

DEPARTMENT OF BIOSCIENCES AND BIOENGINEERING

List of Project Topics for PhD Admissions Spring 2025-26

Note: Please click on the following link for a detailed abstract and prerequisite for the project.

Link: [Abstract and Prerequisite for the Project](#)

Name of Faculty (Prof.)	Title/s of proposed sponsored research topic/s.
Deepak Agrawal	Developing a portable device for the real-time extraction of physiological signals
Deepak Agrawal	Deep Multi-Modal Learning for Enhanced Arrhythmia Classification and Prediction
Deepak Agrawal	Develop deep convolutional neural networks to automatically classify tissue images
Deepak Agrawal	Use of Machine Learning and Generative AI for Patient Outcome Prediction and Risk Stratification
Deepak Agrawal	Developing Computational Tools for Early Disease Prediction, Personalized Treatment, and Biomarker Discovery
Hari M. Varma	Developing a laser speckle based imaging system for measuring cerebral blood flow in humans: Towards a bench side continuous CBF monitoring device.
Hari M. Varma	Theoretical and computational optical imaging for biomedical applications
Hari M. Varma	Design and development of a laser speckle-based imaging system for cerebral/whole blood flow imaging in small animals: Towards a commercial prototype.
Neeta Kanekar	Cognitive control of standing balance in humans: role of attention and executive function
Neeta Kanekar	Human gait analysis: effect of aging
Neeta Kanekar	Development of Wearable Biofeedback-based Training Device for Movement Rehabilitation
Neeta Kanekar	Modelling Determinants of Pathological Gait (walking) in Patients with Neurodegenerative Disorder
Prakriti Tayaliya	3D liver model to study metabolic changes under various pathological conditions

Rajesh Patkar	Studying Molecular Pathobiology Through Experimental Evolution
Sandeep Kumar Kalva	Development of dual-modal optoacoustic and ultrasound tomography imaging system
Sandeep Kumar Kalva	Developing advanced reconstruction techniques for volumetric optoacoustic tomography imaging systems
Sandeep Kumar Kalva	Developing volumetric optoacoustic microscopy imaging system
Sandeep Kumar Kalva	Development of affordable volumetric (3D) optoacoustic tomography imaging systems for various biomedical applications
Sandip Kaledhonkar	Development of microfluidic devices for time-resolved cryo-EM technique
Sandip Kaledhonkar	Novel drug targets for Tuberculosis with Phage therapy
Swapnil Shinde	In silico and ex vivo screening of small molecules targeting ciliary GPCRs associated with diabetes
Swapnil Shinde	Dissecting the molecular interactions between primary cilia and the extracellular matrix
Rohit Srivastava	Design and Development of a Non-Invasive Basal Insulin Detection System
Rohit Srivastava	Design and Development of a Catheter-Integrated Smart IoT Sensor for Core Body Temperature Measurement