

# 第十二届机械科学与工程国际会议

## The 12<sup>th</sup> International Conference on Mechanical Science and Engineering (ICMSE 2024)

# 会议手册 Conference Program

主办单位

Organizer

---

国际管理科学与工程协会 (IAMSET)

International Association of Management Science

and Engineering Technology



**IAMSET**<sup>®</sup>  
艾 慕 赛 特

# CONTENTS 目录





大会内容 CONTENTS OF CONFERENCE	1
日程安排 OVERALL SCHEDULE	4
嘉宾介绍 SPEAKERS INTRODUCTION	7
组织机构 ORGANIZATION	18
会议主席 CONFERENCE CHAIRMAN	20
期刊支持 RELATED RENOWNED JOURNALS	21
会议信息 CONFERENCE INFORMATION	22
会议时间和方式 Conference Time and Way	
会议入口 Conference Entrance	
联系方式 Contact Us	



## 大会内容

### CONTENTS OF CONFERENCE

## 会议背景

### BACKGROUND

机械科学与工程是现代科学技术的重要组成部分，其发展水平是一个国家工业化程度的主要标志之一。随着制造业的快速发展和更多信息技术的引入，机械制造技术得到了很大的发展和优化，可以大大缩短产品的生产周期，提高生产安全和产品质量，给企业带来巨大的经济效益，满足现代工业制造的需要。

在这样的背景下，第十二届机械科学与工程国际会议(ICMSE2024)以机械科学与工程为主题，旨在为相关领域的专家、研究人员和学者提供一个跨行业的平台，交流和分享他们在相关领域的最新研究成果和趋势，以期提出相应的建设性意见，促进机械科学与工程学科的快速发展和应用。

Mechanical science and engineering is an important part of modern science and technology, and its development level is one of the main symbols of national industrialization. With the rapid development of the manufacturing industry and the introduction of more information technology, mechanical manufacturing technology has been greatly developed and optimized, which can greatly shorten the production cycle of products, improve production safety and product quality, bring great economic benefits to enterprises, and meet the needs of modern industrial manufacturing.

Based on this background, the 12th International Conference on Mechanical Science and Engineering(ICMSE2024), focusing on the topics of mechanical science and engineering, aims to provide a cross-industry platform for experts, researchers and scholars in related fields to exchange and share their latest research results and trends in the related fields, and the integration of the two, so as to put forward corresponding constructive suggestions to promote the rapid development and application of Mechanical Science and Engineering.

## 会议目的

### OBJECTIVES

ICMSE2024 旨在汇集领先的学术科学家，研究人员和研究学者，交流和分享他们在机械科学与工程各个方面的经验和研究成果。它还研究人员，从业者和教育工作者提供了一个重要的跨学科平台，以展示和讨论机械科学与工程领域最新的创新，趋势和关注点，以及遇到的实际挑战和采用的解决方案。凭借其高质量，它为学生、学者和研究人员提供了非凡的价值。

ICMSE2024 aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of Mechanical Science and Engineering. It also provides a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of Mechanical Science and Engineering. With its high quality, it provides an exceptional value for students, academics and researchers.



## 会议主题

### TOPICS

#### 会议主题 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:	Transporation, Ocan and Aerospace System
主题六/Topic 6:	Robotics and Intelligence Automation

