

February 1-2, 2021



## International Webinar

# Advances in Materials Processing and Mechanical Testing



Department of Mechanical Engineering  
IIT Tirupati



## **ABOUT INSTITUTE**

Indian Institute of Technology Tirupati is the first among the 3rd phase of IITs, announced in 2014, to have its foundation stone laid in March 2015. IIT Tirupati started functioning with the support of its mentoring institute, IIT Madras, from the academic year of 2015-16. The academic programs consist of B.Tech, M.Tech, M.S. and Phd in the fields of Civil Engineering, Computer Science & Engineering, Electrical Engineering, Mechanical Engineering and Chemical Engineering. The curriculum for various programs have an emphasis on theoretical knowledge and practice-oriented laboratories. Courses are well planned to nurture innovation, creativity, quality, teamwork, communication skills, ethics, and societal interaction.

## **ABOUT MECHANICAL ENGINEERING DEPARTMENT**

The Department of Mechanical Engineering at IIT Tirupati started functioning from the inception of the institute. Department comprises thirteen full-time faculty members, twelve staff members and is home to about two-hundred undergraduate students, and more than sixty graduate students. Faculty members are actively engaged in teaching, research, and consultancy projects. Our areas of research cover both traditional and emerging fields, and include combinations of theoretical modeling, experiments, and computational analyses. Our faculty also collaborate extensively with colleagues and peers in other national, international institutions, research organizations and industries.

Our major thrust areas in research include Advanced Manufacturing, Advanced Materials. Renewable Energy, Theoretical and applied mechanics, and Precision Agriculture and Food Processing.

## **ABOUT WEBINAR**

Webinar on Advances in Materials Processing and Mechanical Testing aims to bring together international leading academicians to share their experiences and research findings in all aspects of Advances in Materials Processing and Mechanical Testing. It also provides a premier interdisciplinary platform for researchers, academicians and industry colleagues to discuss the most recent innovations, trends, and challenges encountered and the solutions adopted in the field of Materials Processing and Mechanical Testing.

## **WEBINAR AREAS**

- **Advanced Materials and Processing**
- **Artificial Intelligence and Big Data in Manufacturing**
- **Microstructure Informatics, Data Analytics, Materials Knowledge Systems, Cyberinfrastructure for Materials Innovation and Micro Mechanics of Materials**
- **Additive Manufacturing**
- **Advanced Machining and Joining Technologies**
- **Ultra Precision Manufacturing**
- **Sustainable Manufacturing**
- **Micro and Nano scale Mechanical Testing**

## KEY NOTE SPEAKERS

### Prof. TW (Bill) Clyne Cambridge University, UK



He is the Emeritus Professor at Department of Materials Science and Engineering, Cambridge University UK. His research interests centre on the thermo-mechanics of composites and coatings, particularly processing, numerical modeling and fine scale mechanical interrogation. He has authored over 300 papers, two textbooks (on composites) and 10 educational software

packages. He has been sole supervisor for over 80 PhD students in Cambridge and has given about 50 Invited Keynote Talks and Colloquia over the past 10 years. He was President of the Federation of European Materials Societies (2008-2009) and is now an Honorary Member. He is the Director of DoITPoMS, which maintains a globally-accessed Educational Materials Science website. In 2004, he was awarded the Griffith Medal, a premier prize of the Institute of Materials. He was elected Fellow of the Royal Academy of Engineering in 2008 and Helmholtz International Fellow in 2014.

### Prof. Pedro Vilaca Aalto University, Finland



He is the Associate Professor at Department of Mechanical Engineering at Aalto University Finland. He is the Head of the Advanced Manufacturing and Materials (AM2) research group. His main research focuses on Non-Destructive Testing (NDT) and Welding Technologies, including solid and fusion state processing of engineering

materials with conventional and advanced techniques. Other research interests include coating and surface processing, adhesive technology, materials science, mechanical design, computational mechanics and product development. He has been the supervisor of 9 Phd and over 50 master students. His areas of expertise are Non-Destructive Testing, Friction Stir Welding, Solid-State Processing, Engineering Materials, Product Development, Mechanical Design.



## **Prof. Gaurav Mohanty**

### **Tampere University, Finland**



He is the Assistant Professor at Tampere University in Finland. His current research focuses on studying the deformation behavior of materials at micro/nanometer length scales using in-situ micromechanical testing inside a scanning electron microscope (SEM). He uses a focused ion beam (FIB) to mill micro-specimens, like micropillars for compression and micro-cantilevers for fracture tests,

and study their mechanical properties over wide range of test conditions - cryogenic to ultra-high temperatures (-150 to 1000°C), strain rates (0.0001 to 10,000 /s), impact, fracture and fatigue to understand the fundamental operative deformation mechanisms and to predict mechanical performance. Concurrently, He is also developing novel experimental techniques that enable performing time-dependent transient and high cycle fatigue tests at small length scales. His research group explores temperature and strain rate effects in materials ranging from metals, alloys, semiconductors and ceramics to thin films and coatings.

## **Dr. Mike Coto**

### **Plastometrex Cambridge, UK**



He is the Non Executive Director at Plastometrex, Cambridge UK. Alongside academic work, he is also co-founding partner of Primera Impact, an early stage technology impact investment company that operates alongside Primera Capital, A \$150m San Francisco based venture fund. He also has experience in creating and developing social impact ventures in East Africa, startup

support programmes geared specifically to early-stage university spin-out companies and product development of materials science based innovations.

