# The 11<sup>th</sup> International Conference on Mechanical Science and Engineering & The 1<sup>st</sup> International Conference on Civil Engineering and Intelligent Construction (ICMSE & ICCEIC 2023)

第十一届机械科学与工程国际会议

暨第一届土木工程与智能建筑国际会议

# 会议手册

# **Conference Program**





线上会议 Online Conference 2023 年 9 月 20 日 September 20, 2023

http://icmse.iamset.org/ http://ce.iamset.org/

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### 大会简介/Introduction

旨在汇集领先的学术科学家、研究人员和学者,交流和分享他们在机械科学与工程、土木工程与 智能建筑等各个方面的经验和研究成果。它还为研究人员、从业人员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、土木工程与智能建筑领域中的最新创新、趋势和关注点 以及遇到的实际挑战和采用的解决方案。"第十一届机械科学与工程国际会议暨第一届土木工程与智 能建筑国际会议"(The 11th International Conference on Mechanical Science and Engineering & The 1st International Conference on Civil Engineering and Intelligent Construction,简称 ICMSE & ICCEIC 2023) 由 International Association of Management Science & Engineering Technology (IAMSET 艾慕赛特)主办, 拟定于 2023 年 9 月 20 日线上召开。

本次大会的议题为(包括但不限于): 议题1:动力学与控制系统 议题2:声学、振动与噪音 议题3:机械设计与优化 议题4:智能材料与制造 议题5:交通、海洋和航空系统 议题6:机器人与智能自动化 议题7:结构与土木工程 议题8:建筑与桥梁工程 议题9:土木工程与环境可持续 议题10:交通运输工程 议题11:市政工程 议题12:岩土工程

本次会议广泛诚邀国内外高校、科研机构的知名专家、企业界人士及其他相关领域人员参会交流, 提供一个扩大业内影响、提高学术认同、促进学术成果转化及科研交流的合作平台。

In order to bring together leading academic scientists, researchers and scholars all around the world to exchange and share their experience and research findings in all aspects of Mechanical Science and Engineering, Civil Engineering and Intelligent Construction. 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, Civil Engineering and Intelligent Construction. The 11th International Conference on Mechanical Science and Engineering & The 1st International Conference on Civil Engineering Technology (IAMSET), will be held online on September 20, 2023.

The topics are shown as follows (including but not limited to):

Topic 1: Dynamics and Control System

# 大会简介 Introduction

Topic 2: Acoustics, Vibration and Noise Topic 3: Mechanical Design and Optimization Topic 4: Smart Material and Intelligent Manufacturing Topic 5: Transportation, Ocean and Aerospace System Topic 6: Robotics and Intelligent Automation Topic 7: Structural and Civil Engineering Topic 8: Construction and Bridge Engineering Topic 9: Civil Engineering and Environmental Sustainability Topic 10: Traffic Engineering Topic 11: Municipal Engineering Topic 12: Geotechnical Engineering

...

**ICMSE & ICCEIC 2023** cordially invites renowned experts from universities and research institutions at home and abroad to participate in this conference, as well as people from the business community and other related fields, and provides a cooperation platform to expand the influence of the industry, improve academic recognition, promote the transformation of academic achievements and scientific research exchange.

### 组织机构/Organization

#### ● 主办单位 Host Organizer

国际管理科学与工程技术协会

International Association of Management Science & Engineering Technology (IAMSET 艾慕赛特)

● 会议主席 Conference Chairman



Prof. Zhenling Liu Henan University of Technology

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.

#### 国际期刊/International Journals

ICMSE & ICCEIC 组委会鼓励作者通过提交摘要或全文参加会议。会议接收机械科学与工程,土 木工程及智能建筑等领域相关的各个方面的高质量研究论文。

会议与知名出版商的国际认证期刊合作,会议参与者有机会在这些期刊上提交他们的完整论文进 行在线发表。所有投稿都要进行双盲同行评议,投稿结果将取决于同行评审意见。

建议与会者在决定合适的期刊之前,先阅读期刊的范围和目的。会议遵循普遍接受的出版道德规范。

您所选择的期刊的投稿指南和作者说明将在会后通过电子邮件单独提供。

包含但不限于以下期刊:

ICMSE & ICCEIC organizing committee encourages authors to participate in the conference by submitting abstracts or full papers. The conference accepts high quality research papers in all fields related to Mechanical Science and Engineering, Civil Engineering and Intelligent Construction.