## 日程安排

### OVERALL SCHEDULE

June 26 14:30-18:00	会议测试 Conference Rehearsal		
June 27 9:00-18:00	开幕式 Opening Ceremony (9:00-9:10)		
	嘉宾演讲 Keynote Speech (9:10-11:50)		
	时间 Time	报告题目 Title	报告人 Speaker
	9:10-9:35	Research on the replacement technology of drill rods for coal mine drilling robots	Dr. Jiangnan Luo (罗江南)
	9:35-10:00	Study on Key Technology of Pneumatic Conveying for Large Coal Particles	Dr. Yuze Li (李雨泽)
	10:00-10:10	Vibration and Artificial Intelligence: The Future of the Real-Time Fault Detection System	Dr. Mohamad Hazwan Mohd Ghazali
	10:10-10:20	Effect of LDPE percentage on tensile strength of PBT/PA6/LDPE blend	Prof. Pham Thi Hong Nga
	10:20-10:45	Effect of Failures on Rotating Machine due to unforeseen Modifications of Coupling in a Complex Structure	Prof. Murgayya S Basavankattimath
	10:45-11:10	Resilient Control Design for a Cyber-physical Microgrid	Prof. Mahendra Kumar
11:10-11:25	Wave reflection characteristics in a micro-mechanically modeled piezoelectric fiber-reinforced composite half-space	Prof. Sayantan Guha	



11:25-11:50		Prof. Samad Noeiaghdam
午餐时间 Lunch Break (11:50-14:30)		
嘉宾演讲 Keynote Speech (14:30-16:00)		
时间 Time	报告题目 Title	报告人 Speaker
14:30-14:40	Experimental Study of TiO <sub>2</sub> /Graphene Hybrid Nano-lubricants in R-134a Vapor Compression Refrigeration (VCR) Systems for Performance Enhancement	Mr. Tesfaye Barza Zema
14:40-15:05	New methods in condition monitoring and dynamics control of heavy industrial machines	Prof. Pavlo Krot
15:05-15:30	Water nanofilm boiling on a copper surface in the presence of dissolved air	Dr. Wenfu Situ (司徒文甫)
15:30-16:00	Optimizing Stability and Reliability in Hybrid Power Grids	Prof. Noor Izzri Bin Abdul Wahab
论文推荐 Citation Paper Recommended (16:00-16:05)		
闭幕式 Closing Ceremony (16:05-16:10)		

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



## 大会报告安排

### SPEECHES ARRANGEMENT

**时间:** 2024年6月27日 9:00-18:00

**Time:** June 27, 2024 9:00-18:00 (Beijing Time)

**地点:** 线上会议

**Location:** Online Conference

**大会主席:** 刘振灵教授

**Chairman:** Prof. Zhenling Liu

**线上参会链接:**

<https://meeting.tencent.com/dm/hjs8BSd0Hj58>

**#腾讯会议:** 317-320-183

**会议密码:** 2024

**Online Attendance Link:**

<https://meeting.tencent.com/dm/hjs8BSd0Hj58>

**Conference ID:** 317-320-183

**Password:** 2024



## 嘉宾介绍

### SPEAKERS INTRODUCTION



**Jiangnan Luo(罗江南), Scholar**

**China University of Mining and Technology**

Jiangnan Luo is pursuing his doctoral degree at China University of Mining and Technology, China. His research interests focus on point cloud processing, ROS robot system, robot obstacle avoidance and path planning, and automatic drilling change with mechanical arm. He participates in 2 research projects and has published 2 articles in the international and national journals, and 8 authorized patents.



**Pham Thi Hong Nga, Associate Professor**

**Ho Chi Minh City University of Technology and Education, Vietnam**

Pham Thi Hong Nga obtained her PhD from Kunming University of Science and Technology, China in 2013, and currently works as an

associate professor and Head at Welding and Metal Technology Department, Mechanical Engineering Faculty, Ho Chi Minh City University of Technology and Education, Vietnam. She is charge of teaching courses, including Material Science, Material Testing, Metal Technology, and Manufacturing Technology. In addition, she has occupied several academic posts, such as department chair and Associate Dean. Her research interests including blend and composite of Polymers, Laser cladding, 3D printing, Welding, etc. Prof. Pham Thi Hong Nga 17 articles in journals.



