Program Schedule of InCEPTT 2024

Day 1, DECEMBER 01, 2024 (Industry Day)

- **9.30 – 10.30 AM**
  Inauguration followed by Welcome Note by the Conference Chairs
  Inauguration of the Exhibition

- **10.30 – 11.00 AM**
  Networking Morning Coffee

- **11.00 - 11.45 AM: Plenary Talk 1** to be introduced by Kaushik Sengupta
  'Innovative Technologies to Explore the Universe', Goutam Chattopadhyay, NASA-Jet Propulsion Laboratory, California Institute of Technology, USA

- **11.45 – 12.45 PM: Industry Talks** to be introduced by Bala Pesala
  - 11.45 – 12.15 PM: Johannes Koeth, Advanced Photonics Gerbrunn GmbH, Germany
  - 12.15 – 12.45 PM: Johannes Kunsch, Laser Components GmbH, Germany

- **1.00 – 2.30 PM**
  Networking Lunch

- **2.30 – 4.30 PM: Academia-Industry-Research Interface in India** to be introduced by Aparajita Bandyopadhyay
  - 2.30 – 3.00 PM: Rajendra Singh, DEAL, Dehradun, India; 'Sub-Tera-Head Embedded Microwave Communication Links for Military Communication'.
  - 3.00 – 3.30 PM: Urbi Kundu, DIA-CoE, IIT Delhi, India; 'Terahertz Technology- attempting exploitation in Imaging Spectroscopy and Communication at DRDO Industry Academia Center of Excellence IIT Delhi (DIA-CoE IITD)'.
  - 3.30 – 4.00 PM: Awakash Dixit, DIA-CoE, IIT Delhi, India; 'Development of advanced quantum key distribution technologies through DIA-CoE IIT Delhi'.

- 4.00 – 4.45 PM: **Special Industry Keynote**
  Mohmedsaeed Mombasawala, Keysight India, "Envision future of Wireless Communications with trail blazing 6G and AI".

- **4.30 - 5.00 PM**
  Evening Coffee

- **5.00 – 6.30 PM: Panel Discussion 1**
  Topic – 'Translating Patents and Papers to Commercial Enterprises – Challenges in India and worldwide'; moderated by Bala Pesala and Kaushik Sengupta
  Panelists: Goutam Chattopadhyay (JPL, NASA), Hartmut Roskos (Goethe Uni Frankfurt), MH Rahaman (DIA-CoE-IIT Delhi), Johannes Kunsch (Laser Components GmbH), Lukasz Sterczewski (Uni of Wroclaw), Clara Saraceno (Ruhr Uni Bochum), Atasi Pal (CSIR-CGCRI Kolkata), Mohmedsaeed Mombasawala (Keysight India)

- **7.00 – 9.00 PM**
  Networking Welcome Dinner

<u>Day 2, DECEMBER 02, 2024</u>

- **9.30 – 1.00 PM: Session I – "Radio Frequency to mmW: The New Paradigm"; Chair: Hartmut Roskos**
  - **9.30 – 10.15 AM**: **Plenary Talk 2**
    'AI enabled Radio frequency and Terahertz Chip Design and New Design Space Discovery', Kaushik Sengupta, Princeton University, USA
  - 10.15 – 10.35 AM: Yudai Matsumura, Tokushima University, Japan; 'THz-to-Optical Carrier Conversion for Photonic THz Detection in 100-GHz wireless communication'.

- **10.35 – 11.00 AM**
  Networking Morning Coffee

  - **11.00 - 11.45 AM: Plenary Talk 3**
  - 'Near-field terahertz networking', Daniel Mittleman, Brown University, USA

- **11.45 – 12.30 PM: Plenary Talk 4**
  'Revolutionizing Metamaterial Design: From Deep Learning to Large Language Models', Willie Padilla, Duke University, USA

- **1.00 – 2.30 PM**
  Networking Lunch

- **2.30 – 4.30 PM: Session II – "Enablers of GHz, mmW, THz and IR domains," Chair: Daniel Mittleman**
  - 2.30 – 3.00 PM: **Invited Talk 1** Alvydas Lisauskas, Vilnius University, Lithuania; 'Silicon-based terahertz detectors and emitters'.
  - 3.00 – 3.30 PM: **Invited Talk 2** Lukasz Sterczewski, University of Wroclaw, Poland; 'Broadband high-dynamic-range THz spectroscopy with organic nonlinear crystals'.
  - 3.30 – 4.00 PM: **Invited Talk 3** Clara Saraceno, Ruhr University, Bochum, Germany; 'High power laser-driven Terahertz sources'.
  - 4.00 – 4.20 PM**:** Atasi Pal, Central Glass and Ceramic Research Institute Kolkata, India; 'Few Cycle Er-doped All-Fiber Laser for Broadband THz Generation: Numerical Model'.

