

Overview of the Course:

Traditionally, transportation planners insisted more on developing new infrastructure to cater to the increasing travel demand. During the past few decades, however, researchers shifted their focus from development of new infrastructure to make transport system sustainable to meet new demand. This can be achieved by the effective management of travel demand by using efficient travel demand models. The first generation of travel demand models were developed during 1960's and are popularly known as four stage models. Due to their own limitations like aggregate methodology and lack of behavioral aspects, trip based four step travel demand models have become ineffective and leads to the development of Disaggregate travel demand models and Activity based travel demand models. Disaggregate travel demand models have maintained a fundamental error of the four step models of analyzing each trip independently of other trips made by the same individual. This limitation has become significant in the light of the need to assess a set of policy issues, including congestion pricing, teleshopping, etc. Activity based approach provides a more fundamental and comprehensive framework to illustrate the realistic representation of travel behavior. Activity-based approach views travel as derived demand; derived from the need to pursue activities that are distributed in time and space (Jones et al., 1990). Travel demand is attributed by explaining and analyzing individual's and households' activity decisions.

Course Objectives:

The primary objectives of the course are as follows:

- i) Provide participants a thorough knowledge of the principles of activity-based approaches to travel demand forecasting,
- ii) Equip participants with the ability to apply activity-based travel modeling and simulation tools for addressing transportation planning and infrastructure management issues,
- iii) Provide participants an understanding of methodological frameworks and microsimulation paradigms that may be used to estimate choice model components embedded in activity-based travel demand models,

International Faculty:

Prof. Ram M. Pendyala is a Professor of Transportation Systems, Sustainable Engineering and the Built Environment in IRA A Fulton Schools of Engineering at Arizona State University, USA. **Dr. Pendyala** teaches courses and conducts research in multimodal transportation systems planning, activity-based travel behavior modeling, time use and activity pattern analysis, freight and passenger travel demand forecasting, travel survey methods, microsimulation approaches, and the application of advanced econometric and statistical methods for transportation policy analysis. His expertise lies in the study of sustainable mobility management strategies, analysis of public transportation systems including bus and rail technologies, and modeling the land use, transportation, energy, and air quality impacts of a wide range of transportation policies and technology solutions including pricing-based strategies. **Dr. Pendyala** has conducted more than \$6 million in sponsored research for a variety of federal, state, and local government agencies in these and other related topic areas. He has served as an expert advisor and consultant to the World Bank on the evaluation of infrastructure improvements aimed at enhancing bus rapid transit (BRT) patronage. His contributions to the field have been recognized with the 2011 and 2013 Transportation Research Board Pyke Johnson Award for the Best Paper in Planning and Environment. **Dr. Pendyala** has published over 100 articles in international journals. **Dr. Pendyala** served on the editorial board of Transportation for 15 years, and is currently on the editorial boards of Transport Reviews, International Journal of Choice Modeling, IATSS Research, and Transportation Letters.

Dr. Venu M. Garikapati is an Assistant Research Professor at Arizona State University (ASU). Prior to joining ASU in July 2016, he worked for two years as a Post-Doctoral Research Fellow at the Georgia Institute of Technology. **Dr. Garikapati's** research is focused on the development of new analytical and computational model systems for forecasting activity-travel demand under a wide variety of scenarios. He has developed novel operational activity-based travel model systems to simulate tour-making patterns of individuals, analyze vehicle fleet composition, and forecast travel demand of special population groups. He is currently a member of the Transportation Research Board's Special Committee on Travel Forecasting Resources.

Who can participate?

This program is open to the Faculty, M.Tech students and scholars working in the areas of Transportation Planning / travel demand modelling from various institutes. Transportation planners working in industries, consultancy firms, R&D labs can also participate.

How to Register?

