ICMSE

第十三届
机械科学与工程国际会议

The 13th International Conference on Mechanical Science and Engineering

会议手册

Conference Program

December 11, 2025

Online Conference

目录
CONTENTS

I. 会议介绍

Conference Introduction

会议背景

Conference Background

在全球制造业向智能化、绿色化深度转型的浪潮下，各国对高端装备制造、智能制造的政策支持持续加码，推动机械行业朝着高科技、节能环保方向迈进。同时，物联网、人工智能、大数据等技术与机械工程深度融合，智能制造、增材制造、先进材料应用等成为产业升级的核心方向。而不同国家在技术研发、产业实践等方面的差异，使得跨地域、跨领域的经验共享与技术协作愈发迫切。此外，绿色制造与可持续发展成为全球共识，节能减排、资源循环利用等需求，也对机械科学与工程提出了更高的创新要求。在此背景下，第 13 届机械科学与工程国际会议旨在为全球机械领域的专家、学者和科研人员搭建一个平台，通过分享人工智能赋能制造、新型材料应用、绿色生产技术等前沿成果，加速科研成果向产业应用转化，推动行业向高效、低碳、智能转型。

Under the wave of the global manufacturing industry's deep transformation towards intelligence and greenness, policy support for high-end equipment manufacturing and intelligent manufacturing in various countries has been continuously strengthened, to promote the machinery industry to move towards high technology and energy conservation and environmental protection. Meanwhile, technologies such as the IoT, artificial intelligence, and big data are deeply integrated with mechanical engineering. Intelligent manufacturing, additive manufacturing, and the application of advanced materials have become the core directions for industrial upgrading. The differences among countries in technological research and development, industrial practice and other aspects have made cross-regional and cross-field experience sharing and technological collaboration increasingly urgent. In addition, green manufacturing and sustainable development have become a global consensus. The demands for energy conservation, emission reduction, and resource recycling have also put forward higher innovation requirements for mechanical science and engineering.

Against this backdrop, the 13th International Conference on Mechanical Science and Engineering aims to build a platform for experts, scholars and researchers in the global mechanical field, to share cutting-edge achievements such as artificial intelligence empowering manufacturing, new material applications and green production technologies, so as to accelerate the transformation of scientific research results into industrial applications and promote the industry's transformation towards high efficiency, low carbon and intelligence.

会议主题

Conference Topics

会议主题 Conference Topics	
主题一/Topic 1：	Dynamics and Control System
主题二/Topic 2：	Acoustics, Vibration and Noise
主题三/Topic 3：	Mechanical Design and Optimization
主题四/Topic 4：	Smart Material and Intelligent Manufacturing
主题五/Topic 5：	Transportation, Ocean and Aerospace System
主题六/Topic 6：	Robotics and Intelligent Automation

II. 参会信息

How to Attend

会议时间和方式

Time and Way

- 北京时间 2025 年 12 月 10 日 9:30-17:30 会议测试

December 10, 2025 9:30-17:30 (Beijing Time) Conference Rehearsal

- 北京时间 2025 年 12 月 11 日 9:30-18:20 线上会议

December 11, 2025 9:30-18:20 (Beijing Time) Online Conference

会议入口

Conference Entrance

Way 1: VOOV Meeting

- **会议测试入口 Conference Rehearsal Entrance (December 10, 2025, GMT+8:00)**

链接：https://meeting.tencent.com/dm/5Hb9IXIOxRs5
腾讯会议：938-146-954
密码：2025

Rehearsal Link: https://meeting.tencent.com/dm/5Hb9IXIOxRs5
Rehearsal ID: 938-146-954
Password: 2025

- **正式会议入口 Online Conference Entrance (December 11, 2025, GMT+8:00)**

链接：https://meeting.tencent.com/dm/dPTeszuWmnFU
腾讯会议：891-141-638
密码：2025

Conference Link: https://meeting.tencent.com/dm/dPTeszuWmnFU
Conference ID: 891-141-638
Password: 2025

