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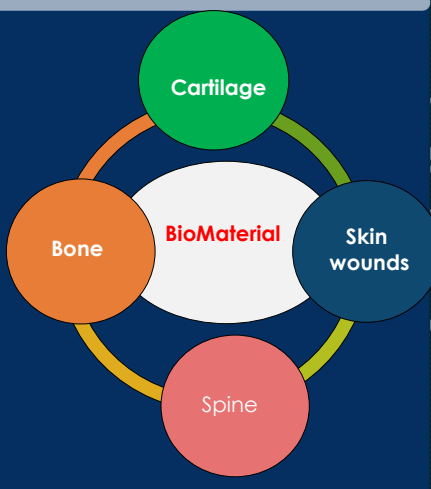
PhD/Post Doc supervision slots available: 3

Personal Profile

I am an Associate professor at the Faculty of Clinical research and my research focus is 3D printed and Electropun nanofibrous development for orthopaedic and skin defects Throughout, involved in the development of biological Biomaterials using synthetic and synthetic polymers and how their would contribute for the differentiation of stem cellular fate Into osteogenic and chondrogenic lineage . Currently, my primary research interest is in understanding the design of scaffold design and How the cells orient its adhesion, proliferation and differenenation. The maintenance of cells phenotype is considered vital for the biomaterial for effective clinical use. So we focus on the aspect of Signalling networks that would shed lights in the grey areas of material vs cells vs extra cellular interaction. Overall development of novel scaffolds, understanding their proper dynamics for cell attachment, differentiation pattern would help to improve the benefits of scaffold In long term bone diseases. Identifying a multilayered cell loaded biological cue would help for cost-effective gels For cartilage damage and suitable bio-degradable polymer fibrous sheet for large and burn skin wounds.



Research Interests
Biomaterials for Orthopaedic and Large skin wounds

- Developmental and characterization of Biomaterials
- 3D Printed materials for Bone, Cartilage
- Electrospun scaffolds for Large skin wounds

Funding Agency [Past and Present]

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SERB DIA

MOSTI

Current Lab members
Ph.D Scholar
Shanmathy S – Dual scaffolds for bone repair
PG Projects
Imarana – Sitagliptin role in osteogenesis
Nandhini – Role of xyloglucan for skin wound healing
Past students
Keerthana
Jaya
Aswathy
Smitha
Sanjana
Sanjuna
Felix
Opportunities
Internships
Ph.D. via SRIHER Ph.D. Program
Summer Fellow ships

Selected publications (Recent)

1. S Somasundaram, T Jaya, AM Punnoose, R Choudhary, E Natarajan, et al., Fabrication and characterization of calcium lactate gluconate electrospun novel fibrous sheet for bone tissue engineering. Emergent Materials, 1-10 2024
2. HRBR Norshazliza Shaz, Sathiya Maran, Krishnamurithy Genasan, Rajan et al., Functionalization of poly (lactic-co-glycolic acid) nano calcium sulphate and fucoidan 3D scaffold using human bone marrow mesenchymal stromal cells for bone tissue engineering. International Journal of Macromolecules 256 (Part 1), 128059, 2024
3. SK Venkatraman, G Krishnamurithy, R Choudhary, F Senatov et al., Characterization of Sol–Gel Combustion Derived Akermanite and Merwinite for its Antibacterial Activity and Osteogenic Differentiation of Mesenchymal Stem Cells, Silicon, 1-12, 3, 2023
4. M Jayaraman, P Dutta, S Krishnan, K Arora, D Sivakumar et al., Emerging Promise of Phytochemicals in Ameliorating Neurological Disorders , CNS & Neurological Disorders-Drug Targets (Formerly Current Drug Targets-CNS 3 2023
5. AM Narasimhan, A Ravikumar, S Nambiar, AM Punnoose, M Jayaraman, H.Balaji raghavendran
6. Marine seaweed polysaccharides in tissue engineering Functional Ingredients from Algae for Foods and Nutraceuticals, 519-551, 2023