# Transportation Research Group of India

## 11th Foundation Day Celebration, 28th May 2022

## Call for Interdisciplinary Ideas

Transportation Research Group of India (TRG) has completed a successful journey of more than one decade since its inception. Various technical committees of TRG (TCTs) are playing an active role by organizing conferences, webinars, workshops and symposia throughout the year at regional and national levels. Further, to this end, the activities like hackathons, doctoral research symposium, training workshops, etc. are also being initiated to encourage the participation of budding researchers.

TRG in collaboration with Sardar Vallabhbhai National Institute of Technology (SVNIT) Surat is delighted to announce a nationwide "Call for Interdisciplinary Ideas". This competition aims to bring together researchers from various disciplines and focuses particularly on interdisciplinary approaches for solving transportation related problems. The competition invites write-ups/concept notes/technical document/graphical abstracts that exhibit potential to improve/modify/innovate the processes of planning and design, data collection and analysis, modelling, and control of transportation systems.

As part of this competition, we welcome novel interdisciplinary concepts involving any combination of theory, analytical modelling and optimization, numerical simulations, real-world data-driven approaches, experimentation, advanced deployment and case studies. Studies involving economic, behavioural and environmental aspects are equally welcome.

Topics of interest include, but are not limited to:

### TRANSPORT & INFORMATION COMMUNICATION TECHNOLOGY (ICT)

- Autonomous and Connected (V2X) vehicles
- Testing and certification of autonomous and ML-based transportation systems
- Artificial Intelligence (AI) and Machine Learning (ML) in Intelligent Transportation Systems (ITS)
- Traffic theory for ITS
- Freight Transport, Integration with ITS and Intelligent Logistics
- Naturalistic driving datasets and data analytics
- Security, privacy and safety of systems
- Emergencies and accidents: phenomena, management and mitigation
- Modelling, detection and avoidance of vulnerable road users and animals

### PAVEMENT & MATERIALS ENGINEERING

- Use of bio binders in hot mix asphalt
- Use of marginal materials in pavement construction
- Characterization and use of reclaimed asphalt pavement materials
- Application of recycling agents in hot mix recycling
- Nano materials in pavement construction
- Resilient and sustainable pavement materials
- Use of geo polymers for use in concrete pavements
- Image analysis and machine learning in pavement materials characterization

## URBAN MOBILITY PLANNING & DESIGN

- Logistics and travel demand management
- Multi-modal and public transportation management
- Transit oriented development (TOD) and urban mobility
- Mobility as a service (MaaS)
- Integrated urban street design
- Design of transport facilities including geometric design
- Active transport and health
- Travel behaviour and energy implications
- Urban mobility patterns and big data
- Advanced mobility alternatives, e.g. E-Mobility, air mobility, shared mobility etc.

## SUBMISSION GUIDELINES

- The team should preferably consist of (at least) three students who are currently enrolled in their institutions (in the 2021-2022 academic year) pursuing their UG, PG, or Doctoral programs/degrees.
- The intellectual property (IP) of the idea will remain with the authors.
- Plagiarism in any form is not acceptable and the team will be disqualified without any evaluation.
- Multi-disciplinary team compositions are highly encouraged.
- Submissions should not exceed 2 pages in length or 1000 words, and should be submitted as a PDF document.
- Shortlisted candidates (groups) will be invited in-person to present their ideas during the workshop, which is to be held on 28$^{th}$ May 2022 at SVNIT, Surat.
- The winning team will be felicitated with cash prizes worth Rs. 10000/- (INR) and certificates. The 1$^{st}$ and 2$^{nd}$ runners-up will receive certificates.
- The submission should be communicated to trgsurat2022@gmail.com for consideration. For any queries related to the competition, same email id may be used.

## EVALUATION CRITERIA

- Technical content (30%)
- Novelty (30%)
- Ease of adoption (20%)
- Societal impact (10%)
- Report writing (10%)

## IMPORTANT DATES

- Notification for the call for interdisciplinary ideas : 23$^{rd}$ March 2022
- Live information session                                      : 18$^{th}$ April 2022 (05:30 PM-06:30 PM)
  Google Meet meet.google.com/baz-nknm-upj
- Idea submission deadline                               : 8$^{th}$ May 2022
- Notification of acceptance (Round-I)               : 15$^{th}$ May 2022
- Workshop date                                             : 28$^{th}$ May 2022

## TRG ORGANISING TEAM

- Dr. Anilkumar Bachu, IIT Patna.
- Dr. Nikhil Saboo, IIT Roorkee.
- Dr. Arkopal Goswami, IIT Kharagpur.
- Dr. Shriniwas Arkatkar, SVNIT Surat.