

2026 10th International Conference on RELIABILITY ENGINEERING

Hangzhou, China July 19-21, 2026

Special Session 17

Advanced Statistical Methods for Reliability Engineering Research and Practice

Goal >>>>

With the large-scale development of complex equipment, new energy systems and industrial infrastructure, challenges such as operational uncertainty, coupled multi-source failures and dynamic life degradation have become increasingly prominent. Traditional reliability analysis methods are insufficient to meet the requirements of high-precision performance evaluation. As an essential foundation of reliability research, advanced statistics can effectively quantify random interference, uncertainty propagation and degradation mechanisms, supporting equipment health assessment, remaining life prediction and systematic risk management. This special session focuses on cutting-edge statistical theories, including Bayesian statistics, stochastic processes, uncertainty quantification and multi-dimensional data analysis. It combines practical reliability scenarios in aerospace, nuclear power, renewable energy and intelligent manufacturing, exploring the optimization of statistical models, algorithm innovation and engineering application strategies. It aims to gather global researchers to share latest advances, promote the in-depth integration of advanced statistical tools and reliability engineering, and provide innovative theoretical and technical references for the safe operation and resilience enhancement of modern complex engineering systems.

Topics >>>>

Topics of interest include, but are not limited to:

- Power load prediction
- PHM of Lithium-ion battery
- Wind power prediction
- PHM of Electric device
- Photovoltaic power prediction
- Grid reliability analysis
- Life Prediction and Reliability Analysis of IGBT
- Life Prediction and Reliability Analysis of Integrated module
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Chairs >>>>



Wanqing Song, Minnan University of Science and Technology, China



Samad Noeiaghdam, Henan Academy of Sciences, China

Publication >>>>

We provide a good opportunity by presenting your updated research knowledge and also by publishing it in the conference proceedings. submitted paper will be peer reviewed by conference committees, and accepted papers will be included into conference proceedings which will be indexed by SCOPUS and Ei compendex.

Submission >>>>

1. Full paper (presentation and publication)
 - The paper must be written in English.
 - All submissions will undergo a peer-review process by the conference committee.
 - The paper should be at least FIVE pages including all figures, tables, and references.
 - The paper should be submitted as a PDF document in .pdf format.
 - submitted paper must be unpublished.
 - Accepted papers will be invited for oral presentation or poster presentation and will be included in the conference proceedings.
2. Abstract (presentation only)
 - Abstracts will be considered for presentation (oral/poster) only without publication.
 - The abstract must be written in English.
 - Abstracts should be no more than 300 words and clearly outline the title, purpose, methods, and outcomes of the research or practice being described.
 - All submissions will undergo a peer-review process by the conference committee.

* Welcome to submit the paper or abstract by Electronic submission system: <https://www.zmeeting.org/submission/icre2026>
More details about submission, please visit at: <https://www.icre.org/sub.html>

Conference Program >>>>

July 19, 2026 | CONFERENCE + SHORT COURSE
July 20, 2026 | TECHNICAL EXCELLENCE & TRIBUTE
July 21, 2026 | INNOVATION & FUTURE OUTLOOK
July 12-25, 2026 | Young Scholar Symposium + 2026 Beihang International Summer School

Conference Venue >>>>

Conference Venue:
Hangzhou International Innovation Institute of Beihang University
Address:
No. 166, Shuanghongqiao Street, Pingyao Town, Yuhang District, Hangzhou City

Hangzhou, China

Hangzhou, a renowned Jiangnan city blending millennia of heritage and poetic scenery, boasts three world cultural heritage sites. West Lake ripples with romance; Liangzhu Ruins hold ancient wisdom; the Grand Canal carries folk vibes. Timeless Song Dynasty elegance meets trendy fun, and delicious local cuisine delights the taste buds. A perfect mix of classic and modern, it awaits visitors from all over the world.