- **4.30 - 5.00 PM**
  Evening Networking over Coffee

- **5.00 – 6.00 PM: Interactive theme discussion led by Prof. Willie Padilla**
  Advent of AI/ML: how to keep up with the 'SHIFT'

- **6.00 – 7.00 PM: Informal Networking 1**
  'Show us what you got': Ice-breaking talent show for all

- **7.00 – 9.00 PM**
  Networking Gala Dinner

Day 3, DECEMBER 03, 2024

- **9.30 – 1.00 PM: Session III – "Applications"; Chair: Goutam Chattopadhyay**
  - **9.30 – 10.15 AM: Plenary Talk 5**

‘Towards Real-Time THz Holographic Imaging: Emergent Opportunities by Hardware Developments and Deep Learning’, Hartmut Roskos, Goethe University Frankfurt, Germany

- **10.15 – 10.45 PM: Invited Talk 4** Kosuke Murate, Nagoya University, Japan; ‘Single-shot Terahertz Spectroscopy Based on Terahertz Parametric Generator and Detector’.

- **10.45 – 11.10 AM**
  Networking Morning Coffee
  - 11.10 – 11.30 AM: Sota Mine, Nagoya University, Japan; ‘One-Shot Detection of Broadband Terahertz Waves in the Frequency Domain’.
  - 11.30 – 11.50 AM**:** Jakub Mnich, Wroclaw University of Science and Technology, Poland; ‘Incoherent Ultra-Broadband Fourier Spectroscopy with a Room-Temperature Pyroelectric Detector’.
  - 11.50 AM – 12.10 PM**:** Jaspreet Kaur, IK Gujral Punjab Technical University, Jalandhar, India; ‘Comparative Analysis of Gain and Noise from Five-Stage to Single-Stage EDFA Amplifiers by Varying the Fiber Lengths’
  - **12.10 – 12.55 PM: Plenary Talk 6**
    ‘Recent Progress in Terahertz Sensing and Imaging’, Chiko Otani, Riken, Japan

- **1.00 – 2.30 PM**
  Networking Lunch

- **2.30 – 4.30 PM: Joint Poster Session**
  1. Puspita Chanda – ‘Terahertz Time Domain Spectroscopy and Imaging Study of Environmental Impact on Marble’
  2. Dheeraj Kumar – ‘Laser-Pumped Phosphor-Converted Visible Illumination for Solid-State Lighting Applications’
  3. Awakash Dixit – ‘Indigenous development of various quantum communication technology elements through DIA-CoE, IIT Delhi’
  4. Uzair Aalam – ‘Diameter Dependent Temporal Dispersion in Terahertz Waveguides’
  5. Mayuri Kashyap – ‘Advancing Detection Through Fusion of Multimodal Images’

6. Shelja Sharma – ‘Optical Study of 3Dimensional Au Nanodendrite’
7. Kodai Yamaji – ‘Stable soliton microcomb generated by adhesive-bonding of Si3N4 micro-ring resonator to a high-NA optical fiber’
8. Rajendra Gupta – ‘D-Band Wireless Communication’
9. Rakesh Kumar Bhardwaj – ‘Residual Stresses during Micro Milling of Terahertz Waveguides’
10. Akitoshi Niidome – ‘Intensity Probing inside Crystals of Terahertz Parametric Oscillator’

- **4.30 - 5.00 PM**
  Evening Networking over Coffee

- **5.00 – 6.30 PM: Informal Networking 2**
  Tell us something interesting about yourself without ‘sliding’ (strictly NO ppt) and without siding with science (Geared for students and post-doctoral researchers; but everyone is encouraged to join)

- **6.30 – 8.30 PM**
  Concluding Dinner

Day 4, DECEMBER 04, 2024

- **8.30 AM – 12.00 PM: Workshop conducted by Keysight ‘QUANTUM KARYASHALA’,** coffee will be served in-between

- **12.00 – 12.30 PM**
  Prize Distribution and Group Photo
- **12.30 – 1.00 PM**
  Closing Remarks by Aparajita Bandyopadhyay and wrap-up
- **1.00 PM onwards**
  Closing Lunch