## **Prof. Pradeep Menezes**

### **University of Nevada Reno, USA**



He is the assistant professor in the Mechanical Engineering Department at the University of Nevada, Reno, USA. Before joining the University, he worked as an adjunct assistant professor at the University of Wisconsin-Milwaukee (UWM) and research assistant professor at University of Pittsburgh. His research areas are tribology and surface engineering, additive

manufacturing, metal forming, metal cutting, materials testing and characterisation. His productive research career has produced over 85 peer reviewed journal publications (citations over 3000, h-index - 28), 27 book chapters, and three books. He currently serves as a reviewer on over 50 prestigious journals and as an editorial board member of five journals. He has also prepared technical newsletters and tribology web notes for the American Society of Mechanical Engineer's (ASME) tribology

## **Prof. Surya Kalidindi**

### **Georgia Institute of Technology, USA**



He is a Regents Professor, and Rae S. and Frank H. Neely Chair Professor in the Woodruff School of Mechanical Engineering at Georgia Institute of Technology, Georgia, USA with joint appointments in the School of Materials Science and Engineering as well as the School of Computational Science and Engineering.

His research efforts have made seminal contributions to the fields of crystal plasticity, microstructure design, and materials informatics. He has been elected a Fellow of ASM International, TMS, and ASME. He has also been awarded the Alexander von Humboldt Research Award, the Vannevar Bush Faculty Fellow, the Government of India's Vajra Faculty Award, and the Khan International Award.

## **Prof. David P. Field**

### **Washington State University, USA**



He is the professor at School of Materials and Mechanical Engineering, Washington State University USA. His research interests are Metal deformation and recrystallization, physical metallurgy (ferrous and non-ferrous), materials characterization (microscopy and electron microscopy), material anisotropy, texture, grain boundary structure, thin film and IC interconnect

structure/properties relationships, and advanced experimental techniques. He has several Recognition and Honors such as Brahm Prakash Visiting Chair, IISc Bangalore, India, 2016-17; Honorary Member, Golden Key International, 2014; Fellow, American Society for Materials International (2013); Best Paper in Physical Sciences, Microscopy and Microanalysis Vol. 17, 2011; Visiting Professor, Laboratoire d'etudes de microstructures et de mechaniques des materiaux (LEM3), Universite de Lorraine, Metz, France, 2010-2014; TMS EMPMD service award – 2004; ASM International Committee Chair – 2000-2002.

## **Prof. Satish T. S. Bukkapatnam**

### **Texas A&M University, USA**



He is the Rockwell International Professor with the Department of Industrial and Systems Engineering department at Texas A&M University, College Station, TX, USA. He is also the Director of Texas A&M Engineering Experimentation Station (TEES) Institute for Manufacturing Systems. His research in smart manufacturing addresses the harnessing of high -

resolution nonlinear dynamic information, especially from wireless MEMS sensors, to improve the monitoring and prognostics, mainly of ultra precision and nanomanufacturing processes and machines, and wearable sensors for cardio respiratory process prognostics. He is a fellow of the Institute for Industrial and Systems Engineers (IISE), and the Society of Manufacturing Engineers (SME), and his work has been recognized with Oklahoma State University regents distinguished research, Halliburton outstanding college of engineering faculty, and Fulbright-Tocqueville distinguished chair awards.



## Prof. Nikhil Gupta

### New York University, USA



He is the professor at Department of Mechanical and Aerospace Engineering, New York University Tandon School of Engineering, New York. He is one of the leading researchers on lightweight foams and has extensively worked on hollow particle filled composite materials called syntactic foams. He developed a new functionally graded syntactic foam material and a method to create multifunctional syntactic foams. His team has also created ultralight magnesium alloy syntactic foam that is able to float on water. He has appeared on Discovery Channel and in National Geographic as a materials science expert, particularly for lightweight materials. In 2012, he explained the science behind athletic helmet construction as part of a National Science Foundation-sponsored video featured on NBC Learn during the 2012 Summer Olympics, which was a series of 10 videos that had more than 125 million views and won a Telly Award.

**Registration**  
AMPMT 2021





## IMPORTANT DATES

Registration Deadline

30<sup>th</sup> January 2021

Webinar Dates

1<sup>st</sup> - 2<sup>nd</sup> February 2021

## COMMITTEES

### Patron

- Prof. K.N Satyanarayana, Director IIT Tirupati

### Chairman

- Dr. Madan Mohan A, HOD Mechanical Engg

### Advisory Committee

- Dr. N.N.Kishore, IIT Tirupati
- Dr. Anil Kumar Emadabathuni, IIT Tirupati
- Dr. Anup Basak, IIT Tirupati
- Dr. Balaji Subramanian, IIT Tirupati
- Dr. Girish Kumar Rajan, IIT Tirupati
- Dr. Sriram Sundar, IIT Tirupati
- Dr. Subbareddy Daggumati, IIT Tirupati
- Dr. P. Venkataraman, IIT Tirupati
- Dr. Sasidhar Gumma, IIT Tirupati
- Krithika Srinivasan, Specialist - International Relations, Aalto University, Finland

### Organizing Committee

- Dr. N. Venkaiah, IIT Tirupati
- Dr. M. Ravi Sankar, IIT Tirupati
- Dr. D.V. Kiran, IIT Tirupati
- Dr. Ajay Kumar, IIT Tirupati
- Mr. Rishabh Gupta, BTech Student IIT Tirupati

## Registration Fees

₹500/-

### ACCOUNT DETAILS

Account No. - 918020103314659  
IFSC Code - UTIB0001018  
Bank Name - Axis Bank Ltd.  
MICR No. - 517211002



### CONTACT DETAILS

Dr. Ajay Kumar, Coordinator  
Assistant Professor  
Email: [drajaykumarp@iittp.ac.in](mailto:drajaykumarp@iittp.ac.in)  
Contact Number: +916360201557





भारतीय प्रौद्योगिकी संस्थान तिरुपति