**Mr. Tesfaye Barza, Lecturer**

**Wolaita Sodo University, Ethiopia**

Mr. Tesfaye Barza Zema obtained his MSc. degree from Wolaita Sodo University, Ethiopia in 2023, and currently works as the lecturer at Department of Mechanical Engineering, Wolaita Sodo University, Ethiopia. He is charge of teaching Engineering Dynamis, Fluid Mechanics, Engineering Thermodynamics Heat courses.

His research interests focus on Thermal Plume Analysis, Numerical Simulation, Heat Transfer Modeling Thermodynamics, (HVAC/R)



systems, nanotechnology, Computational Fluid Dynamics (CFD), simulation and modeling, Finite Element Methods, Numerical Analysis. He has published 7 peer-reviewed articles in journals and has two ongoing publications. He is also the winner of scholarship award.



## **Sayantan Guha, Assistant Professor**

**Siksha ‘O’ Anusandhan University, India**

Dr. Sayantan Guha obtained his Ph.D. degree from the Department of Mathematics and Computing at Indian Institute of Technology (Indian School of Mines), Dhanbad, India, and currently works as an Assistant Professor at the Centre for Data Science, Institute of Technical Education & Research (ITER), Siksha ‘O’ Anusandhan University, Odisha, India. His research mainly focuses on wave propagation aspects in smart composite materials and thermoelastic damping & frequency of different types of beams with complexities. He has published 21 journal articles and 3 book chapters to date. Dr. Sayantan Guha also participated in several academic conferences and gave speeches and invited talks. He also received prestigious scholarships, awards, and honors, such as the “Young Scientist Award” at 65th ISTAM (2020), and so on.



**Murgayya S Basavankattimath,  
Associate Professor**

**KLS Vishwanathrao Deshpande Institute of  
Technology, Haliyal**

Dr. Murgayya S Basavankattimath currently works as the Head and Associate Professor at Department of Mechanical Engineering, KLS Vishwanathrao Deshpande Institute of Technology, Haliyal. He is certified Vibration Analyst from Council of Vibration Specialist, Mumbai and worked as Consultant (Vibration Analyst) for many reputed companies to name a few Triveni Turbines, Siemens Turbines, KMF, NIDEC Corporation, Indian Oil Corporation and many more. His research interests include Vibration Monitoring, Rotordynamics and Reliability Engineering. He has published 7 journal articles, 2 book chapters and 2 patents. Dr. Murgayya S Basavankattimath also participated in international and national conferences, and gave his speeches. He serves as the guest editor for Journal of Low Frequency Noise, Vibration and Active Control. He is the official partner of some journals, such as Journal of Quality in Maintenance Engineering, Journal of Vibration & Control, Journal of Vibration Engineering & Technologies, etc.

**Wenfu Situ (司徒文甫), Scholar****Technical University of Denmark, Denmark**

Wenfu Situ is a PhD candidate at the Technical University of Denmark. He specializes in Mechanical Engineering. His research mainly focuses on mainly molecular dynamics and nanoscale heat transfer mechanisms in the thermal management systems for nano/micro-chips. He has participated in two University Projects, Development of High Safety Power Battery System and Development of Phase-Change Heat Dissipation Technology for Lithium Battery Modules. In terms of publication, he has published 4 articles in the international and national journals and has obtained 6 national invention patents (authorized) and 10 national utility model patents (authorized).



**Yuze Li (李雨泽), Scholar**

**China University of Mining and Technology**

Yuze Li is pursuing doctoral degree at China University Mining and Technology. His research interests lie in large coal particles, pneumatic conveying system, coal mining system and filling technology. He mainly studies the motion characteristics and dynamic behavior of large coal particles in the flow field, based on the theory of gas - solid two-phase flow, the coupled computational fluid dynamics and discrete element method (CFD - DEM), combined with the coal pneumatic conveying experiments. He has published 3 articles in international journal, and 7 patents to date.



