

WAAE 2026 Track 3 Description

Basic Information:

专栏题目
Title

中文：航空航天复合材料与先进制造技术
英文：Aerospace Composite Materials and Advanced Manufacturing

专栏介绍和征稿主题
Introduction and topics

中文：随着航空航天装备对轻量化、高可靠性及极端环境适应性的要求不断提升，复合材料与先进制造技术正成为推动领域革新的关键力量。以“航空航天复合材料与先进制造技术”为主题，旨在搭建跨学科、跨行业的学术与工程交流平台，重点关注复合材料在航空航天领域面临的核心挑战与最新突破，涵盖从材料设计、工艺开发、结构完整性评估到智能运维的全链条创新。会议致力于促进科研与应用的深度融合，激发新思路、新技术与新合作，共同推动航空航天复合材料结构向着更轻、更强、更智能的方向发展。征稿主题包括但不限于：

- 先进复合材料与多功能航空航天结构
- 复合材料制造、加工及增材制造技术
- 复合材料结构的渐进损伤、疲劳、断裂与损伤容限
- 航空航天复合材料系统的结构健康监测与智能传感
- 高性能、轻质、耐高温复合材料
- 复合材料结构的多尺度建模、仿真与可靠性评估

英文：As the demands for lightweighting, high reliability, and extreme-environment adaptability in aerospace equipment continue to escalate, composite materials and advanced manufacturing technologies are emerging as pivotal drivers of transformative innovation in the field. Centered on the theme of "*Aerospace Composite Materials and Advanced Manufacturing*" this initiative aims to establish an interdisciplinary and cross-sector platform for academic and engineering exchange, with a particular focus on the core challenges and latest breakthroughs facing composite materials in the aerospace domain. The scope encompasses full-chain innovation spanning material design, process development, structural integrity assessment, and intelligent operation and maintenance. The conference is dedicated to fostering deep integration between scientific research and practical application, stimulating novel concepts, emerging technologies, and collaborative partnerships, thereby collectively advancing aerospace composite structures toward lighter, stronger, and more intelligent paradigms. Topics for submission include, but are not limited to:

- Advanced Composite Materials and Multifunctional Aerospace Structures
- Composite Manufacturing, Processing, and Additive Manufacturing Technologies
- Progressive Damage, Fatigue, Fracture, and Damage Tolerance of Composite Structures
- Structural Health Monitoring and Intelligent Sensing for Composite Aerospace Systems
- High-Performance, Lightweight, and High-Temperature Composite Materials
- Multi-Scale Modeling, Simulation, and Reliability Assessment of Composite Structures

Track Chair(s):



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Organizer's Brief Biography		
中文：车路，西北工业大学民航学院，副教授/硕导。主要从事复合材料成型工艺的多尺度/多场耦合仿真方法、近场动力学理论及其应用等领域研究。主持国家自然科学基金青年项目、工信部重大专项子课题、江苏省“双创博士”人才计划项目等项目/课题。以第一作者/唯一通讯作者在 Compos. Part A、Int. J. Mech. Sci.、Compos. Struct.等权威期刊发表 SCI 论文十余篇，软件著作权 14 项，担任 Int. J. Solids Struct.、Polym. Composite 等学术期刊审稿人，《Science and Engineering》期刊编委。 英文： Lu Che, Associate Professor / Master's Supervisor, School of Civil Aviation, Northwestern Polytechnical University.His research primarily focuses on multiscale/multiphysics coupled simulation methods for composite material forming processes, peridynamics theory and its applications. He has presided over projects including the National Natural Science Foundation of China Youth Fund, a sub-project of the Major Special Project by the Ministry of Industry and Information Technology, and the Jiangsu Province "Shuangchuang Doctor" Talent Program. He has published more than ten SCI-indexed papers in leading journals such as Composites Part A: Applied Science and Manufacturing, International Journal of Mechanical Sciences, and Composite Structures, and holds 14 software copyrights. He serves as a reviewer for academic journals including International Journal of Solids and Structures and Polymer Composites, and is an editorial board member of the journal Science and Engineering.		

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Organizer's Brief Biography	
中文：Poh Leong Hien 是新加坡国立大学土木与环境工程系的“院长讲席”副教授。他目前担任该系研究生与继续教育课程项目的副主任，同时也是新加坡国立大学防护技术中心主任。在新加坡国立大学之外，他曾担任美国土木工程师协会工程力学研究所非弹性和多尺度行为建模委员会当选主席（2023-2025 年），并且是新加坡工程师学会的当选成员。他的研究兴趣包括多尺度方法和材料建模的多个方面，重点关注材料和结构在不同载荷条件下的坚固性提升。他曾获得 2019 年亚太计算力学协会青年研究者奖、2023 年第四届国际损伤力学会议首届青年研究者奖，以及多年来在新加坡国立大学获得的多项教学奖项。目前，他担任《Engineering Failure Analysis》期刊的主题编辑，同时是《Finite Element in Analysis and Design》、《International Journal of Damage Mechanics》的编委会成员，以及《International Journal for Numerical Methods in Engineering》早期职业编委会成员。 英文： Poh Leong Hien is a Dean's Chair Associate Professor in the Department of Civil and Environmental Engineering at the National University of Singapore. He is currently the Deputy Head (Graduate and CET Programmes) in the department, as well as the Director of the NUS Centre for Protective Technology. Beyond NUS, he has served as the elected chair of the ASCE EMI Modeling Inelasticity and Multiscale Behavior committee (2023-2025), and is an elected member of the Institution of Engineers, Singapore. He is interested in multi-scale methods and various aspects of materials modelling, with a focus on the robustness enhancement of materials and structures against different load conditions. He received the Asian-Pacific Association for Computational Mechanics Young Investigator Award in 2019, the Inaugural Young Researcher Award in the 4th International Conference on Damage Mechanics 2023, as well as several teaching awards in NUS over the years. He currently serves as a subject editor for the journal Engineering Failure Analysis, as well as the editorial boards of Finite Element in Analysis and Design, International Journal of Damage Mechanics, and the early career editorial board of International Journal for Numerical Methods in Engineering.	