Way 2: ZOOM

- **会议测试入口/Conference Rehearsal Entrance (December 10, 2025, GMT+8:00)**

链接：https://us06web.zoom.us/j/85315200110?pwd=6VLGaWgZdMpAobgacGEKldbBlhc6yk.1
ZOOM 测试 ID：853 1520 0110
密码：2025

Link: https://us06web.zoom.us/j/85315200110?pwd=6VLGaWgZdMpAobgacGEKldbBlhc6yk.1
ZOOM Rehearsal ID: 853 1520 0110
Password: 2025

- **正式会议入口/Online Conference Entrance (December 11, 2025, GMT+8:00)**

链接：https://us06web.zoom.us/j/85223468817?pwd=1FllHxKXlSo5me7PLaQFgwN4bexAid.1
ZOOM 会议 ID：852 2346 8817
密码：2025

Link: https://us06web.zoom.us/j/85223468817?pwd=1FllHxKXlSo5me7PLaQFgwN4bexAid.1
Conference ID: 852 2346 8817
Password: 2025

Way 3: Other Participation Entrance

- 微信视频号直播—WeChat Channels Live

请关注视频号“IAMSET 学术服务”观看直播！
Please follow the WeChat Channel “IAMSET 学术服务” to participate this conference!

Notes

请提前下载腾讯会议或 ZOOM 并注册账号
Please install VooV Meeting or ZOOM on your PC and create an account in advance.

请各位嘉宾于会议当天提前进入会议室，谢谢！
Please speakers join the VooV Meeting or ZOOM 10 minutes before the scheduled time on the conference day. Thanks.

会议精彩视频将于会后上传至 TikTok，视频号，Twitter，YouTube 进行推广宣传！
We will upload the conference record to TikTok, WeChat Channel, Twitter, YouTube to promote the conference and your article after the conference.

III. 会议议程

Conference Schedule

December 10 9:30-17:30	会议测试 Conference Rehearsal（9:30-17:30）		
December 11 9:30-18:20	开幕式 Opening Ceremony（9:30-9:35）		
	嘉宾演讲 Keynote Speech（9:35-12:00）		
	时间 Time	报告题目 Title	报告人 Speaker
	9:35-9:55		Prof. Muhammad Aamir
	9:55-10:15	Instability dynamics and control in two-phase flow systems	Dr. Mukesh Kumar Awasthi
	10:15-10:40		Dr. Hemalata Jena
	10:40-11:05		Prof. T. Muthuramalingam
	11:05-11:35	Predicting Ti-6Al-4V Fatigue Crack Paths via Numerical Simulation	Prof. Sandeep Soni
	11:35-12:00		Prof. Murgayya S Basavankattimath
	午餐时间 Lunch Break（12:00-13:50）		
	嘉宾演讲 Keynote Speech（13:50-18:10）		
	时间 Time	报告题目 Title	报告人 Speaker
	13:50-14:20	The Printed Revolution: How 3D Printing is Reshaping the Foundations of Infrastructure	Dr. Mayuri Baruah
	14:20-14:45	Real-Time Optimization Without a Model: The Science Behind Extremum Seeking Control	Dr. Farzaneh Karimi
	14:45-15:05	The Role of Sustainable Manufacturing in dual carbon goals of China	Prof. Aqib Mashood Khan
	15:05-15:25	Recycling Textile Fabric Solid Waste into Usable Products to Prevent Environmental Pollution and Promote a Circular Economy	Dr. Melese Shiferaw
	15:25-15:50		Dr. Hassan Raza
	15:50-16:10	Integrated Decision-Making and Path Planning–Control Strategy for Autonomous Vehicles at High Speeds Based on Skilled Driver Modeling in Emergencies	Dr. Samir Neisy Minaei
	16:10-16:35		Dr. Nomica Choudhry
	16:35-17:05	Pathway to Automotive Emission Control Technologies	Prof. G. Balaji

	17:05-17:30	Surrogate Modeling and Metaheuristic Optimization for Next-Generation Mechanical Systems	Dr. Kanak Kalita
	17:30-17:55	MEMS & Micro Systems	Prof. Chandrasekhar C
	17:55-18:10		Dr. Ravinder Kumar
	论文推荐 Recommended Papers（18:10-18:15）		
	闭幕式 Closing Ceremony（18:15-18:20）		