We are working with internationally accredited journals from renowned publishers and conference participants are provided with the opportunity to submit their full papers for online (closed access) publication in these journals. All supporting journals are subjecting submissions to the double-blind peer-review process. The decision on publication will depend on the peer-review process.

Participants are advised to read the journal's scope and aim before deciding the suitable journal. We follow universally accepted ethics on publication.

Guides on submission and author instructions of your preferred journal will be provided separately via an email after the conference.

Journals include but are not limited to:

# 国际期刊 International Journals



#### Journal of Low Frequency Noise, Vibration and Active Control



**Mechanical Systems and Signal Processing** 

Elsevier IF: 8.4



Journal of Construction Engineering and Management

**ASCE IF: 5.1** 



Engineering, Construction and Architectural Management

> Emerald IF: 4



Journal of Sound and Vibration

Elsevier IF: 4.7



Architectural Engineering and Design Management

> Taylor & Francis IF: 2.9



### 主讲嘉宾/Keynote Speakers



#### Jie Deng, Associate Professor

Northwestern Polytechnical University, China

Jie Deng, born in 1992, is currently working as Associate Professor at the School of Marine Science and Technology, Northwestern Polytechnical University, where he heads the research on vibroacoustics of Acoustic Black Holes (ABHs), wave manipulation, energy harvesting, acoustic metamaterials, and underwater noise control. He is a member of the Chinese Society of Acoustics, a member of the Chinese Society of Automotive Engineering, and a fellow of the Vibration Utilization Engineering Committee of the Chinese Society of Vibration Engineering. He holds dual Ph.D. degrees in mechanical engineering, at Universitat Ramon Llull (Spain) in 2020 (Excellent Cum Laude) and at Chongqing University (China) in 2021 (Excellent thesis), respectively. He also joined the Institut National des Sciences Appliquées (INSA-Lyon) as visiting scholar in 2020. To date, Dr. Deng has authored or co-authored over 30 peer-reviewed international journal articles (Google Scholar citation: 1120), and 12 international conference ones, and owns 2 patents. He currently serves as Guest Editor for Materials, and referee for the Journal of Sound and Vibration, Mechanical Systems and Signal Processing, International Journal of Mechanical Sciences, Thin-Walled Structures, Ocean Engineering, Journal of the Acoustical Society of America, Applied Mathematical Modelling, ASMS Journal of Vibration and Acoustics, Acta Mechanica Solida Sinica, Engineering Applications of Computational Fluid Mechanics, Applied Acoustics, Journal of Applied Physics, and Communications Physics.



#### Yushi Liu, Associate Professor Harbin Institute of Technology, China

Dr. Yushi Liu is Associate Professor, Doctoral Supervisor from Harbin Institute of Technology, China. He received a bachelor's degree in materials science from Harbin Institute of Technology in 2012 and a doctor's degree in civil engineering in 2017. He was engaged in postdoctoral research at Nanyang University of Technology in Singapore from 2020 to 2021. Dr. Liu was committed to building energy conservation and low carbonization during the curing and operation in cold regions. He has undertaken 10+ research projects including National Natural Science Foundation of China. As the first or corresponding author, he has published about 50 SCI papers in high-level journals such as Journal of Materials Chemistry A, Applied Energy, Composites Part A, Composites Part B Renewable Energy and so on, including about 40 JCR Q1 papers and 4 highly cited papers of ESI. Dr. Liu served as a member of guest editors in chief/guest editors of

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SCI journals Separations and Energies, etc. And he was one of the session chairs/TPC members at ICAE for 2021 and NEFES for 2020-2022. Dr. Liu won the First Prize of Science and Technology Award of Chinese Materials Research Society, the Second Prize of Heilongjiang Province Science and Technology Progress Award, the Second Prize of Hebei Province Science and Technology Progress Award, the Second Prize of the China Building Materials Federation Science and Technology Award, the outstanding doctoral Thesis award of Harbin Institute of Technology, Applied Energy Highly Cited Review Paper Award, and IAAM Scientist Medal.

