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CAREER OBJECTIVE

To create a lasting positive impact on society through research, teaching, mentoring, outreach activities, and leadership.

RESEARCH EXPERTISE

Sustainable Transportation Systems Planning; Network Optimization; Freight Transportation Modeling; Traffic Operations

POSITIONS

Professor

Department of Civil Engineering, IIT Bombay

Jul 2019 – present

Associate Professor

Department of Civil Engineering, IIT Bombay

Mar 2015 – Jun 2019

Assistant Professor

Department of Civil Engineering, IIT Bombay

May 2009 – Feb 2015

Lecturer

School of Engineering, University of Vermont, Burlington

Aug 2008 – Apr 2009

Research Engineer

National Transportation Research Center, University of Vermont, Burlington

Nov 2007 – Apr 2009

Transportation Consultant

Frischmann Prabhu (India) Pvt. Ltd. Mumbai, India

Apr 2002 – Jul 2003

EDUCATION

- **Ph. D.** Nov 2007
Rensselaer Polytechnic Institute, Troy, NY
Department of Civil and Environmental Engineering, (Concentration: Transportation Engineering)
Dissertation: Modeling Flexibility in Stochastic Transportation Networks
- **Master of Technology (M. Tech)** Jan 2002
Indian Institute of Technology Bombay, Mumbai, India
Department of Civil Engineering, (Concentration: Transportation Systems Engineering)
Thesis: Capacity Analysis of Signalized Intersections in Developing Countries
- **Bachelor of Engineering (B. E.)** Jul 1998
Karnataka University, Dharwad, India
Civil Engineering Department
Thesis: Concrete Mix Design using Artificial Neural Networks

PUBLICATIONS

• Journal Publications

1. Yadav, M., Mepparambath, R. M., & Patil, G. R. (2024). An enhanced transit accessibility evaluation framework by integrating Public Transport Accessibility Levels (PTAL) and transit gap. *Journal of Transport Geography*, 121, 104013. <https://doi.org/10.1016/j.jtrangeo.2024.104013>
2. Gupta, N., Patil, G. R., & Vu, H. L. (2024). Efficacy of decentralized traffic signal controllers on stabilizing heterogeneous urban grid network, *Communications in Transportation Research*, 4, 100137. <https://doi.org/10.1016/j.commtr.2024.100137>.
3. Bhalerao, V., Gadiya, K., Patil, G., & Rao, P. (2024). Temporal assessment of emission inventory model for Indian heavy commercial vehicle segment—A top-down approach. *International Journal of Transportation Science and Technology*, In Press.
4. Dhulipala, S. and Patil, G. R. (2024). Shippers/freight forwarders' acceptance of dedicated rail freight corridors for freight mobility in India, *Journal of Rail Transport Planning & Management*, 32, 100481. <https://doi.org/10.1016/j.jrtpm.2024.100481>
5. Bhatia, S. Y., Gadiya, K., Patil, G. R., & Krishna Mohan, B. (2024). Effect of neighbourhood and its configurations on urban growth prediction of an unplanned metropolitan region. *Applied Geomatics*, 1-21. <https://doi.org/10.1007/s12518-024-00566-7>
6. Dhulipala, S. and Patil, G. R. (2023). Shippers/freight forwarders' acceptance of dedicated rail freight corridors for freight mobility in India, *Journal of Rail Transport Planning & Management*, 32, 100481.
7. Kachroo, P., Bhatia, S. Y., & Patil, G. R. (2024). Huygens's Principle for Dynamic Urban Growth. *The Professional Geographer*, 76(4), 519–531. <https://doi.org/10.1080/00330124.2024.2341074>
8. Kachroo, P., Bhatia, S. Y., & Patil, G. R. (2024). Computational Geometry-Based Kinematic Morphology for Urban Growth. *Transportation in Developing Economies*, 10(1), 1-16.
9. Bhatia, S. Y., Gadiya, K., Patil, G. R., & Mohan, B. K. (2024). Thresholding-based cellular automata for transportation network derived future urban growth patterns in a peri-urban area. *Transport Policy*, 148, 40-55.
10. Thapa, D., Mishra, S., Velaga, N. R., & Patil, G. R. (2024). Advancing proactive crash prediction: A discretized duration approach for predicting crashes and severity. *Accident Analysis & Prevention*, 195, 107407.
11. Sharma, G., & Patil, G. R. (2024). Urban spatial structure and equity for urban services through the lens of accessibility. *Transport Policy*, 146, 72-90.
12. Dhore, R., Bhavathrathan, B. K., Patil, G. R., Sahu, P. K., & Pawar, D. S. (2023). COVID-19 and Essential Commodity Expenditure: The Case of Indian Middle-Class Consumers. *Transportation in Developing Economies*, 9(2), 15.
13. Sharma, G., Dhulipala, S., & Patil, G. R. (2023). Effect of tourism and air travel restrictions on the initial international spread of the COVID-19 pandemic. *Tourism Analysis*, 28(3), 357-370.
14. Gupta, N., Patil, G. R., & Vu, H. L. (2023). Simple abstract models to study stability of urban networks with decentralized signal control. *Transportation research part B: methodological*, 172, 93-116.
15. Dhulipala, S. and Patil, G. R. (2023). Regional freight generation and spatial interactions in developing regions using secondary data, *Transportation*, 50 (3), 773-810. <https://doi.org/10.1007/s11116-021-10261-w>
16. Padmakumar, P. and Patil, G. R., (2022) COVID-19 effects on urban driving, walking, and transit usage trends: Evidence from Indian metropolitan cities, *Cities*, Volume 126, 2022, 103697, <https://doi.org/10.1016/j.cities.2022.103697>.

17. Padmakumar, A., Patil, G. R., & Gadiya, K., (2022). Did mobility affect the spread of COVID-19 during the first pandemic wave? An investigation for Indian states using dynamic regression, *Journal of Transportation Engineering, Part A: System, In press*, <https://doi.org/10.1061/JTEPBS.0000707>
18. Meena, S., Patil, G. R., (2022), Trip Generation for shopping malls in Developing Cities, *European Transport \ Trasporti Europei*, 86.
19. Bhatia, S. Y., Patil, G. R., Chopadekar, A. D., & Sharma, S. (2022). Skywalk Facility Utilization and Factors Influencing its Use: A Case Study of Mumbai Metropolitan Region, India, *Case Studies on Transport Policy*, 10 (1), 2022, 396-405. <https://doi.org/10.1016/j.cstp.2021.12.019>
20. Sharma, G. and Patil, G. R. (2022). Spatial and social inequities for educational services accessibility - A case study for schools in Greater Mumbai, *Cities*, 122, 103543. <https://doi.org/10.1016/j.cities.2021.103543>.
21. Patil, G. R., Dhore, R., Bhavathrathan, B. K., Pawar, D. S., Sahu, P., and Mulani, A. (2022). Consumer responses towards essential purchases during COVID-19 pan-India lockdown, *Research in Transportation Business & Management*, In Press, <https://doi.org/10.1016/j.rtbm.2021.100768>.
22. Dulipala, S. and Patil, G. R. (2021). Identification of freight -generating industry complexes: A descriptive spatial analysis, *Growth and Change: A journal of urban and regional policy*, 00, 1-33. <https://doi.org/10.1111/grow.12552>.
23. Sharma, G. and Patil, G. R. (2021). Public transit accessibility approach to understand the equity for public healthcare services: A case study of Greater Mumbai, *Journal of Transport Geography*, 94, 103123. <https://doi.org/10.1016/j.jtrangeo.2021.103123>.
24. Patil, G. R. and Sharma, G. (2021) Overweight/obesity relationship with travel patterns, socioeconomic characteristics, and built environment, *Journal of Transport & Health*, Volume 22. <https://doi.org/10.1016/j.jth.2021.101240>.
25. Patil, G. R., & Sharma, G. (2021). Urban Quality of Life: An assessment and ranking for Indian cities. *Transport Policy*, In press. <https://doi.org/10.1016/j.tranpol.2020.11.009>.
26. Patil G. R., Thadoju, S., Sahu, P. K., Mondal, A. and Bajpai, V. (2021). Data Collection and Modeling of Restaurants' Freight Trip Generation for Indian Cities. *Transportation in Developing Economies*, 7 (1), 1-11. <https://doi.org/10.1007/s40890-021-00114-7>.
27. Veerappan, M., Sahu, P. K., Pani, A., Patil, G. R., & Sarkar, A. K. (2020). Analysing and modelling the relationship between air freight movement and airport characteristics in India. *Transportation Research Procedia*, 48, 74-92. <https://doi.org/10.1016/j.trpro.2020.08.007>.
28. Patil, G. R., & Bhavathrathan, B. K. (2020). Identifying critical links on disruption-prone road networks: an approach that obviates scenario enumeration. *Current Science*, 118(3), 428.
29. Patil, G. R., Basu, R., & Rashidi, T. H. (2020). Mode choice modeling using adaptive data collection for different trip purposes in Mumbai metropolitan region. *Transportation in developing economies*, 6(1), 1-10. <https://doi.org/10.1007/s40890-020-0099-z>
30. Dhulipala, S., & Patil, G. R. (2020). Freight production of agricultural commodities in India using multiple linear regression and generalized additive modelling. *Transport Policy*, 97, 245-258. <https://doi.org/10.1016/j.tranpol.2020.06.012>.
31. Pawar, D. S., Pathak, D., & Patil, G. R. (2020). Modeling dynamic distribution of dilemma zone at signalized intersections for developing world traffic. *Journal of Transportation Safety & Security*, 1-19. <https://doi.org/10.1080/19439962.2020.1852464>.
32. Meena, S., Patil, G., and Mondal, A. (2019). Understanding mode choice decisions for shopping mall trips in metro cities of developing countries, *Transportation Research Part F: Traffic Psychology and Behaviour*, 64,133–146. doi: <https://doi.org/10.1016/j.trf.2019.05.002>.
33. Sahu, P. K., Abhishek P., Patil, G. R., Mahesh, G., and Sarkar, A. K. (2019). “Spatial Temporal Analysis of Freight Flow through Indian Major Seaport System.” *The Asian Journal of Shipping and Logistics*, 35(1) (2019) 077-085. doi: <https://doi.org/10.1016/j.ajsl.2019.03.011>.
34. Bhavathrathan, B. K. and Patil, G. R. (2018). An Algorithm to Compute Urban Road Network Resilience,

Transportation Research Record: Journal of the Transportation Research Board, Vol. 2672(48) 104–115. <https://doi.org/10.1177/0361198118793329>.

