

Course Title: Dynamic Material Failure

Overview

During recent years a great deal of effort has been directed at computations for intense impulsive loading due to high velocity impact and explosive detonation. Vehicle collisions can also be considered as a highly dynamic deformation process, where the material deforms under different strain rates. The capabilities of current computer codes have been extended to a point where the limiting factor is the adequate definition of material characteristics for strength and failure. An internationally acclaimed researcher, practitioner and leader with proven knowledge, experience, and demonstrable ability in teaching, research, and training in the field of material response to extreme loading will deliver lectures and discuss cases in the course.

Objectives

The primary objectives of the course are as follows:

- i) Introduce participants to the fundamentals of high strain rate behavior of materials.
- ii) Build confidence and capability in the participants on applications of numerical tools and techniques for implementation of constitutive models
- iii) Provide exposure to practical problems in wave propagation and their solutions, through case studies.
- iv) Enhance capability of the participants to simulate damage in solids under blast and ballistic loading

Modules	Topic- Dynamic Material failure Duration- June 13- June 23, 2016 (Two Week Course) Number of participants for the course will be limited to Fifty.													
You should attend if.....	<ul style="list-style-type: none"> • You are an Executive, Engineer or Researcher from Manufacturing Industry, Service and Government organization including R&D Laboratories. • You are a Student or Faculty from an Academic/Technical Institution. 													
Fees	Course Fee (Excluding Lodging & Boarding) For Students: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type of registration</th> <th></th> </tr> </thead> <tbody> <tr> <td>Participation without grading</td> <td style="text-align: right;">Rs. 1000/-</td> </tr> <tr> <td>Participation with grading</td> <td style="text-align: right;">Rs. 2000/-</td> </tr> </tbody> </table> For others (Minimum Charges) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type of Participants</th> <th></th> </tr> </thead> <tbody> <tr> <td>Faculty (Internal & External) & Scientists</td> <td style="text-align: right;">Rs. 4000/-</td> </tr> <tr> <td>Persons working in Industry / Consultancy firms</td> <td style="text-align: right;">Rs. 8000/-</td> </tr> </tbody> </table> <p>The above fee includes all Instructional Materials, Computer use for Tutorials, Free Internet Facility, Working Lunch, Tea & Snacks. The participants from Industry/Research Organisations will be provided with Twin sharing accommodation on Payment Basis (subject to the availability). Participants from the Academic Institutions will be provided with Twin sharing accommodation either in Visitors Block or in Student Hostels.</p>		Type of registration		Participation without grading	Rs. 1000/-	Participation with grading	Rs. 2000/-	Type of Participants		Faculty (Internal & External) & Scientists	Rs. 4000/-	Persons working in Industry / Consultancy firms	Rs. 8000/-
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The Faculty



Prof. A.M. Rajendran is the Chair and Professor of Mechanical Engineering at the University of Mississippi -performing research in the areas of blast, shock and impact resistant composite structures with over 5 million dollars research funding from the Office of Naval Research and Department of Homeland Security. The focus of his current research is to develop stronger, safer and more cost effective structures for the new generation naval ships, and protecting the national infrastructure from terrorist threats. He retired as the former Chief Scientist of the US Army Research Office, Durham, NC.,USA. He has organized many (over 150) of technical

and scientific workshops during his entire career. He has brought together a wide range of internationally known researchers around the world to discuss fundamental research on a variety of topics. He has served on several high-level selection and review panels. He was elected Fellow of Society of Engineering Sciences, 2012. He received a Life Time Achievement Award - ICCES11 - Nanjing, China, April 20, 2011. He received the Best Paper Award in 26th US Army Science Conference, Orlando, FL, Dec 2008. He is a recipient of the "Prof. Eric Reissner Medal" for the original contributions to the "Impact and Penetration Mechanics" research area. He received the Department of Army's - Research and Development Achievement Award for 1998. He was elected Fellow of the American Society of Mechanical Engineers (ASME) in 1994. He serves on the editorial boards of ASME – Journal of Engineering Materials and Technology, Computer Modeling in Engineering and Sciences (CMES), International Journal of Plasticity and Composites Part B: Engineering.



Dr. Rathish Kumar P. is an Associate Professor in the Department of Civil Engineering at NITW. His areas of interest are High Performance Mortars/Concrete, Low Cost/Alternate building Materials, Self Curing Concrete, Self Compacting Concrete, Ferrocement, Fibrous Concretes, Recycled Aggregate Concrete, Earthquake Engineering, Cement Composites, Health Monitoring of Structures, Repair and Rehabilitation of buildings and bridges. He has over 100 journal and conference publications. He was nominated by the Government of India as a member of Indian Delegation to attend a bilateral workshop on Resilient Structures at New Zealand supported by New Zealand (MBIE) and (DST). He

received the Best Engineering Researcher Award for the year 2014, presented jointly by NIT Warangal and NITW Alumni Association in recognition of the outstanding research contribution in the field of Civil Engineering; Best Paper Award-Aftab Mufti Medal(December 2013. He is a recipient of the Heritage Scholarship under Erasmus Mundus Faculty Mobility Scheme at Instituto Superior Technico, Portugal. Monbukagakusho-Mext Japanese Government, Danish Government Scholarship-PhD course on Fiber Reinforced Cement Based composites, Technical University of Denmark (DTU),. He is a recipient of the Distinguished Alumnus award-Kakatiya Institute of Technology, Kakatiya University, Warangal. He serves on the Editorial Board of Journal of Facta Universtatis and Journal of Cement Wapno Beton, Open Journal of Civil Engineering, Journal of Industrial Engineering Research, INSInet, Journal of Civil Engineering and Construction Technology and Scientific Research and Essays, International Journal of Renewable and Sustainable Energy.



Dr. Tezeswi P. Tadepalli is an Assistant Professor at NIT Warangal. He works in the area of experimental characterization and analytical modeling of material and structure response to shock and high strain rate loading. Dr. Tadepalli is also working on the development of novel computational modeling methodologies to predict multi-scale behavior of cementitious materials and functionally graded composites under thermo-mechanical shock loading conditions. He has also worked in the area of multi-hazard (blast, seismic and

wind) vulnerability assessment of reinforced concrete frame building structures. Dr. Tadepalli worked as a Senior Engineer at Hinman Consulting Engineers, San Francisco, CA conducting blast vulnerability assessments, hazard mitigation, and retrofit design for various facilities and infrastructure. Dr. Tadepalli has also worked as the Project Engineer for NEES which is a national network and involved working with a variety of researchers from various universities across the US, for managing earthquake engineering and structural response data from laboratory experiments as well as hybrid simulations. Dr. Tadepalli holds a US Patent, has several publications in various journals and is a reviewer for Journal of Composites-B, Journal of Composites, Journal of Intelligent Material Systems and Structures, Journal of Vibration and Control and Journal of Sandwich Composites and Materials. He is a member of ASME, ASC, ASCE and Chi Epsilon Honor Society.

Course Co-ordinators

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