#### Xu Long, Associate Professor Northwestern Polytechnical University, China

Prof. Xu Long is an associate professor from Northwestern Polytechnical University. His research interests focus on electronic packaging mechanics, mechanical behavior and failure mechanism of electronic packaging materials and structures under multi-physics fields, reliability study of sintered silver nanoparticle for high-power electrical devices. He has presided or participated in many projects and published more than 70 papers in international journals. Prof. Long Xu has won several honors and awards, such as IAAM Scientist Award, 2nd Prize of Outstanding Achievement Award for Science and Technology Research in Shaanxi Universities, 2nd Prize of Innovation and Entrepreneurship Competition for Science and Technology in Shaanxi, etc. He is also Associate Editor of Computer Modeling in Engineering & Sciences, and Guest Editor-in-Chief of Frontiers in Materials, Coatings, Frontiers in Physics and IEEE Senior Member. Prof. Long Xu also serves as reviewer in peer reviewed international journals, including International Journal of Plasticity, Journal of Building Engineering, Surfaces and Interfaces, Smart Structures and Systems, Polymers and so on.

# Dr. Yilin Zhu, Associate Research Fellow Southwest Petroleum University, China

Dr. Yilin Zhu received his PhD degree from Southwest Jiaotong University in 2015. Now, he is working as associate research fellow at School of Civil Engineering and Geomatics, Southwest Petroleum University. His research interests focus on design and application of mechanical meta-materials, and multi-field coupled constitutive theory for metallic materials. Dr. Zhu has rich research experience, and participated in several research projects of renowned professors, such as "Design and application of mechanical meta-materials", "Generalized continuum modeling of tailor-made auxetics", "Research on micro-macro damage-based failure prediction model for both cold and warm forging components", etc. He has published more than 40 articles, 4 conference papers, and 3 books and chapters. He presided or participated in projects funded supported, including





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"Natural Science Foundation of China (11702036, 52078441, 11602038)", "Department of Science and Technology of Sichuan Province (2020YFH0127)", "China Postdoctoral Science Foundation (2019M663492)", etc. Dr. Zhu also won several honors and awards, including "High-level Overseas Talents of Sichuan Province (2019)", "Outstanding Doctoral Student of Sichuan Province (China) (2015)", etc.

#### Van Tu Nguyen, Research Professor Pusan National University, South Korea

Prof. Van Tu Nguyen received his master's & doctor's degrees in Mechanical Engineering from Pusan National University (PNU), South Korea in 2011 and 2017. And he is currently working at the School of Mechanical Engineering, Pusan National University (PNU), as Research Professor-Principal Investigator–Advisor. His expertise lies in the field of computational fluid mechanics (CFM)/Fluid Dynamics with a specific focus on scientific computing in Mechanics. He has published more than 70 papers in international journals and international/domestic conference papers, and among them, 5 papers in top 5%, 15+ papers in the top journals rank Q1. Prof. Van Tu Nguyen serves as the Guest Editor of a special issue in Fluids, Editorial Board Member of International Journal of Mechanical Engineering and Applications (IJMEA), USA, and Subsea Engineering and Technology, HongKong. He is also the Committee member and Publicity Chair of 6th International Conference on Mechanical Engineering and Applied Composite Materials (MEACM2023).