35. Sahu, P., Pani, A., Patil, G. R., Sarkar, A. (2018). Modeling Urban Freight Generation: A Case Study of Seven Cities in Kerala, India, *Transport Policy*, 69, 49-64. doi: <https://doi.org/10.1016/j.tranpol.2018.05.013>.
36. Pawar, D. S., & Patil, G. R. (2018). Response of major road drivers to aggressive maneuvering of the minor road drivers at unsignalized intersections: a driving simulator study. *Transportation research part F: traffic psychology and behaviour*, 52, 164-175. <https://doi.org/10.1016/j.trf.2017.11.016>.
37. Bhosale, M., Bhavathrathan, B. K. and Patil, G. R. (2017). Red-Light-Running at Heterogeneous Saturated Intersections: On the Existence of Two Regimes and Causal Factors. *Transportation Research Record: Journal of the Transportation Research Board*, 2619, 75–84. <http://dx.doi.org/10.3141/2619-08>.
38. Sahu, P., and Patil, G. (2017). Estimation of Cargo Demand at Major Seaports in India. *Journal of Maritime Research*, 14 (3).
39. Pawar, D. and Patil, G. R. (2017). Minor-Street Vehicles Dilemma While Maneuvering Unsignalized Intersections, *Journal of Transportation Engineering, Part A: Systems*. 143 (8), 04017039. <http://dx.doi.org/10.1061/JTEPBS.0000066>.
40. Patil, G. R., and Sahu, P. (2017), Simultaneous dynamic demand estimation models for major seaports in India, *Transportation Letters*, 9 (3), 141-151. <https://doi.org/10.1080/19427867.2016.1203582>.
41. Pawar, D. S., Kumar, V., Singh, N., and Patil, G. R. (2016). Analysis of Dilemma Zone for Pedestrians at High-Speed Uncontrolled Midblock Crossing. *Transportation Research Part C: Emerging Technologies*, 70: 42–52. <http://dx.doi.org/10.1016/j.trc.2016.04.012>.
42. Patil, G. R. and Bhavathrathan, B. K., (2016). Effect of traffic demand variation on road network resilience, *Advances in Complex Systems*, 19 (1-2), 1650003 (18 pages). <http://dx.doi.org/10.1142/S021952591650003X>.
43. Pawar, D., Patil, G. R. (2016). Critical gap estimation for pedestrians at uncontrolled mid-block crossings on high-speed arterials, *Safety Science*, 86, 295-303. <http://dx.doi.org/10.1016/j.ssci.2016.03.011>.
44. Patil, G. R. (2016). Emissions-based static traffic assignment models, *Environmental Modeling and Assessment*, 21(5), 629-642. <http://dx.doi.org/10.1007/s10666-015-9498-7>.
45. Patil, G. R. and Sangole, J. P. (2016). Behavior of two-wheelers at limited priority uncontrolled T-intersections, *IATSS Research*, 40 (1), 7-18. <http://dx.doi.org/10.1016/j.iatssr.2015.12.002>.
46. Patil, G. R. and Pawar, D. (2016). Microscopic Analysis of Traffic Behavior at Unsignalized Intersections in Developing World, *Transportation Letters: the International Journal of Transportation Research*, 8(3), 158-166. <http://dx.doi.org/10.1179/1942787515Y.0000000019>.
47. Patil, G. R., and Sahu, P. (2016). Estimation of Freight Demand at Mumbai Port Using Regression and Time Series Models, *KSCE Journal of Civil Engineering*, 20(5), 2022-2032. <http://dx.doi.org/10.1007/s12205-015-0386-0>.
48. Sultania, G., Bhavathrathan, B.K., Patil, G.R. (2016). Quantifying Risk Due to Capacity Uncertainty on Urban Road Networks, *Transportation Research Procedia*, 17, pp. 539–547. <https://doi.org/10.1016/j.trpro.2016.11.108>
49. Sahu, P., and Patil, G. R. (2015). Handling short run disequilibrium in freight demand forecasting at major indian ports using error correction approach, *European Transport - Trasporti Europei*, 59, paper no 5.
50. Bhavathrathan, B. K., and Patil, G. R. (2015). Worst Operable Case on Transportation Networks due to Link Capacity Degradation, *Computers, Environment, and Urban systems*, 54, pp 108 - 118. <http://dx.doi.org/10.1016/j.compenvurbsys.2015.07.005>.
51. Bhavathrathan, B. K., and Patil, G. R. (2015). Quantifying resilience using a unique critical cost on road networks subject to recurring capacity disruptions, *Transportmetrica A: Transport Science*, 11 (9), 836–855. <http://dx.doi.org/10.1080/23249935.2015.1087230>.

52. Pawar, D., Patil, G. R., Chandrasekharan, A., and Upadhyaya, S. (2015). Classification of gaps at uncontrolled intersections and midblock crossings using Support Vector Machines, *Transportation Research Record: Journal of Transportation Research Board*, No. 2515, 26-33. <http://dx.doi.org/10.3141/2515-04>.
53. Patil, G. R., and Sangole, J. (2015). Gap Acceptance Behavior of Right Turning Vehicles at Partially Controlled T-Intersections, *Journal of the Indian Roads Congress*, 76 (1), 44-54.
54. Pawar, D., and Patil, G. R. (2015). Pedestrian temporal and spatial gap acceptance at Mid-block Street crossing in developing world, *Journal of Safety Research*, 52, 39-46. <http://dx.doi.org/10.1016/j.jsr.2014.12.006>.
55. Patil, G.R. and Sangole, J.P. (2015). January. Gap acceptance behavior of right-turning vehicles at T-intersections—A case study. *Journal of the Indian Roads Congress*, Vol. 76, (1).
56. Patil, G. R., and Pawar, D. (2014). Temporal and Spatial Gap Acceptance at Uncontrolled Intersections, *Transportation Research Record: Journal of the Transportation Research Board*, No. 2461, 129–136. <http://dx.doi.org/10.3141/2461-16>.
57. Sangole, J. P., and Patil, G. R. (2014). Adaptive Neuro-Fuzzy Interface System for gap acceptance behavior of right turning vehicles at limited priority T-intersections, *Journal of Modern Transportation*, 22 (4), 235-243. <http://dx.doi.org/10.1007/s40534-014-0057-8>.
58. Sahu, P., Sharma, S., and Patil, G. R. (2014). Classification of Indian Seaports using Hierarchical Grouping Method, *Journal of Maritime Research*, XI (III), 51-57.
59. Bhavathrathan, B. K., & Patil, G. R. (2013). Analysis of worst case stochastic link capacity degradation to aid assessment of transportation network reliability. *Procedia-Social and Behavioral Sciences*, 104, 507-515.
60. Patil, G. R., Ukkusuri, S. (2011). The sample average approximation technique for the flexible network design problem, *Journal of Computing in Civil Engineering*, 25(3), 254-262. [http://dx.doi.org/10.1061/\(ASCE\)CP.1943-5487.0000086](http://dx.doi.org/10.1061/(ASCE)CP.1943-5487.0000086).
61. Sangole J., Patil, G. R., and Patare, P. (2011) Modelling gap acceptance behaviour of two-wheelers at uncontrolled intersection using neuro-fuzzy, *Procedia - Social and Behavioral Sciences*, Vol 20, pp. 927-941, 2011. <https://doi.org/10.1016/j.sbspro.2011.08.101>.
62. Ukkusuri, S, Ramadurai, G., and Patil, G. R. (2010). A robust transportation signal control problem accounting for traffic dynamics, *Computers and Operations Research*, Volume 37 (5), 869-879. <http://dx.doi.org/10.1016/j.cor.2009.03.017>.
63. Ukkusuri, S. V., Patil, G. R. (2009). Multi-period transportation network design under demand uncertainty, *Transportation Research Part B: Methodological*, 43 (6), 625-642. <http://dx.doi.org/10.1016/j.trb.2009.01.004>.
64. Holguín-Veras, J., and Patil, G. R. (2008). A Multicommodity Integrated Freight Origin-destination Synthesis Model, *Networks and Spatial Economics*, 8(2-3), 309-326. <http://dx.doi.org/10.1007/s11067-007-9053-4>.
65. Patil, G. R., and Ukkusuri, S. (2007). System Optimal Stochastic Network Design Problem, *Transportation Research Record*, No.2029, 80-86. <http://dx.doi.org/10.3141/2029-09>.
66. Ukkusuri, S., and Patil, G. R. (2007). Exploring User Behavior in Online Network Equilibrium Problems, *Transportation Research Record*, No.2029, 31-38. <http://dx.doi.org/10.3141/2029-04>.
67. Holguín-Veras, J., and Patil, G. R. (2007). Integrated Origin-Destination Synthesis Model for Freight with Commodity-Based and Empty Trip Models, *Transportation Research Record*, No. 2008, 60-66. <http://dx.doi.org/10.3141/2008-08>.
68. Holguín-Veras, J., and Patil, G. R. (2005). Observed Trip Chain Behavior of Commercial Vehicles, *Transportation Research Record*, No.1906, 74-80. <http://dx.doi.org/10.3141/1906-09>.