**Mohamad Hazwan Mohd Ghazali,  
Postdoctoral Researcher**

**University of Science Malaysia (USM)**

Mohamad Hazwan Mohd Ghazali graduated with Master' s and doctoral degree from University of Science Malaysia (USM), and works as a



postdoctoral researcher at School of Electrical and Electronic Engineering, University of Science Malaysia (USM). His research study heavily involves vibration analysis, artificial intelligence, sensor and instrumentation, fault detection/diagnosis, and drone technology. He has published 10 journal articles, 6 conference papers and 5 book chapters. He also holds a patent in the field of fault detection in drones. Dr. Mohamad Hazwan Mohd Ghazali also attended some academic conferences and delivered his presentations.



---

**Samad Noeiaghdam, Associate Professor**  
**South Ural State University, Russia**

---

Samad Noeiaghdam has a Ph.D. of Applied Mathematics. Now, he is an associate professor at Baikal School of BRICS, Irkutsk National Research Technical University and a Senior Researcher of Department of Applied Mathematics and Programming, South Ural State University. As an academic, his research interests are mainly in Numerical Analysis, Solving Integral Equations, Solving ODEs and PDEs, Solving Ill-posed Problems and so on. He has published more than 100 papers, 4 books, and his h-index of was is 19. Besides, he is also involved in several research projects. He won the Winner of Outstanding Reviewer Awards



2020 by MDPI-Mathematics award in 2020 and the World's top 2% scientists by Stanford University award in 2022.



### **Pavlo Krot, Assistant Professor**

**Wroclaw University of Science and Technology,  
Poland**

Dr. Pavlo Krot currently works as an Assistant Professor and Leader of Mechatronics/Reliability Group of Digital Mining Center ([dmc.pwr.edu.pl](http://dmc.pwr.edu.pl)) at the Faculty of Geoen지니어ing, Mining and Geology, Wroclaw University of Science and Technology, Poland. His research areas lie in dynamics control and diagnostics of metallurgical and mining machines (rolling mills, vibrating screens, tumbling mills, rock hammers, roof supports) and underground vehicles (load-haul-dump machines, heavy trucks). He has more than 130 publications and 9 patents. More than 30 scientific projects leading and several systems implementing in the industrial plants. Dr. Pavlo Krot holds some academic positions. He is the guest editor of several journals: Machines (MDPI), Vibration (MDPI) and Frontiers in Mechanical Engineering, the editorial board member of Current Engineering Letters, Journal of Modern Industry and Manufacturing and so on. He also serves as the reviewer for many journals, including the International Journal of Advanced Manufacturing



Technology (Springer), Control Systems Magazine (IEEE), Transactions on Instrumentation & Measurement (IEEE), Shock and Vibration (Hindawi), Mechanical Systems and Signal Processing (Elsevier), Journal of Vibration and Control (SAGE).

**Mahendra Kumar, Assistant Professor****Dr. B.R. Ambedkar National Institute of  
Technology Jalandhar, India**

At present, Mahendra Kumar is working as an Assistant Professor, Instrumentation and Control Engineering Department, Dr. B.R. Ambedkar National Institute of Technology Jalandhar, India. Mahendra Kumar has done PhD from the Department of Electrical Engineering, Indian Institute of Technology Roorkee, INDIA. He has obtained MTech (Control and Instrumentation Engg.) and BTech (Electronics & Communication Engg.) from State Government Rajasthan Technical University, Kota, in 2012 and 2010, respectively. Mahendra Kumar has around five years of teaching and research experience. Besides, he has awarded by Gold Medal for excellence in MTech by Rajasthan Technical University, Kota. From research point of view, he has published research work in IEEE Transactions, IET, Taylor and Francis, and Springer Journals. His research area is to design PID and PIDA controllers for

time-delayed and uncertain systems, polynomial control design, robust and non-fragile control design, and their applications in aerodynamical systems, power system operation and control, dc-dc converters.