#### Mohammad Yusuf, Postdoctoral Researcher Universiti Teknologi Petronas, Malaysia

Dr. Mohammad Yusuf is currently working as a Postdoctoral Researcher in the Department of Petroleum Engineering, Universiti Teknologi PETRONAS, Malaysia which is among the top 16 Petroleum Engineering Departments in the world as per QS 2023 rankings. He is a former Head of the Department and Assistant Professor in the Department of Petroleum Engineering at Glocal University, India (2015-2018). He used to work in the education management industry, and he has many skills in chemistry and petroleum engineering. He published around 60+ research/review articles in international journals with significant impact factors (total impact factor till date = 300+). He delivered several lectures in national/international seminars/webinars and presented at several reputed international conferences. He is also currently serving as a scientific reviewer in around 25+ reputed journals from Elsevier, Springer, Nature, Taylor & Francis, PLOS ONE, and MDPI publications. He is also working as an "Associate Editor-in-chief" in the prestigious International Journal of Applied Science and Engineering (Scopus Indexed, Q2). His research interests include





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Hydrogen, Green Energy, Catalysis, CO2 Valorization, Gas Reforming, Sustainability, CCUS, Modelling, Optimization, Hydrocarbon recovery, and Materials & Characterization.

#### Miaolei Zhou, Professor Jilin University, China

Prof. Miaolei Zhou is currently professor at Department of Control Science and Engineering, College of Communication Engineering, Jilin University, China. His research interests include micro/nano precision driving and control technology, nonlinear control theory, and navigation and control of robot. He has supervised over 20 research projects, including "The National Natural Science Funds of China" and "National High Technology Research and Development Program", and has published more than 100 papers. He is a Vice Chairman of Jilin Province Association of Automation of China, and a Member of the Technical Committee on Data Driven Control, Learning and Optimization, Chinese Association of Automation, and an executive director of the Jilin Association for Artificial Intelligence. And he has successfully served as the TPC chairman of ICAMDM2017, TPC member of more than 20 important international academic conferences, such as IMST2016, IRC2023, review expert of National Natural Science Foundation of China, evaluation expert of science and technology awards and projects in numbers of provinces and regions. He was selected into the first batch of "Talents Cultivation Program" of Jilin University in 2017. Besides, he is the member of Editorial Board of Scientific Journal of Control Engineering and has also served as the reviewer of more than 50 SCI and EI indexed journals, including Science Robotics, eight IEEE Transactions, two IMechE Journals, Chinese Journal of Mechanical Engineering, etc.



#### S. M. Anas, Research Scholar Jamia Millia Islamia, India

Dr. S. M. Anas is currently working as a research scholar at the Department of Civil Engineering within the Faculty of Engineering and Technology, Jamia Millia Islamia (A Central University), New Delhi, India. His research interests include mitigation of blast effects on structures, finite-element modelling, structural performance, composite materials, FRP, AFRP, BFRP, C-FRP, GFRP, steel tubes, metallic foams, pre-tensioned concrete girders, blast-resistant shelters, heritage masonry buildings, masonry walls, underground blasting, ground shock, impact-resistant structures, impulsive-loadings, among others. He has written more than 50 referred journal papers and 15 referenced conference papers in the area of blast and impact engineering. He is a special issue editor of the two reputed journals: Buildings and Computer Modelling in Engineering Science and Technology. He has an h-index of 30 and i-10 index of 48 and was cited more than



2000 times.



#### Elias Randjbaran, Manager/Researcher Aircraft Composite Inc (ACI), Malaysia

Dr. Elias Randjbaran is a distinguished researcher and academic specializing in the areas of Defence, Advanced Manufacturing, and Space. Holding a PhD and Master's degrees in Materials Engineering from the esteemed Department of Aerospace Engineering at Universiti Putra Malaysia (UPM), which ranks 123rd in the world, Dr. Randjbaran brings a wealth of knowledge and expertise to his research. With a background in Metallurgical Engineering, Dr. Elias Randjbaran has been actively engaged in the Composite Materials Industry since 2000. His extensive contributions to the field are evident through his impressive publication record, with over 30 papers published in internationally recognized academic journals since 2009. These publications have received widespread recognition, amassing more than 430 citations and earning Dr. Randjbaran an esteemed h-index of 11 and i10-index of 16. Dr. Randjbaran's current research interests encompass a wide range of topics vital to Defence, Advanced Manufacturing, and Space. These include progressive damage analysis of thin-walled composite laminated structures, buckling and post-buckling of nano composite structures, and structural crashworthiness and ballistic impact analysis. Recognized for his expertise, Dr. Elias Randjbaran holds affiliations with esteemed societies such as the Aerospace Society Malaysia (AEROS Malaysia), American Society of Mechanical Engineers, American Society of Civil Engineers, and Space & Satellite Professionals International. Furthermore, he actively contributes to the scientific community as a reviewer for top-tier scientific journals.