• **Refereed Conference Proceedings**

1. Ashritha, K., Patil, G. R., & Mohan, B. K. (2023). Understanding the Built-Up Evolution and Complexity of Fast-Growing Built-Up Agglomeration Using the Centroid Shift Model and Fractal Dimension. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 48, 17-23.
2. Bhatia, S. Y., Patil, G. R., & Buddhiraju, K. M. (2023). Analysing Urban Sprawl of the Mumbai Metropolitan Region Using Remote Sensing and Socioeconomic Data. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 48, 35-42.
3. Gupta, N., Vu, H. L., and Patil, G. R. Abstract Models to Study Stability of Urban Networks Utilizing Decentralized Signal Control, *101st Transportation Research Board Annual Meeting*, Washington D. C., January 2022.
4. Kirtesh Bhatia, K., Bhatia, S., Mohan, B. K., Patil, G. R. Spatiotemporal Growth Dynamics of a Developing Region using Satellite Imagery: A Case Study of Mumbai Metropolitan Region, *101st Transportation Research Board Annual Meeting*, Washington D. C., January 2022.
5. Bhatia, S., Gadiya, K., Patil, G. R., B. K. Mohan, and Venugopala Rao, K. Threshold Based Cellular Automata for Predicting Future Urban Growth Scenarios for Kalyan and Contiguous Areas in Mumbai Metropolitan Region, *6th Conference of Transportation Research Group of India*, December 2021.
6. Dhulipala, S., and Patil, G. R. Development of Industry Sector-wise Freight Generation Models at Regional Level in India, *99th Transportation Research Board Annual Meeting*, Washington D. C., January 2020.
7. Patil, G. R., Sharma, G. Overweight/Obesity relationship with Travel Patterns, Socio Economic Characteristics and Built Environment around an Individual, *99th Transportation Research Board Annual Meeting*, Washington D. C., January 2020.
8. Patil, G. R., Shah, H., Paithankar, P., Mondal, A., Gurav, R. Hussain, M. Development of residential parking regulations for Navi Mumbai, *15th World Conference on Transport Research*, 26-31 May 2019, Mumbai, India.
9. Sharma, G, and Patil, G. R. Assessment of urban development from urban quality of life score for Indian cities, *15th World Conference on Transport Research*, 26-31 May 2019, Mumbai, India.
10. S. Dhulipala, G. Patil, District level freight production of agricultural commodities in India, *15th World Conference on Transport Research*, 26-31 May 2019, Mumbai, India.
11. M. Veerappan, P. Sahu, A. Pani, G. Patil, A. Sarkar, Analysing and modelling the relationship between air freight movement and airport characteristics in India, *15th World Conference on Transport Research*, 26-31 May 2019, Mumbai, India.
12. Dash, S., and Patil, G. R. (2018). Lane Change and Lane Use Behaviour on Expressways in India, In *Proceedings of 3rd Recent Advances in Traffic engineering (RATE 2018)*, Surat, India.
13. Chopadekar, A., Bhatia, S., Patil, G. R., Sharma, S. (2018). A Study of Pedestrian Road Crossing Preference in Mumbai City, In *Proceedings of 3rd Recent Advances in Traffic engineering (RATE 2018)*, Surat, India.
14. Bhatia, S., Chopadekar, A., Patil, G. R., Sharma, S. (2018). Comparative Study on Skywalks in Mumbai City with Other Cities of the World, In *Proceedings of 3rd Recent Advances in Traffic engineering (RATE 2018)*, Surat, India.
15. Dash, S., Pandey, A., and Patil, G. R. (2017). Microscopic Analysis of Platoon Behaviour on Indian Expressways, In *Proceedings of 10th Urban Mobility India Conference and Expo (UMI 2017)*, Hyderabad, India.
16. Bhosale, M., Bhavathrathan, B. K., and Patil, G. R. (2017). Red-Light-Running at Heterogeneous Saturated Intersections: On the Existence of Two Regimes and Causal Factors, In *proceedings of 96th Transportation Research Board Annual Meeting*, Washington D. C., January 2017.
17. Sahu, P. K., Abhishek P., Patil, G. R., Mahesh, G., and Sarkar, A. K. (2017). "Spatial Temporal Analysis of Major Seaport Freight Flows in India." In *proceedings of 96th Transportation Research Board Annual Meeting*, Washington D. C., January 2017.

18. Pani, A., Sahu, P., Sarkar, A., Patil, G., (2016). "Modelling establishment-based freight generation for two cities in Kerala", In paper compendium of International Conference Transportation Planning & Implementation Methodologies for Developing Countries (12th TPMDC 2016), Indian Institute of Technology Bombay, Mumbai, India, 19 – 21 December, 2016.
19. Sahu, P. and Patil, G. R. (2015). An improved approach to forecast Mormugao port freight flow, *3rd Conference of Transportation Research Group of India*, Kolkata, December 2015.
20. Sahu, P., and Patil, G. R. Simultaneous Demand Estimation Models for Major Seaports in India, In *proceedings of 94th Transportation Research Board Annual Meeting*, Washington D. C., January 2015.
21. Patil, G. R., and Bhavathrathan, B. K. Investigating the Sensitivity of Road Network Resilience to Demand Variability, In *proceedings of 94th Transportation Research Board Annual Meeting*, Washington D. C., January 2015.
22. Pawar, D., Patil, G. R., Chandrasekharan, A., and Upadhyaya, S. Classification of gaps at uncontrolled intersections and midblock crossings using Support Vector Machines, In *proceedings of 94th Transportation Research Board Annual Meeting*, Washington D. C., January 2015.
23. Pawar, D., and Patil, G. R. Exploring Pedestrian Temporal and Spatial Critical Gaps at Uncontrolled Midblock Crossings in India, In *proceedings of 94th Transportation Research Board Annual Meeting*, Washington D. C., January 2015.
24. Pawar, D. S., and Patil, G. R. Temporal and Spatial Gap Acceptance at Uncontrolled Intersections, In *proceedings of 93rd Transportation Research Board Annual Meeting*, Washington D. C., January 2014.
25. Sangole, J., Patil, G. R. Modeling Vehicle Group Gap Acceptance At Uncontrolled T-intersections In Indian Traffic, In *proceedings of 93rd Transportation Research Board Annual Meeting*, Washington D. C., January 2014.
26. Bhavathrathan, B. K. and Patil, G. R. Critical State of Multiple Simultaneous Link Disruptions, In *proceedings of 93rd Transportation Research Board Annual Meeting*, Washington D. C., January 2014.
27. Sharma, R., Jadhav, S. S., Tripathy, D., Sardar, H. V., Patil, G. R. Virtual Laboratory: Alternative Approach to Urban Transportation Systems Planning Laboratory. In *proceedings of 93rd Transportation Research Board Annual Meeting*, Washington D. C., January 2014.
28. Sahu, P., Patil, G. R. Classification of Indian Major Seaports Using Hierarchical Grouping Method and Demand Estimation Models. In *proceedings of 93rd Transportation Research Board Annual Meeting*, Washington D. C., January 2014.
29. Pawar, D. S., Kumar, V. Singh, N., and Patil, G. R. Analysis of Dilemma Zone for Crossing Pedestrians at Uncontrolled Midblock Sections, In *proceedings of 93rd Transportation Research Board Annual Meeting*, Washington D. C., January 2014.
30. Saxena N., Pandey V., and Patil G. Developing simulation model for urban road networks in developing countries using TRANSIMS, In *proceedings of Conference on Agent-Based Modeling in Transportation Planning and Operations*, Blacksburg, Virginia, October 2013.
31. Bhavathrathan, B. K. and Patil, G. R. Modeling Network Degradation using Game-theory Optimal Strategies at Nash Equilibrium, In *Selected Proceeding of 13th World Conference on Transport Research*, Rio de Janeiro, Brazil, July 2013.
32. Sardar, H., Pawar, D., and Patil, G. R. Road Accident Forecasting for Mumbai City, In *Proceedings of Recent Advances in Civil Engineering – RACE2013*, KLE Society's M. S. Sheshgiri College of Engineering, Belgaum, May 2013.
33. Sahu, P., Patil, G. R. Analysis and Modeling of Freight Demand at Mumbai Port Using Regression and Time Series Techniques. In *proceedings of 92nd Transportation Research Board Annual Meeting*, Washington D. C., January 2013.
34. Pawar, D.S., and Patil, G. R. Microscopic analysis of traffic behavior at uncontrolled intersections in India. In *proceedings of 92nd Transportation Research Board Annual Meeting*, Washington D. C., January 2013.

35. Sangole J., Patil, G. R., and Patare, P. Adaptive neuro-fuzzy interface system for gap acceptance at uncontrolled t-shaped intersection, In *proceedings of 91th Transportation Research Board Annual Meeting*, Washington D. C., January 2012.
36. Pawar, D., and Patil, G. R. System level traffic accident analysis and developing GIS based decision support for Mumbai city, In *proceedings of 1st Conference of Transportation Research Group of India (CTRG)*, Bangalore, India, December 2011.
37. Sahu, P., and Patil, G. R. Analysis and forecasting of freight demand at Mumbai Port, In *proceedings, 1st Conference of Transportation Research Group of India (CTRG)*, Bangalore, India, December 2011.
38. Chheda, R., and Patil, G. R. Optimal Solid Waste Transportation Management System for the Mumbai Metropolitan Region, In *proceedings of 2nd Research Symposium on Urban Transport*, IIT Delhi, India, December 2011.
39. Nanduri, K. and Patil, G. R. Understanding travel behaviour & developing a simulation model for an educational township in India, In *proceedings of Sustainable Urban and Transportation Planning: Issues and Management Strategy (SUTRIMS 2011)*, SVNIT, Surat, India, July 2011.
40. Patil, G. R., Patare, P., and Sangole, J. Gap acceptance behavior of two-wheelers at limited priority uncontrolled intersections, In *proceedings (CD-ROM) of 90th Transportation Research Board Annual Meeting*, Washington D. C., January 2011.
41. Jaiswal, D. and Patil, G. R., Private Participation in Financing National Highways in India, In *proceedings of International Conference: Developments in Road Transportation (DRT - 2010)*, October 2010, Macmillan Publishers India Ltd., pp. 263- 270.
42. Sangole, J., Patil, G. R., and Patare, P. Modeling gap acceptance behavior of two-wheelers at uncontrolled intersections using Neuro-Fuzzy, In *proceedings of Conference on infrastructure, sustainable transportation and urban planning*, IISc Bangalore, India, October 2010.
43. Patil, G. R., Patare, P., and Sangole, J. Modeling Gap acceptance behavior of two-wheelers at limited priority uncontrolled intersections, In *proceedings of Conference on infrastructure, sustainable transportation and urban planning*, IISc Bangalore, India, October 2010.
44. Belz, N. P., Patil, G. R., and Aultman-Hall, L. Spatial Models for the Statewide Evaluation of Transit-Supportive Zones, In *proceedings (CD-ROM) of 89th Transportation Research Board Annual Meeting*, Washington D. C., January 2010.
45. Patil, G. R. and Ukkusuri, S. The Sample Average Approximate Method for the Flexible Network Design Problem, In *proceedings (CD-ROM) of 87th Transportation Research Board Annual Meeting*, Washington D. C. January 2008.
46. Patil, G. R. and Ukkusuri, S. Modeling Flexibility in Transportation Network Design, In *proceedings (CD-ROM) of 86th Transportation Research Board Annual Meeting*, Washington D. C. January 2007.
47. Patil, G. R. and Ukkusuri, S. Stochastic System Optimal Network Design Problem, In *proceedings (CD-ROM) of 86th Transportation Research Board Annual Meeting*, Washington D. C. January 2007.
48. Patil, G. R., and Ukkusuri, S. Exploring User Behavior in Online Network Equilibrium Problems, In *proceedings (CD-ROM) of 86th Transportation Research Board Annual Meeting*, Washington D. C., January 2007.
49. Holguín-Veras, J., and Patil, G. R. An Integrated Commodity Based / Empty Trip Freight Origin-Destination Synthesis Model, In *proceedings (CD-ROM) of 86th Transportation Research Board Annual Meeting*, Washington D. C., January 2007.
50. Patil, G. R., Krishna Rao, K. V., and Xu, N. Modeling Saturation Flow at Signalized Intersection in Developing Countries, In *proceedings (CD-ROM) of 86th Transportation Research Board Annual Meeting*, Washington D. C., January 2007.

