

# PROGRAMME SCHEDULE



॥ सा विद्या या विमुक्तये ॥

भारतीय प्रौद्योगिकी संस्थान धारवाड

Indian Institute of Technology Dharwad

## SPECTRO<sup>3</sup>ICS - 2026

Spectrometry-Integrated Omics in Health & Disease

16 – 17 January 2026

A National Conference Organized by **Dept. of Biosciences & Bioengineering**,  
Indian Institute of Technology Dharwad, Karnataka, India.

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08:00–09:00 **Registration & Breakfast**09:00–09:25 **Inauguration**Prof. Venkappaya R. Desai  
Director, IIT Dharwad**SESSION – I: Inaugural Sessions**

Time (IST)	Title	Speaker	Category
09:30–10:00	Microfabricated Devices and Interfaces for Biomarker Detection & Liver Injury Modelling	Dr. Sandeep Verma, IIT Kanpur	Inaugural Talk (Online)
10:00–10:30	Next-Generation Proteomics: Advances in Technologies and Computational Solutions	Dr. Sanjeeva Srivastava, IIT Bombay	Inaugural Talk (Online)

**10:30–11:00****Tea Break & Networking****SESSION – II: Fluorescence Spectroscopy & Applications**

Chair: Dr. J. P. Rajapandiyan

11:00–11:30	Spectroscopic Innovations Leading Translational Research	Dr. Krishna Kishore Mahato, MAHE, Manipal	Plenary
11:30–11:55	Fluorescent Quantum Clusters: Towards Biomedical Properties	Dr. Dheeraj Kumar Singh, University of Delhi	Invited
11:55–12:20	Ultra-Sensitive Laser-Stimulated Fluorescence System for Simultaneous Detection of Amino Acids	Dr. Ajit Kumar Patil, MAHE, Manipal	Invited
12:20–12:35	Digital Leptospira Microscopist: AI-Enabled Imaging Framework	Rosemary Edwin, JSSAHER, Mysore	Short Talk-1
12:35–12:50	Cylindrical Substrate-Assisted Droplet-Based SERS for Toxic Dye Detection	Jayasree Kumar, SRM University – AP	Short Talk-2

**13:00–14:30****Lunch Break & Poster Session****SESSION – III: Raman Spectroscopy & Applications**

Chair: Dr. Nirmal Mazumder

14:30–15:00	Human Platelet Activation Probed by Micro-Raman Spectroscopy	Dr. Santhosh Chidangil, MAHE, Manipal	Plenary
15:00–15:30	Raman Spectromics: Explorations in Disease Diagnosis	Dr. C. Murali Krishna, ACTREC, Mumbai	Plenary
15:30–15:55	Morpho-Molecular Microscopy for Cancer Diagnosis & Margin Assessment	Dr. Rishikesh Pandey, IIT Roorkee	Invited

**16:00–16:30****Tea Break & Networking****SESSION – IV: Surface Enhanced Raman Spectroscopy & Applications**

Chair: Dr. Surya Pratap Singh

16:30–17:00	Spin-Selective Charge Transfer SERS for Enantioselective Discrimination	Dr. Jitendra Pratap Singh, IIT Delhi	Plenary
17:00–17:25	Nanosculptured Plasmonic Thin Films for Diagnostics	Dr. Sachin Kumar Srivastava, IIT Roorkee	Invited
17:25–17:50	Magnetoelectric & Photo-Induced SERS Signal Amplification	Dr. Soumik Siddhanta, IIT Delhi	Invited
17:50–18:15	Next-Gen SERS Platforms for Ultrasensitive Detection	Dr. J. P. Raja Pandiyan, SRM University – AP	Invited

**SESSION – I: Omics Technologies & Applications - 1**

Chair: Dr. Vishwas Kaveeshwar

09:30–09:55	Decoding ALS through Integrated-Omics Approaches: Insights from Gut Microbiota and NMR-Based Metabolic Signatures	Dr. Chandan Singh, BHU, Varanasi	Invited
09:55–10:20	Mapping the Metabolic Code of the Human Brain: Insights from Gliomas, Healthy Function, and Neonatal HIE	Dr. Vivek Tiwari, IISER Berhampur	Invited
10:20–10:45	Cracking the Code of Oxidative Stress: How We Track Tiny Clues in Urine	Dr. Nirpendra Singh, BRIC-inStem, Bengaluru	Invited
10:45–11:00	Spectromics-Driven Precision Diagnostics in Oral and Maxillofacial Pathology: Integrating Imaging	Dr. Shriya Sanjeev Gaonkar, SDM, Dharwad	Short Talk-3
11:00–11:15	Decoding Oral Carcinogenesis using Serum Raman Spectroscopy and Mass spectrometry-based Metabolomics	Priyanka A. Jadhav, ACTREC, Navi Mumbai	Short Talk-4
11:15–11:30	My Oralspectrometry: modular, offline, oral cancer research software	Alrio Chaves Fernandes, KLE Belagavi	Short Talk-5

**Tea Break & Networking****SESSION – II: Omics Technologies & Applications - 2**

Chair: Dr. Badri Nath Dubey

12:00–12:25	Nanomaterials based Portable sensors for protein biomarkers of Cancer	Dr. Ruma Ghosh, IIT Dharwad	Invited
12:25–12:40	Lipidomic changes in drug-naive/drug-free schizophrenia patients compared to healthy controls	Dr. Shivaprakash G., MAHE, Manipal	Invited
12:40–12:55	Explainable ML Framework for SERS Pathogen ID	Tanisha Singh, IIT Delhi	Short Talk-6
12:55–13:10	Cancer Energetics Across Multiple Tumor Types	Samistha Pandey, IISER Berhampur	Short Talk-7

**13:15–14:30****Lunch Break & Networking****SESSION – III: Biomedical Omics and Spectroscopy**

Chair: Dr. Basavraj Hungund

14:30–15:00	Developing Raman Spectroscopy for Drug Discovery and Diagnostics	Dr. Chandrabhas Narayana, JNCASR, Bengaluru	Plenary
15:00–15:25	Stokes Vector Based Second Harmonic Generation Microscopy for Biomedical Applications	Dr. Nirmal Mazumder, MAHE, Manipal	Invited
15:25–15:50	Pseudo-Natural Products as a New Paradigm in Bioactive Compound Discovery: Explorations beyond the 'Natural Productome'	Dr. Rishikesh Narayan, IIT Goa	Invited
15:50–16:15	Label-Free Molecular Diagnosis of Cancer Using Infrared Spectral Pathology	Dr. Shaiju Nazeer, Yenepoya University	Invited
16:15–16:30	Potential-Modulated SERS Profiling via GLAD-Fabricated Ag Nanorod Arrays for Ultrasensitive & Label-Free Spectroelectrochemical Sensing	Lakshay Bhardwaj, IIT Delhi	Short Talk-8

**Tea Break & Networking****SESSION – IV: Sponsors Talk & Valedictory**

17:05–17:20	Industry Talk	LAB INDIA
17:20–17:35	Industry Talk	HORIBA
17:35–18:00	Valedictory & Closing Ceremony	—