#### Ravi Nigam, Assistant Professor Swami Vivekananda University, Kolkata, India

Prof. Ravi Nigam received his PhD degree from Indian Institute of Technology (ISM), Dhanbad, India in 2022. He is an experienced researcher with 5+ years of rich experience in teaching, industry, and currently works as assistant professor at Swami Vivekananda University, India. His research interests focus on vibration, solid mechanics, structural health monitoring, noise control treatments, etc. He has published some papers in international journals. He also presided or participated in projects funded, and also participated in kins of conferences and workshops, including VETOMAC (2021), ICMPT (2019) and MENTCA (2018). He is serving as a reviewer for Structures, Material Today: Proceedings, and International Journal of Pavement Research and Technology.

# 主讲嘉宾 Keynote Speakers



#### Blaz Likozar, Professor

#### National Institute of Chemistry (NIC), Slovenia

Prof. Blaž Likozar is the head of the Department of Catalysis and Chemical Reaction Engineering at the National Institute of Chemistry (NIC), leading the programme "Chemical Reaction Engineering", as well as numerous research projects (15 in H2020/40 in Horizon Europe alone). His expertise lies (among others) in heterogeneous catalysis materials, modelling, simulation and optimization of process fluid mechanics, transport phenomena and chemical kinetics. He worked at the University of Delaware in 2014–2015 as a Fulbright Program researcher. He has authored more than 300 articles, with the total citation of more than 7000 times and an h-index of 43.

### 会议信息/Information

#### ● 会议时间和方式

2023年9月19日 14:00-18:00 会议测试

2023年9月20日 09:00-18:00 线上会议

请下载腾讯会议并提前注册账号;

会议测试期间参会者可随时通过会议测试 ID 和入会密码进入会议室进行测试,以确保能正常进入会议室并熟悉操作流程。

请各位嘉宾在会议当天提前进入会议室,谢谢!

### • Conference Time and Way

September 19, 2023, 14:00-18:00 (Beijing Time): Conference Testing

September 20, 2023, 9:00-18:00 (Beijing Time): Online Conference

Please download VooV Meeting Application on your PC (The official website of VooV Meeting Application: https://voovmeeting.com/) and set up an account in advance.

Please participants log in anytime and test whether you can join the Meeting Room properly and familiarize yourself with the operation process during the conference testing.

Please participants join the Meeting Room in advance on September 20, 2023. Thanks.

### ● 在线会议测试入口

点击链接入会,或添加至会议列表:

Vhttps://meeting.tencent.com/dm/3tPG5MFcvMIy

会议主题: ICMSE & ICCEIC 2023-Conference Testing

会议时间: 2023/09/19 14:00-18:00 (GMT+08:00)北京时间

#腾讯会议: 176-325-573

会议密码: 2023

#### • Online Conference Testing Website Entrance

#### Please download the VOOV Meeting Application and sign up an account.

Vhttps://meeting.tencent.com/dm/3tPG5MFcvMIy

#### Meeting Topic: ICMSE & ICCEIC 2023-Conference Testing

Conference Time: 2023/09/19 14:00-18:00 (GMT+08:00) Beijing Time

Conference ID: 176-325-573

Password: 2023

Copy the information, open the VOOV Meeting Application to attend the conference.