51. Holguín-Veras, J., Patil, G. R. An Integrated Commodity Based / Empty Trip Freight Origin-Destination Synthesis Model, In *proceedings (CD-ROM) of XIV Panamerican Conference of Traffic and Transportation Engineering*, Gran Canaria, Spain, 2006.
52. Ukkusuri, S. and Patil, G. R. Exploring User Behavior in Online Network Equilibrium Problems, In *proceedings (CD-ROM) of 11th International Conference on Travel Behaviour Research (IATBR 2006)*, Kyoto, Japan, August 2006.
53. Holguín-Veras, J., and Patil G. R. Observed Trip Chain Behavior of Commercial Vehicles, In *proceedings (CD-ROM) of 84th Transportation Research Board Annual Meeting*, Washington D. C. January 2005.
54. Patil, G. R., and Holguín-Veras, J. Observed Trip Chain Behavior of Commercial Vehicles, In *proceedings (CD-ROM) of XIII Panamerican Conference of Traffic and Transportation Engineering*, Albany, NY, September 2004.

• **Conference/Workshop Presentations**

1. Urban Growth and Transportation System Interaction in MMR using Satellite Imagery (Symposium on Integrated land use/transport models for carbon neutral strategies, 24 September 2024, University of Osaka, Japan)
2. Stereo image-based quantification of a decadal vertical built-up environment –in a planned indian city (Euro Working Group on Transportation, 4th – 6th September 2024, Lund, Sweden)
3. df Urban growth and transportation systems interactions in MMR using satellite imagery (Institute of Eminence (IoE), Seed funding for Collaboration and Partnership Projects (SCPP) workshop on Land Use and Transportation Planning, 5 August 2024)
4. Consumers Response Towards Online Shopping and Last Mile Logistics (*4th VREF Conference on Urban Freight*, online from Gothenburg, Sweden, 23-25 March 2021)
5. Freight Trip Generation: An experience from Indian Cities (*3rd VREF Conference on Urban Freight*, Gothenburg, Sweden, October 2018)
6. Development of a VISSIM simulation model for landside area of port and its gate operation (National Conference on Recent Advances in Civil Engineering (RACE 2018), Chikodi, Belgaum, India, March 2018)
7. Trip generation model for external travel of Indian cities (National Conference on Recent Advances in Civil Engineering (RACE 2018), Chikodi, Belgaum, India, March 2018)
8. Understanding Mode Choice decisions for Shopping Mall trips in metro cities of Developing countries (The 22nd International Conference of Hong Kong Society for Transportation Studies, Hong Kong, December 2017)
9. Major Road Drivers Behavior in Response to Aggressive Maneuvering of the Minor Road Drivers at Uncontrolled Intersections: A Driving Simulator Study (*International Conference on Transportation Planning and implementation methodology (12th TPMDC) 2016*, IIT Bombay, India, December 2016).
10. Identifying Tipping-Points of Disruptions on Urban Road Networks (*International Conference on Transportation Planning and implementation methodology (12th TPMDC) 2016*, IIT Bombay, India, December 2016).
11. Dispatch Planning of Multi Petroleum Product for Pipeline Network (*International Conference on Transportation Planning and implementation methodology (12th TPMDC) 2016*, IIT Bombay, India, December 2016).
12. Modelling Establishment based Freight Generation for Two Cities in Kerala (*International Conference on Transportation Planning and implementation methodology (12th TPMDC) 2016*, IIT Bombay, India, December 2016).
13. Varying Spatial Critical Gaps at Uncontrolled Intersections (*International Conference on Transportation Planning and implementation methodology (12th TPMDC) 2016*, IIT Bombay, India, December 2016).

14. Smart Transportation for Smart Cities (National Conference on Smart Cities (NCSC 2016) at PDPM IITDM, Jabalpur. November 2016. (Invited presentation)
15. Mode choice modelling using adaptive data collection for different trip purposes in Mumbai Metropolitan Region (*14th World Conference on Transport Research*, Shanghai, July 2016)
16. The impact of rainfall on classified traffic volume on an urban arterial in India (*14th World Conference on Transport Research*, Shanghai, July 2016)
17. Factors affecting drivers' gap acceptance behaviour at uncontrolled intersection in India (*14th World Conference on Transport Research*, Shanghai, July 2016)
18. Stochastic tolling to achieve long-run system optimum under tolerance-based probabilistic user equilibrium (*14th World Conference on Transport Research*, Shanghai, July 2016)
19. Dilemma of pedestrians during gap acceptance at uncontrolled mid-block crossings (*14th World Conference on Transport Research*, Shanghai, July 2016)
20. Uncontrolled T-intersection simulation model in VISSIM, Recent Advances in Traffic Engineering - 2015 (RATE 2015) Sardar Vallabhbhai National Institute of Technology, Surat, India, July 2015. (Oral)
21. Modeling traffic flow at urban uncontrolled T-intersection using Cellular Automata (*International Conference on Transportation Planning and implementation methodology (11th TPMDC) 2014*, IIT Bombay, India, December 2014)
22. Statistical Investigation and Demand Estimation of Commodity Flow at Mumbai Port (*International Conference on Transportation Planning and implementation methodology (11th TPMDC) 2014*, IIT Bombay, India, December 2014)
23. Quantifying Risk due to Capacity Uncertainty on Urban Road Networks (*International Conference on Transportation Planning and implementation methodology (11th TPMDC) 2014*, IIT Bombay, India, December 2014)
24. Agent Based Methodology for Simulation of Heterogeneous Traffic at Uncontrolled Intersections (*13th World Conference on Transport Research*, Rio de Janeiro, Brazil, July 2013)
25. Accident Analysis for Mumbai City (*International Conference on Transportation Planning and implementation methodology (TPMDC) 2012*, IIT Bombay, India, December 2012).
26. Real Time Traffic Counting System using Video Image Processing (*3rd National conference on Intelligent Transportation System*, IIT Madras, July 2012)
27. Emissions based traffic assignment models (*9th International workshop on transportation planning and implementation methodologies for developing countries (TPMDC)*, IIT Bombay, India, December 2010).
28. Real-time traffic counting and monitoring system (*2nd National conference on Intelligent Transportation System*, IIT Bombay, September 2011)
29. Real-time traffic counting and monitoring system (*1st National workshop on Intelligent Transportation Systems*, Pune, June 2010)
30. Flexible Network Design with Elastic Demand (*INFORMS Annual Meeting*, Seattle, November 2007).
31. Sample Average Approximation method for the Flexible Network Design (*INFORMS Annual Meeting*, Seattle, November 2007).
32. Flexibility in Transportation Network Design (*INFORMS Annual Meeting*, Pittsburg, November 2006).
33. Exploring User Behavior in Online Network Equilibrium Problems (*INFORMS Annual Meeting*, Pittsburg, November 2006).
34. Stochastic System Optimal Network Design Problem (*INFORMS Annual Meeting*, Pittsburg, November 2006).
35. Concrete Mix Design using Artificial Neural Networks (*National Level Student Symposium at Shanmugha College of Engineering*, Tanjavur, India, 1998).

TEACHING EXPERIENCE

- **Courses Taught**

- Indian Institute of Technology Bombay**

- 1. CE 749 Freight Transportation Planning and Logistics (PG Elective, sole instr.)
Spring 2020-21, Spring 2021-22, Spring 2022-23, Spring 2023-24
 - 2. CE 235 Artificial Intelligence & Data Science (UG, Core, Sole instr.)
Autumn 2023-24
 - 3. CE 463 Probabilistic and Statistical Methods in Civil Engineering (UG Core, sole instr.)
Autumn 2019-20, Autumn 2020-21, Autumn 2021-22, Autumn 2022-23
 - 4. CE 334 Transportation Engineering II (UG Core, Sole Instr.)
Spring 2015-16, Spring 2016-17
 - 5. CE 415 Transportation Engineering II (UG Core, Sole Instr.)
Autumn 2015-16, Autumn 2014-15, Autumn 2013-14
 - 6. CE 310 Transportation Engineering I (UG Core, Sole Instr.)
Autumn 2017-18, Spring 2012-13, Spring 2011-12, Spring 2010-11, Spring 2009-10
 - 7. CE 412 Transportation Engineering II Lab (UG Core, Sole Instr.)
Autumn 2012-13, Autumn 2011-12, Autumn 2010-11
 - 8. CE 464 Probability and Statistics in Civil Engineering (UG Core, Assistant Instr.)
Autumn 2009-10
 - 9. CE310M Transportation Engineering I (UG Minor, Sole Instr.)
Autumn 2009-10
 - 10. CE 328 Transportation Engineering Lab I (UG Core, Sole Instr.)
Autumn 2018-19
 - 11. CE 771 Optimization in Civil Engineering (PG UG Elective)
Autumn 2018-19, Autumn 2017-18, Autumn 2016-17, Autumn 2015-16
 - 12. CE 744 Analysis of Transportation Systems (PG Elective, Sole Instr.)
Spring 2019-20, Spring 2018-19, Spring 2017-18, Autumn 2014-15, Autumn 2013-14, Autumn 2012-13, Autumn 2011-12
 - 13. CE 753 Traffic Design and Studio (PG Core, Sole Instr.)
Autumn 2010-11
 - 14. CE 751 Urban Transportation Systems Planning (PG Core, Assistant Instr.)
Autumn 2010-10

- University of Vermont**

- 1. Traffic Demand Modeling (Graduate Elective, Sole Instr.)
Spring 2008-09
 - 2. Decision Analysis in Environmental & Transportation Systems (UG Core, Sole Instr.)
Fall 2008-09

- National Rail and Transportation Institute, Vadodara**

- 1. Civil Infrastructure Systems Optimization and Identification (UG, Sole Instr.)
 - 2. Intelligent Transportation Systems (UG, Sole Instr.)
 - 3. Transportation Systems Design (UG, Sole Instr.)
 - 4. Transportation Models and Quantitative Methods (UG, Sole Instr.)
 - 5. Quantitative Models in Transportation (PG, Sole Instr.)

