



## International Conference on Nanoscience and Photonics for Medical Applications

28th - 30th December, 2022

*Organized by*

Department of Atomic and Molecular Physics, MAHE, Manipal

Venue: 3rd Floor, Dr. T.M.A Pai Halls, MAHE, Manipal – 576 104

### PROGRAMME SCHEDULE

<b>Day 1: 28th December, 2022 (Wednesday)</b>		
08.00 AM - 08.45 AM	Registration	
08.45 AM - 09.15 AM	Inauguration	
08.45 AM – 08.50 AM	Welcome Address by <b>Dr. Santhosh Chidangil</b> Convener, ICNPMA - 2022	
08.50 AM – 08.55 AM	Overview of the Conference by <b>Dr. T. Lazar Mathew</b> Chairman, ICNPMA - 2022	
08.55 AM – 09.10 AM	Inauguration and Inaugural Address by <b>Lt. Gen. (Dr.) M. D. Venkatesh</b> Vice Chancellor, MAHE, Manipal	
09.10 AM – 09.15 AM	Vote of Thanks by <b>Dr. Sajan D. George</b> Co-Convener, ICNPMA - 2022	
<b>Introduction of Keynote Speaker: Dr. Santhosh Chidangil</b>		
09.15 AM – 10.15 AM	Keynote Address by <b>Dr. Ammasi Periasamy</b> University of Virginia, USA	Advanced Two-photon FLIM microscopy to Investigate the Change in Metabolism in Prostate Cancer Cells
10.15 AM – 10.45 AM	Tea Break	
<b>Session 1</b>		
<b>Session Chair: Prof. Somashekara Bhat</b>		
10.45 AM – 11.25 AM	Plenary Lecture by <b>Dr. G. K. Ananthasuresh</b> IISC, Bangalore, India	Micromachinery for Mechano-diagnostics
11.25 AM – 11.55 PM	Invited Lecture by <b>Dr. Shean-Jen Chen</b> NYCU, Taiwan	Deep Learning-Based 3D Micropatterned Multiphoton Stimulation & Light-Field Multiphoton Imaging

11.55 PM – 12.25 PM	Invited Lecture by <b>Dr. N.S. Kumar</b> DEBEL, DRDO, Bangalore, India	Role of Nano Science and Photonics for Medical Application
12.25 PM - 12.55 PM	Invited Lecture by <b>Dr. Vidya Saraswathi</b> MCOCS, MAHE, India	Uses of Lasers in Dentistry and Clinical Scenarios
12.55 PM – 02.00 PM	Lunch Break	
<b>Session 2</b>		
<b>Session Chair: Prof. Satheesh Kumar</b>		
02.00 PM – 02.40 PM	Plenary Lecture by <b>Dr. Gin Jose</b> University of LEEDS, U.K	Non-invasive biosensing with photoluminescent ions embedded in glass
02.40 PM – 03.10 PM	Invited Lecture by <b>Dr. C. Murali Krishna</b> ACTREC, Mumbai	Role of Raman theranostics in health care
03.10 PM – 03.40 PM	Invited Lecture by <b>Dr. Hemanth Noothalapati</b> , Shimane University, Japan	Artificial intelligence assisted Raman spectroscopy for reliable classification of cancer cells
03.40 PM – 04.10 PM	Invited Lecture by <b>Dr. K K Mahato</b> Manipal School of Life Sciences, MAHE, India	Scope of autofluorescence in biomedical investigations: our Manipal experience
04.10 PM – 04.40 PM	Tea Break	
<b>Session 3</b>		
<b>Session Chair: Prof. Santhosh Chidangil</b>		
04.40 PM – 05.20 PM	Plenary Lecture by <b>Dr. Valery V. Tuchin</b> Saratov State University, Russia	Optical clearing of tissues: multimodality and in vivo applications
05.20 PM – 06.00 PM	Plenary Lecture by <b>Dr. Yury V. Kistenev</b> National Research Tomsk State University, Russia	Breathomics using laser spectroscopy and machine learning
<b>Day 2: 29<sup>th</sup> December, 2022 (Thursday)</b>		
<b>Session 4</b>		
<b>Session Chair: Prof. Murukeshan Vadakkemadam</b>		
09.00 AM – 09.40 AM	Plenary Lecture by <b>Dr. Ajayan Pulickel</b> Rice University, U.S.A	Materials Design through NanoEngineering
09.40 AM – 10.10 AM	Plenary Lecture by <b>Dr. Samir Kumar Pal</b> S N Bose National Centre for Basic Sciences, Kolkata	Transforming Business through Bio- photonics Technology: Innovations, Challenges and Digital Renovation in Healthcare
10.10 AM – 10.40 AM	Invited Lecture by <b>Mr. Jagadesh Obulapuram</b> Laser Science, Chennai, India	Lasers in Nanoscience & Photonics for Medical Applications

