

Global Medical Education and Research Foundation

Annual Progress Report (2023-2024)

Dr. Lakshmi Kiran Chelluri's team is actively working on the DST SERB-POWER sanctioned project to accomplish the objectives. The training and academic short-term research projects for undergraduate and post-graduate students are successfully going on with new aims and objectives. As part of the PGDiploma in Clinical Nutrition (PGDCN) course, students from St. Francis College doing their 6 months internship program in association with Gleneagles Global Hospital (GGH). Further, we also have students of Pharm D course from Avanthi and Sree Datta Pharmacy colleges to carry their 3 months, 9 months internship program. The detailed information of the successful activities that took place during the year 2022-23 is as follows.

The new Scientific Advisory Board is composed of 11 members and approved by the President.

Audited financials completed for FY 2024-2025.

Project : INR 12,84,420 (Received)

INR 12,72,427 (Spent)

1 Projects:

A. Completed project

DST-SERB POWER Grant (File No: SPF/2021/000126) 2021 Dec - 2024 Dec

Title: Articular cartilage tissue construct by microfluidics in an organ-on-chip.

Duration: (Three years)

PI: Dr. Lakshmi Kiran Chelluri

Research Fellow: Miss Upasna Upadhyay

B. On-going project

• Intramural projects:

PI: Dr. Chandan Kumar

16s rRNA sequencing of V3-V4 region and Metagenomics analysis from Liver Transplant Donors and Recipients using FCP samples

• Mylan Study

PI: Dr. Chandan Kumar

2. National /International Conferences and workshops: 02

3. Students for Ph.D programme:

| S.No | Name of candidate | Designation | Status/University |
|------|------------------------|--------------------|------------------------------------|
| 1. | Upasna Upadhyay | Research Scientist | Pursuing/KL University, Vijayawada |
| 2. | Chandrashekar Mallarpu | Research Fellow | Pursuing/Osmania University |
| 3. | Sirisha D | Research Associate | Thesis submitted/JNTU |
| 4. | Sai Priya | Research Associate | Awarded/JNTU |

4. List of Publications:

1. Upadhyay, U., Kolla, S., Maredupaka, S., Swapna Priya, Kamma Srinivasulu, Lakshmi Kiran Chelluri *et al.* Development of an alginate–chitosan biopolymer composite with dECM bioink additive for organ-on-a-chip articular cartilage. *Sci Rep* **14**, 11765 (2024). <https://doi.org/10.1038/s41598-024-62656-1>
2. Upadhyay U, Srinivasulu K, Chelluri LK. Standardizing Chondrocyte Isolation and Articular Cartilage Decellularization: A Versatile Bioink for Tissue Engineering Applications. *Methods Mol Biol.* **2024** Mar 21. doi: 10.1007/7651_2024_534. Epub ahead of print. PMID: 38507214.
3. Upasna Upadhyay, Saketh Kolla, Lakshmi Kiran Chelluri. Extracellular matrix composition analysis of human articular cartilage for the development of organ-on-a-chip, *Biochemical and Biophysical Research Communications*, 667, **2023**:81-88.
4. Soujanya Ganta, Prasanna Latha Komaravalli, Shazia Ahmad, SumanLatha Gaddam: Influence of genetic variants and mRNA expression of Interleukin IL-17A gene in Asthma susceptibility. *Gene.* 2022 Dec 16; 854:147119. doi: 10.1016/j.gene.2022.147119. Epub ahead of print. PMID: 36529350.
5. Soujanya Ganta, Prasanna Latha Komaravalli, Suman Latha Gaddam. Evaluation of Total Serum Immunoglobulin E Levels in Asthma Patients. *Asian Pac. J. Health Sci.*, 2022; 9(4):388-392.
6. Premkumar M, Kedarisetty CK, Moreau R. Preventive strategies for alcohol associated liver disease. Chapter in *Preventive Hepatology 2024*, Taylor and Francis
7. Kadimella A, Kedarisetty CK et al. First report of two-stage living donor liver transplantation to avoid futility and ensure double equipoise in acute liver failure complicated by toxic liver syndrome. *J Clin Exp Hepatol* 2024. DOI: 10.1016/j.jceh.2024.101443
8. Bhaite R, Sadananda MP Kedarisetty CK et al. Impact of Low GI Oral Nutritional Supplement on QOL, Strength and Nutritional Status of Chronic Liver Disease (CLD) Patients – A Multicenter Longitudinal Prospective Study. *Current Developments in Nutrition* 2024. DOI: 10.1016/j.cdnut.2024.102327
9. Kumar A, Arora A.... Kedarisetty CK et al. Impact of Diabetes, drug induced liver injury, and Sepsis on outcomes in MAFLD related acute-on-chronic liver failure. *Am J Gastroenterol* 2024; DOI: 10.14309/ajg.0000000000002951
10. Bhati R, Bhadoria AS.... Kedarisetty CK. HRQOL and Psychosocial status of end stage liver disease patients at a tertiary care center from Northern India: a cross-sectional study. *Ind J Community Med* 2024