- **Teaching Assistant:**

- Rensselaer Polytechnic Institute, Troy, NY**

- Responsibilities include in-class teaching, preparing and grading homework and exams, meeting regularly with students, and guiding in field projects.

- 1. Strength of Materials *(Fall 2003)*
 - 2. Highway Engineering *(Spring 2004)*

- | | |
|--|---------------------------|
| 3. Introduction to Transportation Engineering | (Fall 2004) |
| 4. Civil Engineering Capstone Design | (Spring 2005) |
| 5. Transportation Facility Design and Planning | (Spring 2005) |
| 6. Civil Engineering Instrumentation & Sensors | (Fall 2005 and Fall 2006) |
| 7. Traffic Control Systems | (Spring 2007) |

INDUSTRY EXPERIENCE

- **Frischmann Prabhu (India) Pvt. Ltd. Mumbai, India**
Post: Transportation consultant
Responsibilities include Planning, conducting, and analyzing traffic surveys, Economic analysis of toll roads, and consulting various government organizations and infrastructure projects funding agencies.

Apr 2002 – Jul 2003
- **Maharashtra State Road Development Corp. (MSRDC), India /Indian Institute of Technology Bombay, India**
Post: Research Assistant

Jul 1999 – Dec 2001

PROJECTS

- **Principal Investigator**
 1. GIS-based spatial automatic traffic incident detection and prioritization system
Department of Science and Technology, June 2022 to June 2024.
 2. Assessing performance of the existing Fully Adaptive Traffic Control (FATC) system in Mumbai, Brihanmumbai Municipal Corporation, Apr 2023 to Oct 2023.
 3. Traffic Management and Traffic decongestion plan at New Mangalore Port, New Mangalore Port Trust, Sept 2022 to Oct 2023.
 4. Traffic impact study of proposed Vadhwan Port near Mumbai, Jawaharlal Nehru Port Trust, Oct 2020 to July 2021
 5. Traffic Simulation Study at JNPT of Proposed Development of Integrated Common Rail Yard Facility Indian Port Rail & Ropeway Corporation Limited, Sept 2019 to Oct 2020
 6. Understanding the interaction between transport network and landuse in Mumbai Metropolitan Region using satellite data
Indian Space Research Organisation (ISRO), Jul 2018 to July 2022
 7. Virtual Lab for Urban Transportation System Planning
Ministry of Human Resource Development, July 2009 to September 2017
Co-PI: Prof. Tom V. Mathew
 8. System level traffic accident analysis and developing GIS based Decision support for Mumbai city
IRCC, IIT Bombay, Feb 2010 to Feb 2015
 9. Traffic Simulation Study at JNPT of Proposed Development of Integrated Common Rail Yard Facility Indian Port Rail Corporation Ltd.
Co-PI: Professor K. V. Krishna Rao
 10. Traffic analysis in the vicinity of proposed port at Vadhavan, Maharashtra
Jawaharlal Nehru Port Trust
 11. Developing Parking norms for Navi Mumbai Municipal Corporation
Navi Mumbai Municipal Corporation
Co-PI: Professor K. V. Krishna Rao
 12. Assessing the short-term road connectivity for the stage I operations of new container Terminal 4 at JNPT using simulation
Jawaharlal Nehru Port Trust
 13. Identify bottlenecks and probable solutions required for JNPT influenced area and beyond up to NH 8 and NH3
Jawaharlal Nehru Port Trust

Co-PI: Prof. Gitakrishnan Ramadurai, IIT Madras

14. Traffic Congestion and Vehicle Emissions Impact of a Township in Ghatkopar, Mumbai
Rare Township Pvt. Ltd.
15. Traffic Simulation of the proposed Car Park Facility for a project at Prabhadevi
Agency: Akruiti City Ltd.
16. Modelling traffic flow and driver behaviour at uncontrolled road intersections.
Department of Science & Technology (Fast-Track Scheme for Young Scientist), Oct 2010 to Oct 2013

- **Co-PI**

1. Regional Microscopic Simulation Model for Studying Traffic Control Strategies at Work Zone
Agency: Vermont Agency of Transportation (VTrans)
Duration: Feb 2008 to July 2008
Real-Time Traffic Counting and Monitoring System
Agency: Department of Information Technology and CDAC
Duration: Oct 2009 to Sept 2013
PI: Prof. Tom V. Mathew; Other Co-PIs: Prof. K. V. Krishna Rao, Prof. S. Choudhari, and Prof. Harish Pillai
2. Survey of various infrastructural facilities to be provided to the Mahul Project rehabilitates
Agency: Urban Development Department, Govt of Maharashtra
PI: Prof. Parthasarathi
3. Development of Indian Highway Capacity Manual
Agency: Central Road Research Institute
Duration: Jan 2013 to March 2018
PI: Prof. K. V. Krishna Rao; Other Co-PIs: Prof. Tom V. Mathew, Prof. P. Vedagiri
4. Transportation Planning for Solid Waste management in Mumbai Metropolitan Region
Agency: NEERI, Mumbai and MMRDA
PI: Prof. S. L. Dhingra

GRADUATE THESIS SUPERVISION

- **Current Ph.D.**

- | | |
|--|---------------------------|
| 1. Muskan (23D0290) | Jul 2023 to date |
| <i>Thesis:</i> Assessment of Impact of Built Environment on Travel Behavior | |
| <i>Co-supervisor:</i> Professor Tom V Mathew | |
| 2. Richa Patel (23D0304) | Jul 2023 to date |
| <i>Thesis:</i> Freight Demand Estimation in Indian Cities | |
| 3. Sudha Changati (22D0296) | Jul 2022 to date |
| <i>Thesis:</i> Network-level Traffic Incident Detection and Prioritization | |
| 4. Vinayak Gaur (22D0286) | Jul 2022 to date |
| <i>Thesis:</i> Benchmarking of Public Transportation System | |
| 5. Kirtesh Gadia (22D0271) | Jul 2022 to date |
| <i>Thesis:</i> Planning and Execution of Evacuation of people during disasters | |
| <i>Co-supervisor:</i> Professor Nagendra Velaga | |
| 6. Manish Yadav (214040001) | Jul 2021 to date |
| <i>Thesis:</i> Accessibility of Public transit in Mumbai and Singapore | |
| <i>Co-supervisor:</i> Dr. Rakhi Manohar Mepparambath, A*STAR's Institute of High Performance Computing (IHPC), Singapore | |
| 7. Ashritha K (194046010) | Jan 2020 to date |
| <i>Thesis:</i> Object based extraction techniques for extracting landuse from satellite images | |
| <i>Co-supervisor:</i> Prof. B. K. Mohan, Centre for studies in resource engineering, IIT Bombay | |
| 8. Suman Dash (154040024) | Pre-synopsis in Sept 2024 |

Thesis: Capacity Estimation of Expressways in India

- **Past Ph.D.**

1. Samarth Bhatia (194046005) Defended in Oct 2024
Thesis: Interactions between landuse and transportation infrastructure in Mumbai Metropolitan Region
Co-supervisor: Prof. B. K. Mohan, Centre for studies in resource engineering, IIT Bombay
2. Namrata Gupta (184044006) Defended in Jul 2024
Thesis: Intelligent intersection management at network level
Co-supervisor: Prof. Hai Vu, Monash University
3. Gajanand Sharma (174040003) (Thesis Submitted) Graduated in Jun 2022
Thesis: Transportation Derived Quality of Life (TQoL) and Transportation Equity in Urban Areas
4. Sowjanya Dhulipala (164040009) Defended in Jan 2022
Current Position: Post-doctoral fellow, IIT Bombay
Thesis: Freight Generation and Mode Choice for Regional Freight Demand in India
5. B. K. Bhavathrathan Graduated Jul 2016
Current position: Assistant Professor, IIT Palakkad
Thesis: Modeling multiple simultaneous disruptions on urban transportation networks
6. Digvijay Pawar Graduated Jul 2015
Current Position: Associate Professor, IIT Hyderabad
Thesis: Performance Evaluation and Safety Analysis of Uncontrolled Intersections
(Received i) IIT Bombay Best thesis award and ii) CODATU prize of the best PhD thesis on urban mobility in cities of developing countries)
7. Prashant Sahu Graduated Jul 2015
Current Position: Associate Professor, BITS Pilani Hyderabad Campus
Thesis: Analysis and forecasting of freight flow at major Indian seaports
8. Jayant Sangole Graduated Jul 2015
Current Position: Transport Modeler, Stantec, Pune
Thesis: Modeling traffic flow and evaluating the performance of partially controlled T-intersections

- **Current M. Tech.**

1. Suvijay Meshram Mar 2024 to date
Thesis: Spatio-temporal patterns of commodity buying of Indian Consumers

- **Past M. Tech.**

1. Ashish Sagar (22M0548) Mar 2023 to Jun 2024
Vehicle Detection, Tracking and Classification Using Video Image Processing: A Study in Heterogeneous Traffic Conditions
2. Gazanfar Ali Khan (22M0544) Mar 2023 to Jun 2024
Risk Analysis of Unmanned Aerial System
3. Arpit Tiwari (190110011) Mar 2023 to Jun 2024
Road traffic incident identification using twitter
4. Desai Akshay Vijay (213040004) Mar 2022 to Jun 2023
Freight Demand Modeling and Landside Accessibility Study for New Mangalore Port
5. Rabbewar Gopal Laxmanrao (213040006) Mar 2022 to Jun 2023
Thesis: Freight Generation Modelling Using Monthly Expenses of Indian Households
6. Rohan Nyayadhis (203040010) Mar 2021 to Jun 2022
Thesis: Spatio-temporal patterns of commodity buying of Indian Consumers
7. Visharad (203040008) Mar 2021 to Jun 2022
Thesis: Travel behavior in Navi Mumbai
8. Kirtesh Ajay Gadiya (203040008) Mar 2021 to Jun 2022
Urban Growth Modelling in Kalyan and Contiguous Areas in Mumbai Metropolitan Region