**Noor Izzri Bin Abdul Wahab,**  
**Associate Professor**  
**Universiti Putra Malaysia, Selangor, Malaysia**

Dr. Noor Izzri Abdul Wahab is a distinguished researcher in electrical and electronic engineering, with a comprehensive academic background and notable professional achievements. He began his academic journey with a bachelor's degree from the University Of Manchester Institute Of Science and Technology (UMIST), UK, in 1998, followed by an MSc in Electrical Power Engineering from Universiti Putra Malaysia (UPM) in 2002, and a PhD from Universiti Kebangsaan Malaysia (UKM) in 2010. Currently, Dr. Noor Izzri is an Associate Professor in the Department of Electrical and Electronic Engineering at UPM and a key member of the Advanced Lightning, Power, and Energy Research (ALPER) group. He holds the titles of Chartered Engineer from the Engineering Council UK and the Institution of Engineering and Technology (IET) UK, as well as Professional Engineer (Ir.) from the Board of Engineers Malaysia (BEM).



He is also a member of The Institution of Engineers Malaysia (IEM), a senior member of IEEE, and actively involved in IEEE Power and Energy Society (IEEE-PES) and IEEE Computational Intelligence Society (IEEE-CIS). His research interests include power system stability, dynamics, control, and the application of artificial intelligence in power systems. He is dedicated to improving power quality and the reliability of electrical systems. Dr. Noor Izzri has authored over 150 high-impact publications, with an H-index of 30 on Google Scholar (3,166 citations) and 29 on Scopus (2,630 citations). His significant contributions to academia underscore his influence and commitment to advancing electrical and electronic engineering..

## 组织机构

### ORGANIZATION



ICMSE 2024 论坛承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。

## 会议主席

Conference Chairman



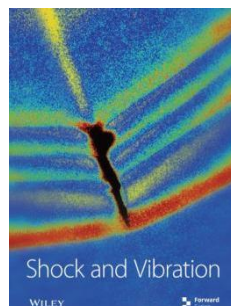
**Dr. Zhenling Liu**

**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.

## 期刊支持

### RELATED RENOWNED JOURNALS





## 会议信息

### CONFERENCE INFORMATION

## 会议时间和方式

### Conference Time and Way

- 北京时间 2024 年 6 月 26 日, 14:30-18:00 会议测试  
June 26, 2024, 14:30-18:00 (Beijing Time): Conference Rehearsal
- 北京时间 2024 年 6 月 27 日, 9:00-18:00 线上会议  
June 27, 2024, 9:00-18:00 (Beijing Time): Online Conference

- 请下载腾讯会议并提前注册账号  
Please install VooV Meeting Software on your PC (The official website of VooV Meeting Software: <https://voovmeeting.com/>) 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 participants join the VooV Meeting in advance on June 27, 2024.  
Thanks.

## 会议入口

### Conference Entrance

- **会议测试入口/Conference Rehearsal Entrance**

链接: <https://meeting.tencent.com/dm/4BlBektuPp8>

#腾讯会议: 472-856-433

会议密码: 2024

Link: <https://meeting.tencent.com/dm/4BlBektuPp8>

Conference ID: 472-856-433

Password: 2024

- **正式会议入口/Online Conference Entrance**

链接: <https://meeting.tencent.com/dm/hjs8BSd0Hj58>

#腾讯会议: 317-320-183

会议密码: 2024

Link: <https://meeting.tencent.com/dm/hjs8BSd0Hj58>

Conference ID: 317-320-183

Password: 2024

- **其他参会入口**

微信视频号直播—WeChat Channels Live

抖音直播—Tiktok (Chinese version) Live

**Note: We will upload the Conference Video to Twitter, YouTube after the conference.**

## 联系方式

Contact Us

## 会务组

CONFERENCE AFFAIRS GROUP

### 联系电话 (Contact):

王老师 (Miss Wang): +86 19137184507

### 会务邮箱 (Email):

[icmseinfo@163.com](mailto:icmseinfo@163.com)