

# Roundtable on Advanced Optical Communications Test Bed

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*Legacy that Inspires the Future*

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**IIT** INDIAN INSTITUTE  
OF TECHNOLOGY  
**ISM** INDIAN SCHOOL OF MINES  
DHANBAD

# Research in the Optical Communication Networks domain



- **Lightpath Provisioning in WDM Optical Networks**
- **Traffic grooming in WDM Optical Networks**
- **Design and fabrication of non-blocking Optical Switches for WDM networks**
- **DSP for Optical Wireless Communication**
- **Microwave Photonics**
- **Routing and Spectrum Assignment in Elastic Optical Networks**
- **Machine learning to ensure QoT in Elastic Optical Networks**
- **Design of Sliceable Bandwidth Variable Transponder (SBVT) Architecture for Elastic Optical Networks**

# Facilities Available:



## • Hardware:

- Optical Spectrum Analyzer
- Electro-Optic Modulators
- Tunable Laser Source
- Photodetector Module
- Interrogator
- Circulator
- Couplers
- Optical Amplifier
  - EDFA
  - SOA
- Vibration free Optical Table
- Electron Beam cum thermal evaporation system

## • Software:

- Lumerical Academic Suite
- OptiSystem
- OptSim
- Matlab
- Developing our own programs for testing the proposed algorithms



# How your organization can contribute to the indigenous technology development and demonstration in the domain of AOC and the establishment of the AOC Test Bed?

- **Routing and Wavelength Assignment in WDM Optical Networks**
- **Traffic grooming in WDM Optical Networks**
- **Design and fabrication of non-blocking Optical Switches for WDM optical networks**
- **DSP for Optical Wireless Communication**
- **Microwave Photonics**



# Industry-Academia/Institution partnerships already existing/proposed for establishing the Advanced Optical Communications Test Bed.

## • Collaborations

- **Boise State University, USA**
- **National United University, Miaol, Taiwan**
- **University of Alberta, Canada**
- **City University, London**
- **North Carolina State University, Raleigh, NC, USA**
- **Raja Ramanna Centre for Advanced Technology, Indore**