## 会议信息 Information

### ● 在线会议入口

点击链接入会, 或添加至会议列表

<u>https://meeting.tencent.com/dm/tFuekm7VxvmT</u>

会议主题: ICMSE & ICCEIC 2023-Online Conference

会议时间: 2023/09/20 09:00-18:00 (GMT+08:00) 北京时间

#腾讯会议: 820-761-482

会议密码: 2023

复制该信息, 打开手机腾讯会议即可参与

#### • Online Conference Website Entrance

#### Please download the VOOV Meeting Application and sign up an account.

<u>https://meeting.tencent.com/dm/tFuekm7VxvmT</u>

#### Meeting Topic: ICMSE & ICCEIC 2023-Online Conference

Conference Time: 2023/09/20 09:00-18:00 (GMT+08:00) Beijing Time

Conference ID: 820-761-482

Password: 2023

#### Copy the information, open the VOOV Meeting Application to attend the conference.

### ● 会务联系方式 Contact

Email: icmseinfo@163.com

Email: icceicinfo@163.com

Mobile No: +86-19139855788

ICMSE & ICCEIC Organizing Committee

### 温馨提示/Kindly Reminder

#### ● 温馨提示

#### 各位参会人员

请发言代表注意自己的发言日期和时间,并提前作好准备。演讲时间 20-25 分钟。提问 5-10 分钟。为防止网络不顺畅,最好录制一份 20-25 分钟的演讲视频备用。

#### • Kindly Reminder

#### **To all Chairs and Speakers**

Please pay attention to the date and time of your speech and make preparation in advance. Restricted speaking time: 20- 25 Minutes of Presentation. There will be a Q&A session about 5-10 minutes in the online conference ICMSE&ICCEIC 2023. In case the network is not very good, we would like that you may record a video of your presentation about 20-25 minutes.

## 会议日程/Schedule

ICMSE&ICCEIC 2023 SCHEDULE									
Date	Project	Beijing Time (GMT+8.00)		Schedule	TITLE				
Sep. 19	Conference Testing	14:00-18:00		Conference Testing					
Sep. 20	Keynote Speech	9:00-12:00	9:00-9:05	Host: Judy Host: Annie	ICMSE & ICCEIC 2023 Conference Opening Introduction				
			9:05-9:10	Prof. Zhenling Liu	Speech from Conference Chairman				
			9:10-9:40	Prof. Jie Deng	Recent Advances on Acoustic Black Holes				
			9:40-10:05	Prof. Yushi Liu	Tailoring the Microstructure of Rice Husk Ash to Improve Thermal Properties of Composite Phase Change Materials				
			10:05-10:35	Prof. Xu Long	Advances of Constitutive Properties for Electronic Packaging Materials Under Extreme Loadings				
			10:35-10:55	Prof. Van Tu Nguyen	Modern Numerical Methods for Compressible Multiphase Flows: Applications to Shockwaves, Cavitation, and Bubble Dynamics				
			10:55-11:35	Dr. Yilin Zhu	Design and Application Exploration of Auxetic Meta-materials				
			11:35-12:00	Dr. Mohammad Yusuf	Transforming Saharanpur City, India, from old and unplanned to a smart city: An Overview and Challenges				
	MEAL TIME		12:00-14:00	Meal Time					

# 会议日程 Schedule

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Keynote Speech	14:00- 15:55	14:00-14:25	Prof. Miaolei Zhou	Hysteresis Modeling and Control for Smart Material-based Actuators
		14:25-14:50	Dr. S. M. Anas	Evaluation of Critical Damage Location of Contact Blast on Conventionally Reinforced One-way Square Concrete Slab Applying CEL- FEM Blast Modeling Technique
		14:50-15:05	Dr. Elias Randjbaran	Development and Application of a Viscoelastic Model for Elastomers in Sustainable Polymer Modelling
		15:05-15:30	Prof. Ravi Nigam	Crack Detection in a Beam Using Curvatures and Digital Image Measurements
		15:30-15:55	Prof. Blaz Likozar	Valorisation of Waste Mineral Resources
Discussion		15:55	Participants	ICMSE & ICCEIC Closing Ceremony