course candidates who have completed the CRM course, can take up this training.

In this training, we will be giving practical training and an exciting hands on experience under the guidance of our experts.

Qualification

MBBS, MD, MS, MDS

Clinical Training

A 3 months course where candidates who have completed the FRCM course are eligible for this training.

This training gives an in depth knowledge and practical on stem cells, prp application and patient trials on various segments.

Qualification

MBBS, MD, MS, MDS

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 Mascular 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.

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 Medcine
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

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

Module - 4

Orthopedic 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 *in vivo*
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, Bone Marrow.
6.	Extraction of Platelet Rich Plasma (PRP) from Peripheral blood.
7.	Preparation of Platelet Rich fibrin Matrix (PRFM) from Blood.
8.	Platelet Rich Plasma (PRP) therapy for Androgenic Alopecia.
9.	Platelet Rich Plasma (PRP) therapy for Skin wrinkle treatment.
10.	Stem cell based therapies for Osteoarthritis.
11.	Isolation and expansion of hair follicular stem cells.
12.	Isolation and expansion of Melanocytes.
13.	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.

FELLOWSHIP IN REGENERATIVE CLINICAL MEDICINE

DiponEd Institute of Regenerative Medicine(DIRM)

dipon

In Collaboration with

Datta Meghe Institute of Medical Sciences, Wardha

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	Course Coordinator	Director
xxxxxxxxxx	xxxxxxx	xxxxxxx

DiponEd BioIntelligence

Ushering Well being in life....

DIRM

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:** ☐
2. **FRCM:** ☐
3. **PhD:** ☐

**Note: Please tick on the appropriate box*

* *Mandatory information*

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. Murali S
Scientific Course Coordinator
Faculty at DiponEd Institute of Regenerative Medicine
DiponEd BioIntelligence LLP
Merisis Therapeutics
60/A, 2nd floor, Karnataka bank building, Jigani road,
Bommasandra industrial area, Bangalore-560099
Karnataka, India.

Email: murali.dirm@diponed.com
Mob:+91- 9008606173

Academic Collaborations -

भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

DMIMS
(NAAC Accredited Grade 'A+')

Dayananda Sagar University Bengaluru

ಬೆಂಗಳೂರು ಜೈವಿಕನಾವೀನ್ಯತೆ ಕೇಂದ್ರ
BANGALORE BIOINNOVATION CENTRE
Sculpting the Future of Bioinnovation
(A Government of Karnataka Undertaking)

S-VYASA
Swami Vivekananda Yoga Anusandhana Samsthana

DiponEd
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