

# Nondestructive Testing & Evaluation of Pavements from Cradle to Grave

## Overview

To improve the economic competitiveness and the quality of life of her citizens, India has made significant investment in the construction and expansion of its highway network in the last two decades. This expansion is planned to continue in the future. Pavements account for the single largest share of the overall investment in highway infrastructure. To maintain the quality service, a tremendous amount of money has to be spent each year on the maintenance and rehabilitation of the existing pavements. These costs will accelerate as the pavements age. To maximize the benefits and minimize the overall costs associated with the process, a systematic and scientific approach is needed to manage the pavements from the original construction to final reconstruction. This systematic process consists of planning, designing, constructing, operating, and maintaining pavements using solid engineering principles with sound business practices and economic theory. Nondestructive testing and evaluation (NDT&E) can facilitate an organized and logical approach to decision-making in all aspects of the management process by providing information rapidly and inexpensively throughout the life of the pavement.

This short course will cover the fundamental aspects of a number of NDT&E methods. The practical strengths and limitations of the methods will be thoroughly discussed. Finally, the applicability of different methods to different applications during the life cycle of the pavement from the initiation of construction to reconstruction will be discussed.

<b>Dates for the Course</b>	<b>5<sup>th</sup> to 10<sup>th</sup> December 2016</b>
<b>Host Institute</b>	<b>IIT Madras</b>
<b>No. of Credits</b>	<b>1</b>
<b>Maximum No. of Participants</b>	<b>40</b>
<b>You Should Attend If...</b>	<ul style="list-style-type: none"><li>▪ You are a civil engineer or research scientist interested in pavement management.</li><li>▪ You are geophysicist or nondestructive test engineer interested to learn application of nondestructive testing and evaluation in your profession.</li><li>▪ You are a faculty from an academic institution interested in teaching and conducting research in nondestructive testing and evaluation of highway Infrastructure.</li></ul>
<b>Course Registration Fees</b>	<p>The participation fees for taking the course is as follows:</p> <p><b>Student Participants:</b> Rs.1,000 <b>Faculty Participants:</b> Rs.5,000 <b>Government Research Organization Participants:</b> Rs.10,000 <b>Industry Participants:</b> Rs.10,000</p> <p>The above fee is towards participation in the course, the course material, computer use for tutorials and assignments, and laboratory equipment usage charges.</p> <p><b>Mode of payment: Demand draft in favour of “Registrar, IIT Madras” payable at Chennai</b></p>
<b>Accommodation</b>	<p>The participants may be provided with hostel accommodation, depending on the availability, on payment basis. Request for hostel accommodation may be submitted through the link: <a href="http://hosteldine.iitm.ac.in/iitmhostel">http://hosteldine.iitm.ac.in/iitmhostel</a></p>

## Course Faculty



**Prof. Soheil Nazarian** is the Director of the Center for Transportation Infrastructure Systems at The University of Texas at El Paso (UTEP). He has more than 30 years of experience in the areas of materials and nondestructive testing as related to transportation infrastructure and lifeline. He is one of the pioneers in the development of surface wave method for pavement engineering applications. He has been the PI and Co-PI of more than 100 research projects funded by federal and state agencies. Dr. Nazarian has been the author or co-author several papers in journals and conference proceedings primarily sponsored by the ASCE, ASTM and the Transportation Research Board. Dr. Nazarian is the past Chair of the Geophysical Engineering Committee of ASCE Geo-Institute.



**Prof. A. Veeraragavan** is with the Department of Civil Engineering at the Indian Institute of Technology (IIT) Madras, India. His research interests are in the area of pavement maintenance and management, recycling of bituminous mixes for sustainable highway pavements, forensic investigation of pre-mature failure of pavements and use of modified binders for long lasting pavements, through non-destructive testing methods.

## Course Coordinator

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