Important Dates >>>>

Submission Deadline: May 15, 2026
Notification Deadline: June 10, 2026
Camera-ready Date: June 25, 2026



Contact

conference secretary: Ms. Lesley
Email: icre_conf@outlook.com
web: <http://www.icre.org>

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特别专题 17

高级统计方法在可靠性工程中的理论与应用

专题目标 >>>>

随着复杂装备、新能源系统及工业基础设施的规模化发展，系统运行不确定性、多源失效耦合、寿命衰减演化等问题日益突出，传统可靠性分析方法已难以满足高精度评估需求。高级统计学作为可靠性研究的核心基础，能够有效量化随机扰动、不确定性传播与动态退化规律，为装备健康评估、寿命预测、风险管控提供理论支撑。本专题聚焦贝叶斯统计、随机过程、不确定性量化、多维数据分析等前沿统计理论，围绕航空、核电、新能源、智能制造等多领域的可靠性实际场景，探究统计模型优化、算法改进与工程落地路径。旨在汇聚国内外学者交流最新研究成果，推动高级统计方法与可靠性工程深度融合，为复杂工程系统的安全运行与韧性提升提供新思路、新方法。

专题主题 >>>>

征稿主题包括但不限于：

- 电力负载预测
- 锂离子电池寿命预测
- 风力发电预测
- 电动装置 PHM
- 光伏功率预测
- 电网可靠性分析
- 功率管寿命预测与可靠性分析
- 集成电路寿命预测与可靠性分析
-

专题主席 >>>>



宋万清, 闽南理工学院, 中国



Samad Noeiaghdam
河南省科学院, 中国

会议出版 >>>>

录用文章将被收录至ICRE 2026会议论文集，由IEEE出版，并被EI Compendex 和 Scopus 检索。

投稿方式 >>>>

- 1). 上传文章到电子投稿系统: <https://www.zmeeting.org/submission/icre2026>
- 2). 或发送文章至会议邮箱: icre_conf@outlook.com

提示:

1. 全文投稿 (含报告与出版)
 - 稿件须以英文撰写。
 - 所有投稿均由会议委员会进行同行评审。
 - 稿件篇幅不少于 5 页, 包含所有图表及参考文献。
 - 稿件须以 PDF 格式提交。
 - 投稿稿件须为未发表的原創成果。
 - 录用稿件将受邀进行口头报告或海报展示, 并收录至会议论文集。
2. 摘要投稿 (仅作报告)
 - 摘要仅用于申请报告资格 (口头报告 / 海报展示), 不纳入出版范围。
 - 摘要须以英文撰写。
 - 摘要字数不超过 300 词, 须清晰阐明所涉研究或实践的标题、研究目的、研究方法及其研究成果。
 - 所有投稿均由会议委员会进行同行评审。
 - 详细信息请见——<https://icre.org/sub.html>

会议日程 >>>>

2026年7月19日- 签到注册
2026年7月20日- 开幕式+主旨报告+作者报告
2026年7月21日- 开幕式+主旨报告+作者报告
2026年7月12-25日- 青年学者论坛 + 2026北航国际暑期学校

会议地址 >>>>

杭州市北京航空航天大学国际创新研究院 (北京航空航天大学国际创新学院)
地址: 杭州市余杭区瓶窑镇双红桥街166号

中国杭州

杭州, 一座融千年文脉与诗画风光的江南名城, 三大世界文化遗产勾勒其独特魅力。西湖碧波漾诗意, 良渚遗址藏远古智慧, 大运河流淌南北烟火。宋韵风雅浸润红墙古社, 新潮玩法解锁别样体验, 鲜醇杭帮菜抚慰味蕾。古典与现代交织, 漫步街巷皆是惊喜, 正静待八方游客前来探寻。

重要日期 >>>>

投稿截止日期: 2026年5月15日
审稿通知日期: 2026年6月10日
注册截止日期: 2026年6月25日

Sponsors  Co-sponsors

技术支持 

 杭州市北京航空航天大学国际创新研究院 (北京航空航天大学国际创新学院)

 哈尔滨工业大学 HARBIN INSTITUTE OF TECHNOLOGY

Contact

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