



High-End Workshop on

## “Nanotechnology in Healthcare: From Diagnostics to Therapeutics”

(Under the Karyashala Scheme – A SERB Initiative)

13<sup>th</sup>-17<sup>th</sup> May 2024

Sponsored by SERB-DST, Govt of India,  
Under the Accelerate Vigyan Scheme



भारतीय प्रौद्योगिकी  
संस्थान जम्मू  
INDIAN INSTITUTE OF  
TECHNOLOGY JAMMU

विद्याधनं सर्वधनं प्रधानम्

Organized by

Department of Biosciences and Bioengineering  
Indian Institute of Technology Jammu

### About IIT Jammu

The Indian Institute of Technology Jammu (IIT Jammu) was inaugurated on 6<sup>th</sup> August 2016. The newly established breathtaking campus at Jagti is presently spread over 25 acres, with more than 1300 students studying various disciplines from the undergraduate to the doctoral level. IIT Jammu is well-equipped with a high-end research facility named “Saptrishi” (central instrumental facility) and state-of-the-art instruments for supporting basic sciences and engineering researchers.

### About the workshop

The workshop will be conducted under the ‘KARYASHALA’ Accelerate Vigyan Scheme of SERB. The focus of this high-end workshop is to provide scientific knowledge on nanomaterials used in biological systems for diagnostic and therapeutic applications. The KARYASHALA scheme, initiated by SERB, Govt. of India, offers skill development training on emerging topics essential for scientific research. This workshop is tailored explicitly for UG(4<sup>th</sup> yr)/PG/PhD students from universities and colleges seeking a comprehensive understanding of the synthesis and characterization of nanomaterials used in biological systems for diagnostic, enzyme mimic nanostructures and their therapeutic application. This program aims to provide opportunities to acquire specialized research skills. The workshop will include extensive hands-on and lecture sessions aiming at skill development.

### Tentative Outline of Hands-on Sessions

- Synthesis of nanomaterial - chemical synthesis
- Synthesis of nanomaterial - biological synthesis
- Optical characterization of nanomaterials
- Enzyme mimic applications of nanostructures
- Diagnosis and therapy through nanomaterials
- In-vitro deployment of nanostructures

### Tentative Outline of the Lecture Sessions

- Nano-fibers and their biomedical applications
- Programmable DNA nanodevices for next-generation healthcare
- From synthesis to theranostics: The journey of plasmonic nanoparticles
- Molecular profiling using nanotechnology
- Harnessing the magic of Invisible light for Healthcare applications
- Biosensors
- Medical Devices

### Organizing Committee

**Coordinator:**

Dr. Vinay Sharma  
Assistant Professor  
Biosciences and  
Bioengineering  
IIT Jammu

[vinay.sharma@iitjammu.ac.in](mailto:vinay.sharma@iitjammu.ac.in)

**Patron:**

Prof. Manoj Singh Gaur  
Director  
IIT Jammu

### Registration guidelines

Karyashala is open to all UG (4<sup>th</sup> yr.)/PG/Ph.D. students. At max 25 participants will be selected for the workshop. There is no registration fee charged to the students. Accommodation and Food will be provided to all the selected participants in the hostel. The students traveling from outside Jammu will be eligible for TA reimbursement from their hometown/home institute as per GOI norms.

### Helpline contact details

Khushboo ([2021rbb2001@iitjammu.ac.in](mailto:2021rbb2001@iitjammu.ac.in)),

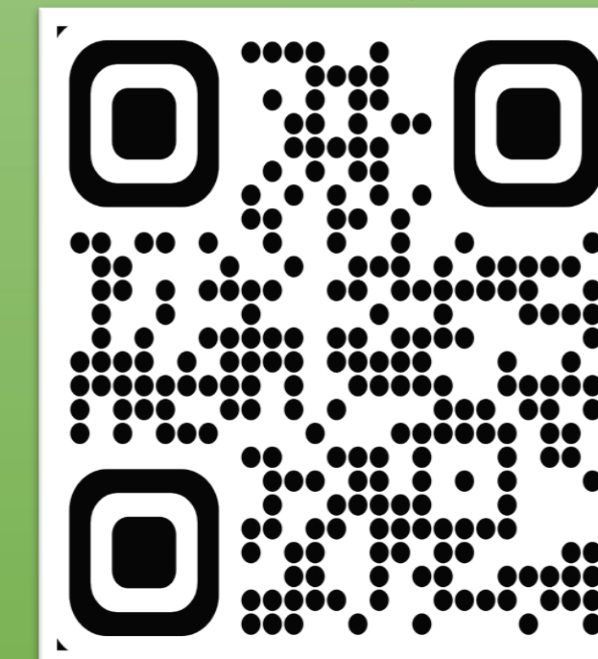
Rajan ([2022rbb2011@iitjammu.ac.in](mailto:2022rbb2011@iitjammu.ac.in)),

Sathyaprakash ([iitjmu80192@iitjammu.ac.in](mailto:iitjmu80192@iitjammu.ac.in))

### Registration Link:

[https://docs.google.com/forms/d/1e13A\\_xa-j-PDgrBDYxmYkHcPzUrl0eWKHzZelLFLdlU/edit?pli=1](https://docs.google.com/forms/d/1e13A_xa-j-PDgrBDYxmYkHcPzUrl0eWKHzZelLFLdlU/edit?pli=1)

### Scan to Register:



Important dates:

Online Registration Starts:  
8<sup>th</sup> April 2024

Last Date of Registration:  
22<sup>th</sup> April 2024

Intimation of Participation:  
29<sup>th</sup> April 2024

Further details contact @ [medsenselab.iitjmu@gmail.com](mailto:medsenselab.iitjmu@gmail.com)