Ministry of Education
Government of India

SPARC
Scheme for Promotion of Academic and Research Collaboration

Technion
Israel Institute of Technology

SPARC / INTERNATIONAL RESEARCH WORKSHOP

5-DAY INTERNATIONAL WORKSHOP

AI-Powered Real-Time Object Motion Detection and Tracking for Intelligent Surveillance and Monitoring



SMART CITIES & MOBILITY | ISRAEL

20–24 December 2026 • NIT Warangal

TELANGANA, INDIA
RESEARCHERS • FACULTY • STUDENTS • INDUSTRY

Smarter Vision | Safer Mobility | Sustainable Cities

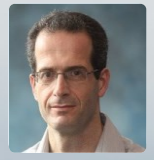
RESOURCE PERSONS



Dr. Mohammad Farukh Hashmi
NIT Warangal



Dr. Mettu Srinivas
NIT Warangal



Prof. Israel Cohen
Partner Country: Israel



Prof. Ronen Talmon
Partner Country: Israel



Sumantra Dutta Roy
IIT Delhi

DAILY FORMAT

MORNING SESSION • 3 HOURS
Concepts, lectures & demonstrations

AFTERNOON / EVENING • 3 HOURS
Hands-on lab & discussion

REGISTRATION & CONTACT

Registration:
[https://forms.gle/jyjVhLDTPKD3iSZC7]

Email: [mdfarukh@nitw.ac.in]
Phone: [6303817285]

Learn • Collaborate • Innovate

ABOUT & WORKSHOP OBJECTIVES

Explore AI-based object detection, motion analysis and multi-object tracking for safer, smarter and more responsive cities.

1. Understand real-time detection and tracking pipelines
2. Compare deep learning and transformer-based vision models.
3. Study multi-object tracking and identity consistency.
4. Explore smart mobility and surveillance use cases.
5. Build a small proof-of-concept workflow.

BASIC TOPICS

01 **Computer Vision Foundations**
Detection, localization and motion cues

02 **Deep Learning for Detection**
CNNs, DETR and vision transformers

03 **Single & Multi-Object Tracking**
Track association and identity consistency

04 **Motion Estimation**
Optical flow and Kalman filtering

05 **Smart Mobility Applications**
Vehicles, pedestrians and crowd analytics

06 **Edge AI & Evaluation**
Real-time deployment, metrics and datasets

DATES: 20–24 Dec 2026 | VENUE: NIT Warangal