Note: All time above is for GMT+8:00 (Beijing Time)

IV. 嘉宾介绍

Presenter Introduction

主讲嘉宾

Keynote Speaker

T. Muthuramalingam, Professor & Head

SRM Institute of Science and Technology, India

Dr. T. Muthuramalingam is a Professor and Head of the Department of Mechatronics Engineering at SRM Institute of Science and Technology, India, and also serves as the Coordinator for International Relations. With extensive expertise in mechanical engineering and mechatronics, he completed postdoctoral research at AGH University of Science and Technology in Poland. His research focuses on advanced machining processes, mechatronics, manufacturing automation, optimization, and flexible printed sensors. Recognized as a Top 2% Scientist worldwide by Stanford University, he has held visiting professor positions in multiple countries. He has published numerous high-impact papers, secured several patents, and actively promotes international academic and industrial collaborations.

Murgayya S Basavankattimath, Associate Professor

Department of Mechanical Engineering, Alliance University, Bengaluru, India

Dr. Murgayya S Basavankattimath, PhD in Mechanical Engineering, currently is working as the Associate Professor of Mechanical Engineering in Department of Mechanical Engineering and Associate Director - Industry Solution and Out reach at Alliance University, Bengaluru, India. Here he is charge of Classes for UG and research work and leading strategic collaborations between academia and industry to drive innovation, research, and outreach initiatives. His research interests include Vibration Signature Analysis, Rotor dynamics & Reliability Engineering Analysis, Vibration Data collection, Diagnosis and Trending of Rotating Machines, Sound Spectrum Analysis, etc. He has dedicated his career to advancing research, teaching, and consultancy in these specialized fields over the past decade, and has published 9 journal articles, 2 book chapters, 2

granted patents and some conference papers. He also serves as the Reviewer for several journals and Guest Editor of Journal of Low Frequency Noise, Vibration and Active Control.

Sandeep Soni, Associate Professor

Sardar Vallabhbhai National Institute of Technology, India

Dr. Sandeep Soni is an Associate Professor in the Department of Mechanical Engineering at Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, India. With over 24 years of experience in teaching and research, he earned his Ph.D. from SVNIT in 2017, focusing on the steady-state and dynamic properties of non-circular cylindrical floating ring bearings. He has supervised numerous Ph.D. and M.Tech. students, published 40 international journal papers, and contributed to several book chapters. His research interests span machine design, tribology, and performance improvement of industrial systems.

Aqib Mashood Khan, Associate Professor

Nanjing University of Aeronautics and Astronautics, China

Dr. Aqib Mashood Khan is currently an Associate Professor at Nanjing University of Aeronautics and Astronautics, China, and continues to make valuable contributions to both academia and industry. He actively participates in domestic and international projects cooperation. His doctoral research aims to address the key issues in advancing manufacturing processes to achieve sustainability. He used to be an associate professor at Shandong University, with a research focus on sustainable green manufacturing. Recently, he was awarded a project by the National Natural Science Foundation of China, with a funding amount of approximately 1 million yuan. He is currently dedicated to additive and subtractive manufacturing of aviation alloys. His dedication is reflected in his numerous achievements, including the publication of over 50 scientific papers and editing an important book. Dr. Khan's academic influence goes far beyond his research achievements. His H-index is as high as 42 and his i-10 index is as high as 88. Dr. Khan was listed among the top 2% of global scientists (2022-2025). As an assistant researcher at The Hong Kong Polytechnic University (PolyU), Dr. Khan is dedicated to cutting-edge research that breaks through the boundaries of precision manufacturing. He currently serves as an advisor to the Royal Universe Precision Technology Group, dedicated to applying his extensive knowledge to address real-world industry challenges. As the technical editor of the journal "Machining Science & Technology"

(SCI), Dr. Khan plays a key role in shaping the academic discourse landscape of this field.