10.40 AM – 11.10 AM	Tea Break	
<b>Session 5</b>		
<b>Session Chair: Dr. Gin Jose</b>		
11.10 AM – 11.50 PM	Invited Lecture by <b>Dr. Renu John</b> IIT Hyderabad, India	Quantification of elastic properties of biological tissues through Optical Techniques
11.50 AM – 12.20 PM	Invited Lecture by <b>Dr. Sudesh Sivasu</b> University of Cape Town, South Africa	Frugal Biodesign Innovation is NOT Jugaad - An assessment through LifeCycle Management Lens
12.20 PM – 12.50 PM	Invited Lecture by <b>Dr. Arun Maiya</b> MCHP, MAHE, India	Advances in the Field of Photobiomodulation in Clinical Practice
12.50 PM – 02.00 PM	Lunch Break	
<b>Session 6</b>		
<b>Session Chair: Prof. Sameerkumar Pal</b>		
02.00 PM – 02.40 PM	Plenary Lecture by <b>Dr. V. M. Murukeshan</b> NTU, Singapore	Advanced diagnostic multi-scale bioimaging and its applications
02.40 PM – 03.10 PM	Invited Lecture by <b>Dr. Bidhan Pramanick</b> IIT Goa, India	Electrochemical detection of biomolecules: A strong tool to detect glucose to COVID
03.10 PM – 03.40 PM	Invited Lecture by <b>Mr. Manjunatha Maiya</b> Philips, MAHE	Philips-MAHE Experiential Platform to drive Healthcare Innovation
03.40 PM – 04.10 PM	Plenary Lecture by <b>Dr. Simona Badilescu</b> Concordia University, Canada	Interactions of nanomaterials with biosystems: Applications in nanomedicine
04.10 PM – 04.30 PM	Tea Break	
<b>Session 7</b>		
<b>Session Chair: Dr. Murali Krishna Chilakapathi</b>		
04.30 PM – 06.30 PM	<b>Poster Presentation</b>	
<b>Day 3: 30<sup>th</sup> December, 2022 (Friday)</b>		
<b>Session 8</b>		
<b>Session Chair: Prof. T Pradeep</b>		
09.00 AM – 09.40 AM	Plenary Lecture by <b>Dr. G U Kulkarni</b> Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore	Nanomaterial based devices for medical applications – Examples from our Laboratory
09.40 AM – 10.20 AM	Plenary Lecture by <b>Dr. M. M. Nayak</b> IISC Bangalore, India	MEMS Sensor Packaging and Biomedical devices

10.20 AM – 10.50 AM	Invited Lecture by <b>Dr. V. Sudhakar</b> DRDO, Bangalore, India	Developmental Initiatives / efforts of DRDO/ADA for making Indigenous Bio Medical Devices
10.50 AM – 11.20 AM	Tea Break	
<b>Session 9</b>		
<b>Session Chair: Dr. T. Lazar Mathew</b>		
11.20 AM – 12.00 PM	Plenary Lecture by <b>Dr. T. Pradeep</b> IIT Madras, Chennai, India	Affordable clean water using advanced materials
12.00 PM – 01.00 PM	<b>Poster Presentation</b>	
01.00 PM – 02.00 PM	Lunch Break	
<b>Session 10</b>		
<b>Session Chair: Dr. Sajan D George</b>		
02.00 PM – 02.40 PM	Plenary Lecture by <b>Dr. Joseph Mathew</b> PGIMER, Chandigarh, India	Microneedle-based Vaccine delivery: Theme for a dream
02.40 PM – 03.10 PM	Invited Lecture by <b>Dr. Naresh Mani,</b> MIT, MAHE, India	Do-It-Yourself microfluidic devices for sensing applications
03.10 PM – 03.40 PM	Invited Lecture by <b>Dr. Sreekanth K. Sivaraman</b> Sree Gokulam Medical College & Research Foundation, Trivandrum	Predictive Biomarkers of brain lesions characterized through Magnetic Resonance Spectroscopy
03.45 PM- 04.25 PM	Valedictory Function	
	03.45 PM – 03.50 PM	Welcome Address by <b>Dr. Santhosh Chidangil</b> Convener, ICNPMA - 2022
	03.50 PM – 04.00 PM	Address by Chief Guest <b>Dr. Narayana Sabhahit</b> Pro Vice Chancellor (Technology & Science), MAHE, Manipal
	04.00 PM – 04.02 PM	Award Presentation by Chief Guest <b>Dr. Narayana Sabhahit</b> Pro Vice Chancellor (Technology & Science), MAHE, Manipal
	04.02 PM – 04.07 PM	Concluding Remarks by <b>Dr. T. Lazar Mathew</b> Chairman, ICNPMA - 2022
	04.07 PM – 04.10 PM	Vote of Thanks by <b>Dr. Sajan D. George</b> Co-Convener, ICNPMA - 2022
	04.10 PM – 04.25 PM	Oral Presentations  (5 minutes X 3 Presentations) by best poster awardees
04.25 PM – 05.00 PM	High Tea	