



16th INTERNATIONAL CONFERENCE ON

Materials Processing and Characterization

@ Nirma University

27th - 29th June 2024



.....towards Sustainability in Materials characterization

Program Schedule

27th June 2024

Program's	Time
Inaugural Function	08.30 AM - 09.45 AM
Tea Break	09.45 Am -10.00 Am
Keynote Address Speaker: Prof. U Ramamurty NTU Singapore Topic: Additive manufacturing of metals: tailoring microstructures for high mechanical performance and reliability	10.00 AM - 11.00 AM
Keynote Address Speaker: Prof. Ester Akinlabi Faculty of Engineering and Environment, Northumbria University UK Topic: Multifunctional metamaterials: Trends, Applications and Sustainability.	11.00 AM – 12:00 PM
Lunch Break	12.30 PM - 01.30 PM
Keynote Address Speaker: Prof. Akhilendra Singh IIT Patna Topic: Fracture Degradation of Adhesively Bonded Joint	1:30 PM – 2:30 PM
Keynote Address Speaker: Prof. R Jayaganthan IIT Madras Topic: Development of Additively Manufactured Al2024 alloy for Aerospace Applications	2:30 PM – 3:30 PM
Keynote Address Speaker: Prof. Indra Vir Singh IIT Roorkee Topic: Advanced Numerical Methods for Crack Growth Modelling	3:30 PM – 4:30 PM
SESSIONS	4:30 PM - 6:30 PM
Conference Dinner	6:30 PM Onwards

28th June 2024

Program's	Time
SESSIONS	8.00 AM - 10.00 AM
Keynote Address Speaker: Prof. Anand Pare IIT Indore Topic: Condition monitoring of polymer gears: Towards sustainable manufacturing	10.00 AM - 10:45 AM
Keynote Address Speaker: Prof. Navin Kumar IIT Ropar Topic: Biomechanical Aspect of Nature: Towards a sustainable future	10:45 AM -11:30 AM
Keynote Address Speaker: Prof. Kaushik Kumar BIT Ranchi Topic: Virtual Manufacturing and Digital Twins: A sustainable approach.	11:30 AM - 12.15 PM
Lunch Break	12:30 PM to 1:30 PM
SESSIONS	02.00 PM - 04.30 PM
Valedictory Function	04.30 PM - 05.00 PM

16th International Conference on Materials Processing and Characterization

Speakers

Prof. Upadrasta Ramamurty. School of Mechanical & Aerospace Engineering President's Chair in Mechanical and Aerospace Engineering and Materials Science and at NTU Singapore. Ramamurty's research is focused on solving the fundamental scientific and technological challenges that fall within the materials/mechanics domains and have direct consequences on advanced manufacturing as well as structural integrity and reliability of components. Over a scientific career spanning nearly-three decades, he made major contributions to enhance the understanding of the mechanical behavior of advanced metallic alloys, composites, and molecular crystals. Ramamurty made seminal contributions to the understanding of the plastic deformation and fracture behaviour of BMGs, a new class of structural materials that required completely new thinking as dislocations, whose motion constitutes the unit flow process in crystalline metals, are absent in amorphous alloys. His work in this area is widely cited and he is regularly featured as a plenary or invited speaker in several of the international conferences held on this theme.



Prof. Upadrasta Ramamurty

Professor Esther. Akinlabi is a Professor of Mechanical Engineering, she is currently serving as the Deputy Faculty Pro Vice Chancellor for Research and Knowledge Exchange, Northumbria University, Newcastle, United Kingdom. In her most recent role, she served as the Director of the Pan African University for Life and Earth Sciences Institute (PAULESI), Ibadan, Nigeria. Prior to joining PAULESI, she had a decade of meritorious service at the Department of Mechanical Engineering Science, University of Johannesburg (UJ), South Africa. At UJ, she served as the head of department of the Department of Mechanical Engineering Science and as the Vice Dean for Teaching and Learning of the Faculty of Engineering and the Built Environment. Her research interest is in the field of material development, modern and advanced manufacturing processes. Prof Akinlabi is an alumnus of the prestigious South African Young Academy of Science (SAYAS).



Prof. Esther Akinlabi

Prof. Akhilendra Singh. is currently serving as an Associate Professor in the Department of Mechanical Engineering at IIT Patna. Before joining IIT Patna, he completed his PhD in the field of computational mechanics at BITS Pilani. He also held a faculty position at BITS Pilani. His research interests encompass Fatigue and Fracture Mechanics of materials and Computational Mechanics. Dr. Singh has supervised 7 PhD students and authored a book on Meshfree methods, published by Lambert Academic Publishing in Germany. He has published over 50 peer-reviewed journal articles and numerous conference papers. Dr. Singh has established a comprehensive laboratory dedicated to fatigue and fracture mechanics. His research has been recognized through research funding from various sources, including DST, MHRD, SERB, ARDB, General Electric, and Tata Steel.