9. Athul P. (193040009) Mar 2020 to Jun 2021
Thesis: Spatio-temporal analyses of community mobility patterns during pandemic lockdown in India
10. Rutuja Dhore (193040010) Mar 2020 to Jun 2021
Thesis: Impact of COVID-19 pan-India lockdown on consumers purchasing essential commodities
11. Asim Tajuddin Mulani (183040005) Mar 2019 to Jun 2020
Thesis: Consumers Response towards Online Shopping and Last Mile Logistics Service
12. Manish Yadav (183040004) Mar 2019 to Jun 2020
Thesis: Understanding Spatiotemporal Growth and Restructuring Pattern of Urban Area using Satellite Images for Mumbai Metropolitan Region, India
13. Harsh Shah (173040067) Mar 2018 to present
Thesis: Development of Dynamic Traffic Assignment (DTA) Model for Navi Mumbai Region Using CUBE AVENUE
14. Priyanka Paithankar (173040004) Mar 2018 to present
Thesis: Reliability, Delay and Emission Analysis of Chhatrapati Shivaji Maharaj International Airport (CSMIA), Mumbai
15. Jatin Jain (163040005) Mar 2017 to Jun 2018
Thesis: Truck accessibility to Jawaharlal Nehru Port, Navi Mumbai
16. Murali Kumari (163040064) Mar 2017 to Jun 2018
Thesis: Trip generation and mode choice for intercity demand model
17. Samartha Bhatia (NIT Hamirpur student) Jul 2017 to May 2018
Thesis: Utilization Analysis of Pedestrian Skywalk and Establishing Factors Influencing its Use: A Case Study of Mumbai, India
18. Aniruddha Chopade (NIT Hamirpur, student) Jul 2017 to May 2018
Thesis: Modeling Pedestrian Road Crossing Behavior Considering Pedestrian Signal Violation and Pedestrian Preference Study
19. Sanu Meeta Mar 2016 to Jun 2017
Thesis: Trip generation and mode choice modeling for shopping malls in India
20. Ashish Kumar Dubey (IEOR) Mar 2015 to Jun 2016
Thesis: Simulation of uncontrolled intersection using Anylogic (Co-supervisor)
21. Aditya Kumar Parsai Mar 2015 to Dec 2015
Thesis: Transportation performance assessment in Jawaharlal Nehru Port influence area
22. Srinivas Thadoju Mar 2014 to Jul 2015
Thesis: Freight trip generation from restaurants in Mumbai City
23. Neeraj Saxena Mar 2012 to Jun 2013
Thesis: Developing simulation model for urban road networks in developing countries using TRANSIMS
24. Apurba Ghosh Apr 2012 to Jun 2013
Thesis: Online monitoring of public transport demand (Co-supervisor)
25. Digvijay Pawar Mar 2010 to May 2012
Thesis: System level traffic accident analysis and developing GIS based Decision support for Mumbai city
26. Anuj Kumar Yadav Mar 2010 to May 2012
Thesis: Analysis of freight transportation in Mumbai region
27. Prasad Patare Mar 2010 to May 2011
Thesis: Developing Behavioral models for analyzing uncontrolled intersections

UNDERGRADUATE THESIS SUPERVISION

- **Year 2023-24**
 1. Ishit Garg
Traffic incident detection
 2. Rishikesh Gunjal
Traffic Vehicle Detection and Classification on Indian Roads
 3. Rishikesh Gunjal
 4. Traffic Vehicle Detection and Classification on Indian Roads
Varun Shenoy (200040134)
Benchmarking of Metro Systems using Data Envelopment Analysis in R
- **Year 2022-23**
 5. Sajeed P (190040103)
Real-time Traffic Incident Detection and Identification
 6. Yash Vinayak Patil (190040135)
Institute electric vehicle fleet planning
- **Year 2020-21**
 7. Achin Parashar (160040007)
Thesis: Residential location choice modeling in urban area
- **Year 2019-20**
 8. Nautatava Navlakha (160040007)
Thesis: Detection of road networks in a mid-resolution satellite image
- **Year 2018-19**
 9. Ayush Pandey (150040087)
Thesis: Adaptive Traffic Signal Control Design for Isolated Signal
 10. Amogha H A (150040102)
Thesis: Road Traffic incident detection: Mumbai Region
 11. Shivam Choudhary (150040082)
Thesis: Application of satellite images to determine land-use changes
- **Year 2017-18**
 12. Lavan Teja (140040096)
Thesis: Performance assessment and ranking of Indian Railway zones
 13. Divya Somasi (140040093)
Thesis: Passenger Travel Demand by Indian Railways
 14. Aditya Anand (140040071)
Thesis: Travel Time Reliability of Arterials in Mumbai
- **Year 2016-17**
 15. Shraddha Rana (130110023)
Thesis: Modeling of freight Transport by Indian railways
 16. Nitish Parihar (120040035)
Thesis: Understanding travel mode choice behavior in rural areas
 17. Abhishek Genva (120040015)
Thesis: Individual and household-based Trip Generation in rural area
- **Year 2015-16**
 18. Rounaq Basu (120040090)
Thesis: Mode and route choice behavior of travelers in Indian cities
 19. Shreyansh Tajawat (120040018)
Thesis: Battery exchange station location for battery operated taxis in Mumbai
- **Year 2014-15**
 20. Sachin Garg (110040025)
Thesis: Dynamic traffic assignment using Cube Avenue

21. Shaily Garg (110040013)
Thesis: Support Vector Machine for gap acceptance analysis
22. Saumya Manoj Sangoi (110040008)
Thesis: Analysis using Freight Analysis Framework (FAF)
23. Rachana Mane (110040009)
Thesis: Modeling pedestrian flow using hexagonal cellular automata
24. Kratagya Ahirwar (110040081)
Thesis: Traffic Signal Violations in India
- **Year 2013-2014**
 25. Venkatesh Pandey (100040090)
Thesis: Dynamic traffic assignment for using TRANSIMS for road networks in India
 26. Vinit Kumar (100040038)
Thesis: Study of minor road vehicle crossing at unsignalized intersection on high-speed corridor
 27. Archak Mittal (100040032)
Thesis: Modeling pedestrian flow using hexagonal cellular automata
 28. Gaurav Sultania (100040057)
Thesis: Traffic assignment with stochastic link capacities
 29. Namrata Singh (100040004)
Thesis: Formulation and solution of Transportation Network Link Ranking problem as an MPEC (Mathematical Program with Equilibrium Constraints)
 30. Harsha Ksdv
Thesis: Simulation of signalized intersections in India using VISSIM
- **Year 2012-2013**
 31. Sreeta Gorripaty (09004074)
Thesis: Interaction force based traffic flow model
Best B. Tech thesis in Transportation Engineering award, Dept of Civil Engg, IIT Bombay
 32. Sudesh Agarwal (09004035)
Thesis: Modeling pedestrian signal using grid-based cellular automata
 33. Amit Kumar Singh (09004009)
Thesis: Developing simulation model for IIT Bombay campus road network using Paramics
- **Year 2011-2012**
 34. Rinal Chheda
Thesis: Optimal solid waste transportation management system for the Mumbai Metropolitan Region
Best B. Tech thesis in Transportation Engineering award, Dept of Civil Engg, IIT Bombay
 35. Shubham Agrawal
Thesis: Pedestrian flow model using hexagonal cellular automata
 36. Piyush Sharma
Thesis: Saturation flow at signalized intersection in India
- **Year 2010-2011**
 37. Kanchana Nanduri (*Received URAII for the project*)
Thesis: Developing simulation model for IIT Bombay campus road network using VISSIM
Best B. Tech thesis in Transportation Engineering award, Dept of Civil Engg, IIT Bombay
 38. Ankita Choudhari
Thesis: Traffic simulator for unsignalized intersection
 39. Vijaypal Bishnoi
Thesis: After construction economic evaluation of Mumbai-Pune expressway
 40. Kritin Joshi
Thesis: Developing Tool for capacity analysis of signalized intersection
 41. Raunak Jain
Thesis: Trip generation models for Indian cities

42. Aaron D'Souza
Thesis: Developing tool for statistical analysis
43. Priyank Rajpurohit
Thesis: Performance of different control strategies under various demand levels
44. Ashish Sharma
Thesis: Evaluation of public transit system using LITRES-II
- **Year 2009-2010**
45. Avi Khivasara
Thesis: Transport infrastructure for regional solid waste management in Mumbai Metropolitan Region (MMR)
46. Gnyanendra Kumar
Thesis: Tailpipe emissions modeling for vehicles in India
47. Bhavik Garg
Thesis: Transportation System of IIT Bombay Campus

INVITED TALKS

1. *Accessibility, equity and Transportation Derived Quality of Life (TQoL) in Urban Areas*, Division of Sustainable Energy and Environmental Engineering, Osaka University, Japan, 25 September 2024.
2. *Intelligent Transport (ITS) infrastructure for smart mobility*, AICTE-ISTE Sponsored Induction/Refresher Faculty Development Programme on “Recent Advances in Strategic Civil Infrastructure”, Kolhapur Institute of Technology’s College of Engineering, Kolhapur, 7 Feb 2022.
3. *Intelligent Transportation Systems for Sustainable Mobility*, AICTE Training and Learning (ATAL) Academy Sponsored Online one-week Faculty Development Program (FDP) on “Smart & Sustainable Infrastructure Development for New India”, BVM Engineering College, Vallabh Vidyanagar, Gujarat, 21 December 2021.
4. *Delayed Arrival Modeling and Reliability Analysis of Flight at Chhatrapati Shivaji Maharaj International Airport (CSMIA), Mumbai, Five Days ATAL Faculty Development Programme on “Strategic Civil Infrastructure”*, Kolhapur Institute of Technology’s College of Engineering, Kolhapur, 25 October 2021.
5. *Transportation Equity and Transportation Derived Quality of Life (QoL) in an Urban Area*, Gati Shakti Vishwavidyalaya (National Rail and Transportation Institute), Vadodara, 13 October 2021.
6. *Maneuvering Behavior of Drivers at Uncontrolled Intersection*, Government College of Engineering, Keonjhar, Odisha, 27 March 2021.
7. *Maneuvering Behavior of Drivers at Uncontrolled Intersection*, Online short term course on Emerging trends in highway engineering and infrastructure development, Dr. B. R. Ambedkar National Institute of Technology Jalandhar, 27 June 2020.
8. *Theory and Model of Network Level Congestion Pricing*, Workshop on Concept, Theory and Practice of Road Pricing Schemes: Lessons learned and way forward, BITS Pilani, Hyderabad, 7 March 2020.
9. *Application of Remote Sensing and GPS in Transportation*, AICTE funded Faculty Development Programme (FDP) on Applications of GPS and Remote Sensing in Civil Engineering, Sardar Patel College of Engineering, Mumbai, 6 January 2020.
10. *Maneuvering Behavior of Drivers at Uncontrolled Intersection*, Jain Engineering College, Belgaum, 5 September 2019.
11. *Traffic and Transportation Studies*, S. G. Balekundri Institute of Technology, Belgaum, 9 July 2019
12. *Traffic Assignment Methods: An Overview*, Short Term Training Program on “Urban Transportation Planning” Charotar University of Science and Technology, Changa, Gujarat, 28 November 2019
13. *Career options after engineering degree*, MGM’s College of Engineering Nanded, 1 Feb 2019.
14. *Overview of Optimization and its applications in Engineering*, Faculty Development Program on Modeling and Analyzing Sustainable Transport in Context of Smart City, Shri Vaishnav Institute of Technology and Science, Indore, 24 – 25 March 2017.

