

**Tutorial Session on
Traffic Systems' Simulation using VISSIM**

December 20, 2017 (14.00-17.30 hrs.)

Instructor: Dr. Caleb Munigety, CiSTUP, IISc Bangalore

Module I, Network building and vehicle characterization (14.00 – 14.30): Network settings and user preferences, Importing and scaling a background image, Links and connectors, Vehicle classes and types, Acceleration/deceleration distributions, Desired speed distributions.

Module II, Simulation of uninterrupted traffic flow facilities (14.30 – 15.30): Defining vehicle compositions and flows, Car-following behavioral parameters, Lane-changing behavioral parameters, Disciplined and non-lane disciplined movement settings, Link behavior types, Evaluation configurations and result management, Capacity and Level of Service (LoS) analysis. *Advanced:* Coding public transit lines, On-street parking, Bi-directional undivided carriageway simulation.

Module III, Simulation of interrupted traffic flow facilities (15.45 – 17.00): Routing decisions, Defining signal groups and programs, Reduced speed areas, Conflict areas, Priority rules, Stop signs, Node evaluation configurations and result management, Delay and Level of Service (LoS) analysis, AVI-Video recording of the simulations for presentation purposes. *Advanced:* Simulating grade separated facilities, Simulating free and restricted movements at signalized intersections, One-way and two-way coordinated signalized intersections simulation.

Module IV, Calibration and validation of simulation models (17.00 – 17.30): Definitions, Measures of Effectiveness, Sensitivity analysis, Design of experiments, Manual and automated calibration procedures.