Prof. Akhilendra Singh

Prof. R. Jayaganthan. is currently working as Professor at IIT Madras Chennai. He was an Alexander Von Humboldt Fellow & Visiting Scientist at the Max Planck Institute for Metallurgy, Stuttgart, Germany, during 1998-2000, and subsequently served as a Research Fellow at the National University of Singapore, during 2001-2004, before joining IIT Roorkee in 2005. He obtained his Ph.D Degree in Materials Engineering from IISC, Bangalore. His areas of research interest include Structure-Property Correlation in Ultrafine grained and Bulk nanostructured Materials, SPD processing of Materials, High Temperature Corrosion, and Microstructural Modeling & Simulation.



Prof. R. Jayaganthan



Prof. Indra Vir Singh

Prof. Indra Vir Singh. is currently working as Professor at the Department of Mechanical and Industrial Engineering, Indian Institute of Technology Roorkee, India. Before joining IIT Roorkee, he completed his postdoctoral research work on nanocomposite modeling and simulation from Shinshu University, Japan. He did his Bachelor Degree in Mechanical Engineering from AMU, Aligarh, Master Degree in Applied Mechanics from IIT Delhi, and PhD from BITS, Pilani. He has guided 20 PhDs and supervising 10 PhD candidates. He has published 270 publications in Journals and Conferences. He has more than 25 years of Research and Teaching Experience. He has been cited in top 2% of the world researchers by Standard University in 2020, 2021, 2022, 2023. His areas of interest include FEM, XFEM, IGA, Phase Field Models, Fracture Mechanics, Damage Mechanics, Fatigue Behavior of Materials, Composites, Experimental and Numerical Characterization of Materials, Machine Learning, Nonlinear and Multi-scale Modeling.

Prof. Anand Parey. received his B. E. degree in Mechanical Engineering from MITS Gwalior in 1998, M. Tech. in Maintenance Engineering from MANIT Bhopal in 2001 and Ph. D. degree on “Gear Fault Diagnosis using Vibration Analysis” from Indian Institute of Technology Delhi, New Delhi, India in 2005. He served as a Lecturer at BITS Pilani, Goa Campus during 2005-2006; Postdoctoral Fellow at University of Alberta, Edmonton, Canada during 2006-2007; Manager in Crompton Greaves Mumbai and Larsen and Toubro Mumbai during 2007-2009. He joined IIT Indore in Aug 2009 as Assistant Professor in Discipline of Mechanical Engineering. Currently he is working as Professor in IIT Indore. His research interests are in the areas of mechanical systems signal processing, gear fault diagnosis, noise and vibration isolation, and condition monitoring. He has published more than 50 research articles in reputed international journals. He has produced 6 PhD students and currently guiding 5 research scholars.



Prof. Anand Parey



Prof. Navin Kumar

Prof. Navin Kumar is a Professor in the Department of Mechanical Engineering at IIT Ropar. Prior to joining IIT Ropar, he was working as a Research Scientist at Stevens Institute of Technology, New Jersey, USA. He has completed masters in Mechanical Engineering from IIT Kharagpur and Ph.D. in Mechanical Engineering from IIT Delhi. Dr. Navin Kumar's research interests are related to vibration and noise, fault diagnosis and condition monitoring, Biomechanics of hard and soft tissue, biomedical instrumentation, smart structures and materials. Research Areas: Hard (Bone) and Soft Tissue Mechanics, Biomechanics, Biomedical Devices, Finite Element based Modelling, Smart Structures and Materials, Fault Diagnosis and Condition Monitoring, Active Vibration Control.

Prof. Kaushik Kumar. holds a Ph.D. in Engineering from Jadavpur University, India, an MBA in Marketing Management from Indira Gandhi National Open University, India and a Bachelor of Technology from Regional Engineering College (Now National Institute of Technology), Warangal, India. For 11 years, he worked in a manufacturing unit of Global repute. He is currently working as an Associate Professor in the Department of Mechanical Engineering, Birla Institute of Technology, Mesra, Ranchi, India. He has 22 Years of Teaching and Research Experience. His research interests include Composites, Optimization, Non-Conventional Machining, CAD / CAM, Rapid Prototyping and Quality Management Systems towards product development for societal and industrial usage and has received 27 patents for them. He has published 55+ Books (including 31 Edited Book Volume) (They are referred as Text Books and Reference Books by 40+ Universities / Institutes in their academic curriculum), 80 Book Chapters and 200+ Research Papers in peer- reviewed reputed national and international journals.



Prof. Kaushik Kumar