15. *Intelligent Transportation and Smart Cities*, Faculty Development Program on Modeling and Analyzing Sustainable Transport in Context of Smart City, Shri Vaishnav Institute of Technology and Science, Indore, 24 – 25 March 2017.
16. *Road Intersection Design and Analysis*, Workshop on Road Safety Audit, Indian Institute of Technology Bombay, 30 Jan – 3 Feb 2017.
17. *Smart Transportation for Smart Cities*, Workshop on Recent Advances in the Field of Transportation and Infrastructure Engineering (RAFTI), Datta Meghe College of Engineering, Mumbai, 19-24 December 2016
18. *Smart Transportation for Smart Cities*, National Conference on Smart Cities (NCSC 2016), IIITDM Jabalpur, 25-26 November 2016,
19. *Traffic Assignment Methods: an Overview*, Workshop on Sustainable Urban Transportation, National Institute of Technology Karnataka, Surathkal, 3 October 2016
20. *Overview of freight transportation in India and case studies*, 8th Indo-German frontiers of Engineering, co-organized by the Indian Department of Science and Technology (DST) and the Alexander von Humboldt Foundation, Potsdam, Germany, 19-22 May 2016.
21. *Freight Trip Generation from Restaurants in Mumbai*, EU-India Research & Innovation Partnership for Efficient and Sustainable Freight Transportation workshop, Indian Institute of Technology Bombay, Mumbai, 8 January 2016
22. *Applications of GIS in Transportation Planning*, Workshop on GIS applications to Smart Cities, Zeal College of Engineering and Research, Pune, January 9, 2016
23. Panel Member in *The Economic Times Road Safety Summit 2015*, Courtyard by Marriott, Mumbai, 16 June 2015
24. *Freight Transportation in India: an overview and case studies*, Rensselaer Polytechnic Institute, Troy, NY, 16 April 2015
25. *Modelling Multiple Simultaneous Disruptions on Urban Transportation Networks*, mini seminar on Transportation Engineering organized by the Department of Civil Engineering, IIT Kanpur, 6 November 2014
26. *Real-time traffic data collection systems*, National Seminar on ITS, organized by IES Engineering College, Bhopal, September 2013
27. *Transportation Network Design Problem*, QIP short term course, IIT Bombay, July 2010
28. *Real-time Traffic Counting and Monitoring System*, QIP short term course, IIT Bombay, July 2010
29. *Using a Regional Microscopic Simulation Model to Evaluate Potential Work Zones Control Strategies* Institute of Transportation Engineers, Vermont, June 2008
30. *Stochasticity and Flexibility in Transportation Network Design*, College of Engineering, University of Vermont, Nov 2008

HONOURS AND AWARDS

- Vice President, Governing Council of Institute of Urban Transport 2024—2026, Ministry of Housing & Urban Affairs, Government of India.
- Scientific Committee Vice-Chair (Conference), World Conference on Transport Research Society (WCTRS) from June 2019 to July 2023.
- Fellowship from Volvo Research Foundation to attend and present 2018 VREF Urban Freight Conference held in Gothenburg during 17-19 October 2018.
- Fellowship from Volvo Research Foundation to attend and present 2018 VREF Advanced Studies Institute on Sustainable Urban Freight Systems (VASI-SUFS) held during August 4th - 11th, 2018 at Rensselaer Polytechnic Institute, in Troy, New York.
- Chairman, International Conference on Transportation Planning and Implementation Methodologies in Developing Countries 2016 (12th TPMDC), IIT Bombay, Mumbai, Dec 19-22, 2016
- Invitation with full funding to participate and present in 8th Indo-German frontiers of Engineering co-organized by the Indian Department of Science and Technology (DST) and the Alexander von Humboldt Foundation in Potsdam, Germany during 19 – 22 May 2016.

- Fellowship from Volvo Research Foundation to visit Rensselaer Polytechnic Institute, Troy, NY during April 6 – 19 April 2015.
- Fellowship from Volvo Research Foundation to attend International Urban Freight Conference (2015 I-NUF) at University of Southern California, 21- 23 October 2015.
- Recipient of “Best Project Award in Transportation Engineering” from IIT Bombay for the year 2002.
- Awarded First Prize in National student paper presentation symposium organized by Shanmugha College of Engineering, Tanjavur, India, 1998.

MEDIA COVERAGE

1. IIT-B and NIT research: Security, maintenance and accessibility required to make city skywalks user-friendly, *Hindustan Times*, 16 Feb 2022, <https://www.hindustantimes.com/cities/mumbai-news/iitb-and-nit-research-security-maintenance-and-accessibility-required-to-make-city-skywalks-userfriendly-101645034244591.html>
2. Escalators, CCTVs could motivate people to use skywalks in MMR: IIT-Bombay survey, *Times of India*, 16 Feb 2022. <https://timesofindia.indiatimes.com/city/mumbai/escalators-cctvs-could-motivate-people-to-use-skywalks-in-mmr-iit-bombay-survey/articleshow/89624873.cms>
3. IIT-B and NIT research: Security, maintenance and accessibility required to make city skywalks user-friendly, *Hindustan Times*, 16 Feb 2022, <https://www.hindustantimes.com/cities/mumbai-news/iitb-and-nit-research-security-maintenance-and-accessibility-required-to-make-city-skywalks-userfriendly-101645034244591.html>
4. Beyond reach: inadequate transport facilities can cause educational inequality, *Research Matters*, Feb 9, 2022. <https://researchmatters.in/news/beyond-reach-inadequate-transport-facilities-can-cause-educational-inequality>
5. School education on fringes of suburbs hit by poor public transport: IIT-Bombay study, *Times of India*, 3 Feb 2022. <https://timesofindia.indiatimes.com/home/education/news/school-education-on-fringes-of-suburbs-hit-by-poor-public-transport-iit-bombay-study/articleshow/89317679.cms>
6. Lockdown cause decrease in purchase (frequency) of essential items: Study, *Hindustan Times*, 19 December 2021. <https://www.hindustantimes.com/cities/mumbai-news/lockdown-cause-decrease-in-purchase-of-essential-items-study-101639846570601.html>
7. Chances of obesity among car users 1.14 times higher than walkers, reveals IIT-B study, *Hindustan Times*, 5 September 2021. <https://www.hindustantimes.com/cities/mumbai-news/chances-of-obesity-among-car-users-1-14-times-higher-than-walkers-reveals-iit-b-study-101630862017728.html>
8. Mumbai’s 35% population have poor access to healthcare infrastructure: IIT-Bombay study, *Hindustan Times*, 5 July 2021. <https://www.hindustantimes.com/cities/others/35-population-at-unhealthy-distance-from-medical-infra-in-mumbai-101625423168308.html>
9. Mumbai offers highest quality of life, Chennai treats its women best: study, *The Times of India*, 5 December 2020. <https://timesofindia.indiatimes.com/india/mumbai-offers-highest-quality-of-life-chennai-treats-its-women-best-study/articleshow/79574501.cms>
10. Cars, trains, buses or foot—How does Mumbai choose to go to a mall? *Research Matters*, 21 Nov 2019. <https://researchmatters.in/news/cars-trains-buses-or-foot%E2%80%94how-does-mumbai-choose-go-mall>
11. Only half of visitors to malls come to shop, says IIT study, *The Hindu*, 26 November 2019. <https://www.thehindu.com/news/cities/mumbai/only-half-of-visitors-to-malls-come-to-shop-says-iit-study/article30080871.ece>

PROFESSIONAL ACTIVITIES

- **Editor**
 - Fusun Ulengin, Gopal R. Patil, Ozay Ozaydin, Lóránt Tavasszy, and Ashish Verma, Recent Advances and Emerging Issues in Transport Research – Selected Proceedings of WCTR 2019 Mumbai, *Transportation Research Procedia*, Volume 48, Pages 1 – 4012 (2020). <https://www.sciencedirect.com/journal/transportation-research-procedia/vol/48>
 - Gopal R. Patil, Tom V. Mathew, and K. V. Krishna Rao, “International Conference on Transportation Planning and Implementation Methodologies for Developing Countries (12th TPMDC) Selected

Proceedings, IIT Bombay, Mumbai, India, 10-12 December 2014”, *Transportation Research Procedia*, Volume 17, Pages 1-712 (2016).