C. Chandrasekhar, Professor

Sree Vidyanikethan Engineering College (SVEC), India

Dr. C. Chandrasekhar, Ph.D in Electronics and Communication Engineering, currently works as the Head of R&D and the professor in Electronics and Communication Engineering (ECE) at Sree Vidyanikethan Engineering College (SVEC), India. His research interests include 2D/3D DWT-IDWT Architecture Implementation using VLSI Low power techniques, Design and Fabrication MEMS Technology. He has participated and presided several granted research projects, and has published over 40 journal papers, 17 conference papers, and 4 patents. He is the life member of ISTE (LM 57061).

G. Balaji, Associate Professor

Department of Mechanical Engineering, SRM Institute of Science and Technology, India

Dr. G. Balaji is an Associate Professor in the Department of Mechanical Engineering at SRM Institute of Science and Technology. His research focuses on alternative fuels, emission control, hydrogen, pyrolysis, and carbon capture, with significant contributions to biodiesel modification, catalytic converters, and exhaust treatment technologies. He has published over 70 papers, holds multiple granted patents, and serves as Editor-in-Chief and editorial board member for several international journals. Dr. Balaji is actively engaged in advancing sustainable energy technologies with applied impact on emission reduction and energy efficiency.

Ravinder Kumar, Assistant Professor

Department of Mechanical Engineering, Guru Nanak Dev University, India

Dr. Ravinder Kumar is currently an Assistant Professor in the Department of Mechanical Engineering at Guru Nanak Dev University, India. He earned his Ph.D. in Mechanical Engineering

from Dr. B.R. Ambedkar National Institute of Technology in 2024. His research focuses on heat transfer, nanoscale heat transfer, flow condensation and boiling, refrigeration, and air conditioning systems. Dr. Kumar has conducted extensive experimental studies on the effects of nanorefrigerants and nanolubricants on thermal cycle performance, with multiple publications in renowned SCI-indexed journals such as International Journal of Thermal Sciences and International Journal of Refrigeration. He also serves as a Topic Coordinator for Special Issues in Frontiers in Thermal Engineering and as an editor and reviewer for several international journals.

Farzaneh Karimi, Research Collaborator

University of Southern Denmark

Dr. Farzaneh Karimi is a Research Collaborator at the University of Southern Denmark, holding a PhD in Control Engineering with a focus on non-model-based control systems and automation solutions. As a visiting PhD student at the University of Southern Denmark and a researcher at Danfoss, she developed data-driven controllers and optimized refrigeration systems. With industrial experience in automation maintenance at SABA Steel, she bridges theoretical control design and practical applications. She has published in journals such as the International Journal of Systems Science and holds an Iranian patent. She currently supervises master's students and contributes to cutting-edge control system research.

Muhammad Aamir, Associate Professor

Huanggang Normal College, China

Muhammad Aamir received his Bachelor of Engineering degree in Computer Systems Engineering from Mehran University of Engineering & Technology, Jamshoro, Sindh, Pakistan, in 2008. He went on to earn a Master of Engineering degree in Software Engineering from Chongqing University, China, in 2014, and later completed his PhD in Computer Science and Technology from Sichuan University, Chengdu, China, in 2019. Currently, he is an Associate Professor in the College of Computer Science and Artificial Intelligence at Huanggang Normal University, China.

With extensive research experience and a prolific publication record, Dr. Aamir has made significant contributions to various fields including computer vision, medical image processing, AI in Healthcare, deep & machine learning, and machine vision. His expertise and dedication to

advancing these areas have earned him recognition as a peer reviewer for numerous prestigious journals and as an organizing committee member for several international conferences.

Samir Neisy Minaei, Visiting Lecturer

K.N.Toosi University of Technology (KNTU), Tehran, Iran

Samir Neisy Minaei holds PhD of Mechanical Engineering from K.N.Toosi University of Technology (KNTU), Tehran, Iran. His research interests cover Mechatronics and Robotics, Dynamics and Control, Deep Learning, Unmanned Aerial Vehicles, Autonomos Vehicles/Self Driving Car and Hybrid Vehicles System. He has published 5 journals papers and 8 conference papers. He is currently the visiting lecturer at Department of Mechanical Engineering, KNTU, Tehran Iran and is in charge of teaching Mechatronics courses for Master Students. He also won the First Place in the 3rd of the National airplane Design Competition "Design and Construction of Surveillance and Detection Unmanned Aerial Vehicle" organized by Shahid Rezaei Research Institute of Sharif University of Technology, and is selected as an "Elected (Best) Active Member" of the SCU Scientific-Student Association, 3rd SCU Movement Festival.