Stage-1: Web Portal Registration:

Visit <http://www.gian.iitkgp.ac.in/GREGN/index> and create login User ID and Password. Fillup the blank registration form and do web registration by paying Rs. 500/- online through Net Banking / Debit / Credit card. This provides the user with life time registration to enroll in any number of GIAN courses offered.

Stage-2: Course Registration:

Login to the GIAN portal with the user ID and Password already created in Step 1. Click on Course Registration option at the top of Registration form. Select the Course titled "**Emerging Methods for Activity-Travel Demand Modeling and Simulation**" from the list and click on Save option. Confirm your registration by clicking on Confirm Course.

Registration Fee:

Faculty	Rs. 2,000/-
Participants from Industry /Research Organizations	Rs. 4,000/-
Students & Scholars	
• Without award of Grade	Rs. 500/-
• With award of Grade	Rs. 1,000/-
Participants from abroad	US \$ 250

The Registration fee includes instructional materials, laboratory use and session teas. The out stationed participants will be provided with boarding and lodging on additional payment of Rs. 2,000/- in Student Hostel on sharing basis.

Selection and Mode of Payment:

Selected candidates will be intimated through e-mail. They have to remit the necessary course fee to the Bank as per the details given below.

Outstation participants requiring accommodation and boarding facilities have to pay Rs. 2,000/- in addition to the course fee.

Account Name	GIAN NITW
Account No.	62447453600
Bank	State Bank of Hyderabad
Branch	REC Warangal (NITCampus)
Branch Code	20149
IFSC	SBHY0020149
MICR Code	506004011
SWIFT Code	SBHYINBB018

Candidates registering early will be given preference in short listing process

For any queries regarding registration of the course, please contact the Course Coordinators:

Prof. CSRK Prasad
Head, Transportation Division
Department of Civil Engineering
National Institute of Technology Warangal
506 004, Telangana, India
Mobile: 9440 347 348
Email: csrknitw@nitw.ac.in / csrknitw@yahoo.com

Dr. Arpan Mehar
Transportation Division
Dept. of Civil Engineering, NIT Warangal
Mobile: 8332969421
Email: arpanmehar400@gmail.com

About GIAN Course:

MHRD, Govt. of India has launched an innovative program titled "Global Initiative of Academic Networks (GIAN)" in higher Education, in order to garner the best international experience. As part of this, internationally renowned Academicians and Scientists are invited to augment the Country's academic resources, accelerate the pace of quality reforms and elevate India's scientific and technological capacity to global excellence.

About the Institute and Warangal:

National Institute of Technology, Warangal (NITW) formerly known as RECW is the first among seventeen RECs set up in 1959. Over the years, the Institute has established itself as a premier Institution in imparting technical education of a very high standard, leading to B.Tech, M.Tech and Ph.D. programmes in various specializations of Science and Engineering streams. Warangal is known for its rich historical and cultural heritage. It is situated at a distance of 140 km from Hyderabad. Warangal is well connected by rail and road. National Institute of Technology, Warangal campus is 3 km away from Kazipet railway station and 12 km away from Warangal railway station.

About the Department:

The Department of Civil Engineering offers B.Tech programme in Civil Engineering, 7 M.Tech programmes including Transportation Engineering and PhD programme. The department is a recognized QIP centre since 1978. The department has well established and well equipped laboratories. The Department has experienced faculty engaged in teaching, research, capacity building activities and industry extension services. Faculty members represent several policy making and professional bodies. The Department has liaison with reputed industries and R&D organizations.



**A Five Day GIAN Course on
Emerging Methods for Activity-Travel
Demand Modeling and Simulation**

December 26 - 30, 2016

**Call for Registration and
Participation**

International Faculty
Prof. Ram M. Pendyala
Dr. Venu M. Garikapati

IRA A Fulton Schools of Engineering
Arizona State University, USA.

Course Coordinators
Prof. CSRK Prasad
Dr. Arpan Mehar

Transportation Division
Department of Civil Engineering
National Institute of Technology Warangal
506 004, Telangana, India