<https://www.sciencedirect.com/journal/transportation-research-procedia/vol/17/suppl/C>

- **Guest Editor**

- Gopal R. Patil and Bhargab Maitra, Special issue on Sustainable City Transportation in the Indian Subcontinent in *Transport Policy* Journal, In Progress, <https://www.journals.elsevier.com/transport-policy/call-for-papers/call-for-papers-for-the-special-issue-sustainable-city-transportation-in-the-indian-subcontinent>
- Gopal R. Patil, Sabyasachee Mishra, Nagendra Velaga, Ashish Bhaskar, Research Topic on Transportation Policies and Technologies for Vehicle Emission Reduction and Energy Efficiency in *Frontiers in Future Transportation* journal, In Progress, <https://www.frontiersin.org/research-topics/32999/transportation-policies-and-technologies-for-vehicle-emission-reduction-and-energy-efficiency>

- **Conference/Workshop Organization**

- Member of Technical Committee 17th Urban Mobility India Conference Cum Expo 2024, 25 – 27 October, Gandhinagar, Gujarat
- Organized Institute of Eminence (IoE), Seed funding for Collaboration and Partnership Projects (SCPP) workshop on *Land Use and Transportation Planning*, 5 August 2024.
- Scientific Committee Vice-Chair (Conference), World Conference on Transport Research Society (WCTRS) from June 2019 to July 2023.
- Session Track Organizer, A4: Road Transport – General for the 16th World Conference on Transport Research (WCTR), Montreal 2013
- Session Track Organizer, A4: Road Transport – General for the 15th World Conference on Transport Research (WCTR) Mumbai, May 2019.
- Chairman, Conference Program Committee for the 15th World Conference on Transport Research (WCTR) Mumbai, May 2019
- Scientific committee member and Theme coordinator: Freight transportation and regional planning for the Fourth Conference of Transportation Research Group of India (4th CTRG), Mumbai, December 2017.
- Thematic Coordinator for Smart Cities, INAE National Frontiers of Engineering 2016 meeting, IIT Kanpur, 23-25 June 2016.
- Scientific committee member and Track chair: Air, Water and Rail Transport for Third Conference of Transportation Research Group of India (3rd CTRG) held in Kolkata, in December 2015.
- Organizing Secretary, International Conference on Transportation Planning and Implementation Methodologies in Developing Countries (11th TPMDC) 2014, IIT Bombay, Mumbai, Dec 10-12, 2014
- Scientific Committee Chair, International Conference on Transportation Planning and Implementation Methodologies in Developing Countries (10th TPMDC) 2012, IIT Bombay, Mumbai, Dec 12-14, 2012
- Coordinator, Indo-US workshop on Urban Freight Modeling: A Global Perspective at IIT Bombay during April 9-10, 2014
- Coordinator, International Conference on Transportation Planning and Implementation Methodologies in Developing Countries (TPMDC) 2012, IIT Bombay, Mumbai, Dec 12-14, 2012
- Coordinator, 9th International Workshop on Transportation Planning and Implementation Methodologies in Developing Countries (TMPDC), Mumbai, India, Dec 15-17, 2010
- Assistant Coordinator, XIII Panamerican Conference on Traffic and Transportation Engineering, Albany, NY, Sept 26-29, 2004
- Student member of organizing committee, 4th International Workshop on Transportation Planning and Implementation Methodologies in Developing Countries (TMPDC), Mumbai, India, Dec 5-7, 2000

- **Short Term courses (CEP, QIP, GIAN, etc.)**

- Coordinator, Continuous Education (CE) & Quality Improvement Program (QIP) short term course on *Advanced Computing Methods in Civil Engineering Systems*, 25 February – 01 March 2019.
- Coordinator, GIAN-QIP workshop on *Advances in Dynamic Transportation Systems* at IIT Bombay during 2 – 6 July 2018
Sponsoring agency: Ministry of Human Resource and Development (now, Ministry of Education), Government of India under Global Initiative of Academic Networks (GIAN) program
International Faculty: Prof. J. Jaykrishnan, University of California, Irvine
- Coordinator, CE & QIP short term course on *Advances in Transportation Planning and Traffic Management*, at IIT Bombay during 3-7 July 2017.
- Coordinator, CE & QIP Short Term Course on *Transportation Demand Modeling* at IIT Bombay during June 17-21, 2013

- **Thesis Examiner/reviewer**

- Reviewer and external examiner for PhD thesis from IIT Delhi, Monash University Australia, NIT Surathkal, IIT Hyderabad, IIT Madras, IIT Roorkee, IISc Bangalore
- Reviewer from MS by research theses from IIT Madras

- **Session Chair**

- 16th World Conference on Transport Research 2016, Montreal, Canada, July 2023
- 14th International Conference on Transportation Planning and implementation methodology for Developing Countries, December 2022
- 13th International Conference on Transportation Planning and implementation methodology for Developing Countries, IIT Bombay, December 2020
- Conference of Transportation Research Group of India (CTRG), 2017
- 14th World Conference on Transport Research 2016, Shanghai, China
- Transportation Planning and implementation methodologies for developing countries (11th TPMDC), IIT Bombay, Mumbai, December 2014
- 13th World Conference on Transport Research 2013, Rio de Janeiro, Brazil
- Transportation Planning and implementation methodologies for developing countries (10th TPMDC), IIT Bombay, Mumbai, December 2012

- **Administrative Responsibilities at IIT Bombay**

- | | |
|--|----------------------------|
| ○ Member of Department Graduate Policy Committee (DPC) | Jan 2023 to date |
| ○ Faculty Advisor to 2020 batch TSE M. Tech students | Jul 2020 to Jun 2022 |
| ○ Member of Institute Undergraduate Policy Committee (UGPC) | Jan 2018 to Jan 2021 |
| ○ Member of Department Undergraduate Committee (DUGC) | Jan 2016 to Dec 2018 |
| ○ Coordinator, Transportation Systems Engineering Group | August 2015 to August 2018 |
| ○ Faculty Advisor to 2018 batch TSE M. Tech students | July 2018 to June 2020 |
| ○ Faculty Advisor to 2017 batch TSE M. Tech students | July 2017 to July 2018 |
| ○ Faculty Advisor to 2016 batch TSE M. Tech students | July 2016 to July 2017 |
| ○ Faculty Advisor, 2015 batch TSE M. Tech students | July 2015 to July 2016 |
| ○ Associate Warden, Hostel 6 | Nov 2014 to June 2017 |
| ○ Member Secretary of Department Policy Committee (DPC) | May 2011 to July 2014 |
| ○ Member of Department Postgraduate Committee (DPGC) | Jan 2012 to Dec 2014 |
| ○ Faculty adviser to B. Tech 2009 batch of Civil Engineering | Jul 2009 to Jun 2013 |
| ○ Faculty Advisor to 2nd year M. Tech students | Jul 2013 to June 2014 |
| ○ Transportation Systems Studio, Faculty in-charge | Jul 2009 to August 2015 |

- **Institute Committees**

- Member, Committee to explore and propose Joint M-Tech Program with Monash University through the IIT Bombay – Monash Research Academy (2016 – 2017)
- Member, Committee to propose measures to deal with the increasing number of backlogs among B. Tech and dual degree student, June 2015 to Aug 2015

- **Department Committees**

- Department Committee to develop guidelines for Naik and Rastogi Award for Excellence in Ph.D. Research, Aug 2024 to Oct 2024
- Department Committee to Nominate candidates to Naik and Rastogi Award for Excellence in Ph.D. Research for the year 2022-2024, Jul 2024 to Aug 2024
- Department MTech Structure Review Committee, May 2023 to Nov 2023
- Department Space Committee, October 2019 to date
- Member, committee on regrouping of specialization in the Department of Civil Engineering, IIT Bombay, Apr 2015 to Aug 2015
- Convener, committee to Nominate Civil Engineering students for Dr. Shankar Dayal Sharma Award for 2017
- Member, Committee to make recommendation regarding introducing Practical training/Internship for B.Tech. students (2016)

- **Government Committees**

- Committee to recommend Parking guidelines in Navi Mumbai Municipal Corporation as per the direction of Bombay High Court, Apr 2024 to Oct 2024
- Member of committee for identification of policy measures for reduction in road transport emissions within Mumbai Metropolitan Region (MMR), Maharashtra Pollution Control Board (Dec 2020 to June 2021)
- Member of Indian Roads Congress (IRC) Disaster Management Committee (G-5) for 2021-2023

- **Research Grant Project Assessment**

- Indo-U.S. Science & Technology Forum
- GIAN Proposal, Ministry of Human Resources and Development, Govt of India.
- Department of Science and Technology (DST), Government of India
- Qatar National Research Fund
- New Researcher Start-up Program of Fonds de recherche du Quebec - Nature et technologies (FRQNT), Canada, Qatar National Research Fund

- **Faculty Recruitment Committee**

- Subject expert in the faculty selection committee, National Institute of Technology Tiruchirappalli, India
- Expert Committee member for shortlisting proposals received for Grant in Aid scheme of Department of Health Research, Government of India

- **Advisory boards**

- Member, Board of Studies (BOS), MIT Academy of Engineering, Alandi, Maharashtra (Jan 2018 to Feb 2022)

- **National Board of Accreditation (NBA) Academic Audit**

NBA Exper Member to accreditate Master's program in Transportation Engineering and Undergraduate Programs in Civil Engineering. Audited more than 15 programs in Tier I and Tier II institutes since 2016.

- **Competitive Exams Question Papers**

Member of a committee setting question paper setting of Civil Engineering subject to GATE and UPSC Exams.

- **Journals Refereed**

Transport Policy, Transportation Research Part A, Transportation Research Part B, Transportation Research Part F, Transportation Research Part E, Transportation Research Record (TRR), Networks and Spatial Economics (NETS), Transportation, Transport, Transport Reviews, Transportmetrica, Journal of Advanced Transportation, European Journal Operations Research, Journal of Indian Road Congress, Research in Transportation Economics, Transportation Letter, IEEE Access, Journal of Advanced Transportation, Transportation in Developing Economies, Journal of Traffic and Transportation Engineering (English Edition)

- **Conferences Refereed**

- World Conference on Transport Research (2013, 2016, 2019, 2023)
- Transportation Research Board (TRB) Annual Meeting, starting from 2006
- Panamerican Conference on Traffic and Transportation Engineering, 2004
- Conference on Infrastructure, Sustainable Transportation and Urban Planning
- International Conference of Chinese Transportation Professional
- Conference of Transportation Research Group of India (CTRG), 2021, 2019, 2017, 2015, 2013
- Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC), 2010, 2012, 2014, 2016, 2020, 2022

- **Membership**

1. Life member, Indian Road Congress (IRC)
2. Life member, Institute of Urban Transport (IUT) (No. M-1220)
3. World Conference on Transport Research Society (WCTRS)
4. Life member, Operational Research Society of India (ORSI)
5. Life Member, Indian society of probability and statistics
6. Life member, Transportation Research Group of India