Hassan Raza, Postdoctoral Fellow (RTH-ITF)

Hong Kong Polytechnic University, Hong Kong

Hassan Raza holds Ph.D in Mechanical Engineering from the Hong Kong Polytechnic University, Hong Kong and is Postdoctoral Fellow (RTH-ITF) at PolyU HK. He possesses extensive experience across industry and academia, and worked as Lecturer at COMSATS University Islamabad Pakistan. His researches cover High Entropy Nanomaterials, Electrocatalysts, Energy Conversion & Storage, FBG Sensing. He has published 37 journal articles, 3 conference papers, one book chapter and one patent. For his great contributions, he is awarded the Top Cited Paper Award by EcoMat-WILEY (2025), and Excellent Paper Award by Electrochemical Energy Reviews journal (2024), etc. He serves as the peer reviewer for some journals and reviewed over 40 articles, and also is the professional membership at institutes, including International Association of Engineers, Hong Kong (Membership# 148361), Pakistan Engineering Congress (Membership# 5330), and is Lifetime membership of FHKPUAA (# 479385).

Mukesh Kumar Awasthi, Assistant Professor

Babasaheb Bhimrao Ambedkar University, India

Dr. Mukesh Kumar Awasthi is currently an Assistant Professor in the Department of Mathematics at Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow. He earned his Ph.D. in Applied Mathematics from IIT Roorkee, specializing in hydrodynamic stability, heat and mass transfer, magnetohydrodynamics, and related areas. Recognized as one of the world's top 2% researchers in 2023, 2024, and 2025, Dr. Awasthi has authored numerous high-impact publications, edited several scholarly books, and holds multiple Indian and international patents. He serves on the editorial boards of international journals, supervises Ph.D. students, and has been an invited speaker at various international conferences.

Melese Shiferaw Kebede, Researcher & Lecturer

University of Gondar, Ethiopia

Melese Shiferaw Kebede holds PhD in Mechanical Engineering from Bahir Dar University, Ethiopia, and currently works as Researcher and Lecturer at Department of Mechanical Engineering, Institute of Technology, University of Gondar. His researches span smart materials, additive manufacturing and processing, materials characterization, 3D printing, materials selection, metallurgy, and biomaterials. He has published 9 journal articles. He also participated in some International and National conferences and gave his oral presentations. For contributions and honorable achievements in innovative research, He is recognized as an Editorial Board Member and is awarded the Editorial Board Member Award of the 6th Edition of International Analytical Chemistry Awards March 13, 2025 (Certificate No.: 1810, Reg. No. 15952).

Mayuri Baruah, Assistant Professor (Grade I)

Department of Production and Industrial Engineering, National Institute of Technology Jamshedpur, India

Dr. Mayuri Baruah, PhD in Mechanical Engineering (Design and Manufacturing Science), is

serving as the Assistant Professor (Grade I) at Department of Production and Industrial Engineering, National Institute of Technology Jamshedpur, India. Her research interests cover Welding, Additive Manufacturing, Numerical Modelling, Fracture Mechanics, Advance Machining, Optimization, and Machine Learning. She participated in some research projects and has published over 20 papers in journals, some conference papers, and 5 book chapters, and edited two books. She also attended some academic conferences and delivered her presentations.

Kanak Kalita, Associate Dean

Rajalakshmi Institute of Technology, Chennai, India

Dr. Kanak Kalita is a dynamic scholar and researcher with over 12 years of extensive experience in machine learning, metaheuristic algorithms, and engineering optimization. He earned his Ph.D. in Soft Computing from the Indian Institute of Engineering Science and Technology, Shibpur, an Institute of National Importance. Recognized consistently as one of the world's top 2% scientists by Elsevier-Scopus and Stanford University since 2023 to 2025, Dr. Kalita has a prolific publication record in high-impact SCI journals, has edited numerous scholarly books, and serves as an Editor for prestigious journals like Scientific Reports. Currently serving as an Associate Dean (R&D) and as a Visiting Researcher at European institutions, he is a significant contributor to academic innovation and international collaboration.