5. Patents:

- Indian process patent filed. Application no.202441024951
Title of the invention: Microfluidics based for development of articular cartilage tissue construct organ-on-a-chip method.

6. Number of internship students in various departments:

| |
|--|
| August 2023: <ul style="list-style-type: none">• 09 students of M.Sc. Microbiology / Genetics , Shadan Degree and PG College for women |
| November 2023: <ul style="list-style-type: none">• 02 students from MNR PG & Degree College |
| January 2024: <ul style="list-style-type: none">• 12 students from R.B.V.R.R Women College, B.Sc Group Academic Thesis• 12 students from Shadan Degree College, B.Sc Group Academic Thesis |
| February 2024: <ul style="list-style-type: none">• 02 students from Andhra University, M.Sc Academic Thesis• 02 students from St.Anns College, B.Sc Internship with Thesis |
| April 2024: <ul style="list-style-type: none">• 03 students from MNR Degree & P.G College, M.Sc Academic Thesis• 04 students from St. Pious X Degree & P.G college, M.Sc Academic Thesis• 01 students from Osmania University, M.Sc Academic Thesis• 02 students from Shadan Degree College, M.Sc Academic Thesis• 01 students from Atria University, B.Sc Internship with report |
| May 2024: <ul style="list-style-type: none">• 01 students from St. Pious X Degree & P.G college, M.Sc Academic Thesis |
| July 2024: <ul style="list-style-type: none">• 03 students from Shadan P.G College, M.Sc Academic Thesis• 01 students from School of Allied Health Sciences REVA University, One-month Clinical Nutrition Internship |

Overall Academic Projects: Total 55 students (both PG and UG)

7. Collaborative courses offered at GMERF:

- Nutritional Internship courses: Total 01 students
- Pharm-D courses in collaboration with Avanthi Degree and PG College and Sree Dattha Institute of Pharmacy college:

8. Tenth (10th) Foundation Day Organized: On 17th Nov, 2023

- Prof. Dr. KS Ratnakar's 4th Memorial oration by Dr. G. Swarnalata, Sr. Pathologist, Apollo Health City, Hyderabad
- Recent advancements in Prenatal Screening and Diagnosis of Genetics disorders by Dr. B. Srinadh
- Presentations from Research Scholars - Ms. Upasna Upadhyay & Academic Students with active participation for best presentation and talk

9. MoU Renewal:

- Gleneagles Hospital – for 2 years
- Sree Datta Institute of Pharmacy College – 2 years
- Avanthi Institute of Pharmaceutical Sciences – 2 years

10. Staff:

- | | |
|-------------------------------|----------------------|
| 1. Dr. Lakshmi Kiran Chelluri | Director |
| 2. Dr Prasannalatha K | Senior Scientist |
| 3. Upasna Upadhyay | Research Scientist |
| 4. Jhansi | Research Assistant |
| 5. Dr Sandhya Rai | Post-Doctoral Fellow |
| 6. Nethi Swathi | Research Assistant |