Hemalata Jena, Assistant Professor

School of Mechanical Engineering, KIIT University, India

Dr. Hemalata Jena is an Assistant Professor in the School of Mechanical Engineering at KIIT University, holding a Ph.D. from the Indian Institute of Technology. Her research specializes in polymer composites, green hydrogen, industrial waste utilization, and tribology, with notable contributions in bamboo/glass fiber composites and marine waste-based fillers. She has published extensively in reputed SCI journals, authored multiple books with Springer and Elsevier, and serves on editorial boards of international journals. Recognized with several academic awards, she is actively engaged in advancing sustainable materials and energy technologies.

V. 组织信息

Organization

会议主席

Conference Chairman

Zhenling Liu, Associate Professor

Henan University of Technology, China

Prof. Zhenling Liu is the associate professor at the School of Management, Henan University of Technology and is charge of teaching the courses, including “Quantitative Analysis”, “Comprehensive Experiment on Application of Statistical Analysis Software”, “Econometrics”, “Marketing Research and Decision Making”, and “Frontier of Management”, etc. His research interests focus on energy-economy-environment system and sustainable development. Prof. Liu presided or participated in several projects and has published more than 90 papers in national and international journals and 13 books. He also severs as the associate editor of Journal of Sustainable Science and Management, and the editor of Advances in Industrial Engineering and Management. Prof. Liu has won several awards, including 3 provincial and ministerial science and technology progress awards.

主办方

Sponsor

ICMSE-2025 国际会议主办单位国际管理科学与工程技术协会（IAMSET）于 2010 年在香港注册成立，为合法运营的专业机构，在郑州设立有办事处。业务范畴包括理学、自然科学、社会科学、工程科学、信息学、医学等，涵盖了国际 STEM 的全部学科：科学（Science），技术（Technology），工程（Engineering），数学（Mathematics）等，并通过组织国际学术会议、论坛、研讨会等多种学术交流活动，为来自世界各地的专家学者建立了学术交流的优质平台。

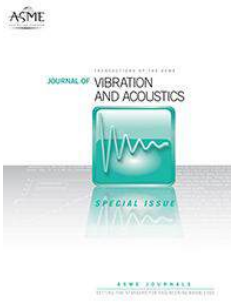
协会通过组织并承办技术研讨会与来自全球的学术机构或个人建立良好的合作关系，为各国学者提供互相学习、自由交流的平台，为年轻学者提供机会，使其能够在实践中撰写优秀学术成果、了解学术成果出版的操作流程，从而提升自身以及团队的学术水平。同时为推进和传播管理科学、工程技术等前沿研究提供强有力的支持。

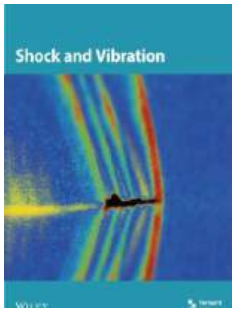
国际管理科学与工程技术协会与多家世界知名出版集团和多位期刊主编建立了良好的合作关系，如学术出版社（Academic Press），施普林格出版社（Springer），美国机械工程师协会（ASME），美国科学出版社（American Scientific Publishing）等出版社。

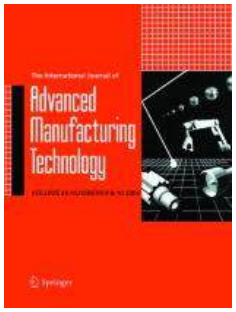
协会承接国际学术会议举办，国际人才引进，高分学术论文指导，优秀论文推荐发表，论文推广等学术活动。国际管理科学与工程技术协会努力践行以上使命，以加强与各国学术机构之间的合作，促进国际学术交流。

VI. 期刊支持

Related Journals







VII. 联系我们

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主办方

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国际管理科学与工程技术协会 (IAMSET)