2021 国际结构完整性学术研讨会会议通知（第三轮）

（中国·杭州 2021 年 10 月 8 日-11 日）

一、会议简介

碳减排已与经济和社会的发展紧密联系，越来越多的国家发布了碳达峰与碳中和的目标和路线图，这需要更高效、更节能、更可靠的技术和设备。为了早日实现碳中和这一宏伟愿景，需从结构寿命管理、先进能源系统设计等方面提升技术和装备的经济性和可靠性，对结构完整性理论和技术提出了更高要求，主要涉及失效评估、寿命预测、修复与再制造、安全检查和健康监测等关键技术领域。为此，由中国结构完整性联盟主办、浙江工业大学承办的 2021 International Symposium on Structural Integrity（2021 年国际结构完整性学术研讨会，ISSI2021）以“碳中和背景下的结构完整性”为主题，英文名为“Structural Integrity in the Context of Carbon Neutrality”，拟于 2021 年 10 月 8-11 日在杭州举行。本次研讨会诚邀来自学术界和工业界的专业人士，齐聚讨论与碳中和有关的新兴结构完整性问题与成果，助推技术与产业发展。

二、会议组织

主办单位：中国结构完整性联盟

成员包括：华东理工大学、合肥通用机械研究院、中国特种设备检测研究院、浙江大学、北京航空航天大学、南京工业大学、浙江工业大学、郑州大学、西南交通大学、山东大学、长沙理工大学、天津大学、江苏省特种设备安全监督检验研究院、苏州热工研究院有限公司、东莞材料基因高等理工研究院

承办单位：浙江工业大学

协办单位：杭州市特种设备检测研究院、过程装备及再制造教育部工程研究中心、嵊州市浙江工业大学创新研究院

三、邀请报告人

1) Fracture strength behaviors of ultra-high-temperature materials
   Prof. Daining Fang, Beijing Institute of Technology, China
2) Mechanisms of fracture and damage-tolerance in new metallic alloys
   Prof. Robert O. Ritchie, University of California-Berkeley, USA
3) Fatigue fracture of materials and structures
   Prof. Wanlin Guo, Nanjing University of Aeronautics and Astronautics, China
4) Challenges and technology enablers for design and manufacture of multi-materials lightweight structures for achieving carbon neutrality
   Prof. Pingsha Dong, University of Michigan, USA
5) Strength, plasticity and the ductility loss of FCC HEAs
   Prof. Jian Wang, University of Nebrask-Lincoln, USA
6) Safe Electrolytes for Lithium Batteries
   Prof. Chunsheng Wang, University of Maryland, USA
7) Structural integrity monitoring and enhancement using additively manufactured sensors
   Prof. Zhongqing Su, Hong Kong Polytechnic University, China
8) State of the art and knowledge gaps in storage of high pressure gaseous hydrogen
   Prof. Jinyang Zheng, Zhejiang University, China
9) Acoustic emission testing—a practical technique for evaluating the structural integrity of pressure vessels
   Prof. Gongtian Shen, CSEI, China
10) Processing parameter optimization and fatigue cracking mechanism of actively manufactured Ti-6Al-4V
    Prof. Youshi Hong, Institute of Mechanics, Chinese Academy of Sciences, China
11) Offshore wind energy for a green industrial revolution: Structural integrity challenges and opportunities
    Dr. Ali Mehmanparast, Cranfield University, UK
12) Analysis and design of ductile quasi-disordered FCC lattice materials
    Prof. Wei Sun, University of Nottingham, UK
13) Probabilistic structural integrity assessment of nuclear pressure equipment
    Prof. Zengliang Gao, Zhejiang University of Technology, China
14) Fundamental researches needed to underpin structural integrity
    Prof. Mingliang Zhu, East China University of Science and Technology, China
15) Contribution of marine clean energy to carbon neutral: R&D and large-scale application of LHD marine tidal power station
    Mr. Dong Lin, Hangzhou Lindong New Energy Technology Co., Ltd., China
16) Accumulated emissions from power plant and its operation lifetime
    Dr. Jia Li, Shanghai Jiao Tong University, China
17) Design and fabrication of mechanical metamaterials for impact mitigation
    Prof. Lin Ye, Sydney University, Australia
18) Fatigue of magnesium alloys
    Prof. Yanyao Jiang, University of Nevada-Reno, USA

19) Effect of grain size on tensile and creep behaviour of 304HCu SS and modelling of creep curves
Dr. Sardari Lal Mannan, Indira Gandhi Centre for Atomic Research, India
20) A two-way fluid-structure interaction method for the vibration research of heat exchanger tubes
Prof. Wei Tan, Tianjin University, China
21) Safety Design and Modification of Rechargeable Battery
Dr. Zhaoyin Wen, Shanghai Institute of Ceramics, CAS, China
22) The status of safety and reliability of fuel cell system for vehicle application
Dr. Zhongjun Hou, Shanghai Hydrogen Propulsion Technology Co., Ltd., China
23) Typical failure modes and strategies of fuel cell powertrain system during freeze start
Dr. Shuang Zhai, REFIRE, China
24) Residual stress characterisation techniques and applications
Dr. Shuyan Zhang, Centre of Excellence for Advanced Materials, China
25) Application of strain-based fracture modeling to hydrogen embrittlement problems
Prof. Yun-Jae Kim, Korea University, Korea
26) The acceleration mechanism of the degradation of the strength of heat-resistant alloys under creep-fatigue loading at elevated temperatures
Prof. Hideo Miura, Tohoku University, Japan
27) Recent development of probabilistic fracture mechanics analysis code PASCAL for reactor pressure vessels
Dr. Yinsheng Li, Japan Atomic Energy Agency, Japan
28) Carbon reduction through quality and reliability
Dr. Jianhua Zhou, JHZ Strategic QA, USA
29) Design, preparation and damage detection of high performance thermal barrier coatings
Prof. Weize Wang, East China University of Science and Technology, China
30) Power battery: Whole life cycle safety mechanism and active regulation
Prof. Weiling Luan, East China University of Science and Technology, China
31) Battery accident investigation: Principles, mechanisms and countermeasures
Dr. Xvning Feng, Tsinghua University, China
32) Safety testing & Evaluation of traction battery
Dr. Fang Wang, China Automotive Technology and Research Center, China
33) From battery failure to safety standards
Dr. Penglin He, China Electronics Standardization Institute, China
34) Multiscale theories and applications: From microstructure design to macroscopic assessment
Prof. Junhua Zhao, Jiangnan University, China
35) Impression creep and small punch creep studies on nuclear structural materials
Dr. M.D. Matthew, Indira Gandhi Centre for Atomic Research, India
36) Modeling and simplified formulas to quantify hardening effect on stress corrosion cracking in high temperature water environments

Prof. Guangfu Li, Shanghai Research Institute of Materials (SRIM), China

37) Stacking fault deformation in additively manufactured entropy alloys
Dr. WanChuck Woo, Korea Atomic Energy Research Institute, Korea
38) Manifold learning assisted reconstruction of structural defects
Prof. Dianzi Liu, University of East Anglia, UK
39) Quantitative non-destructive evaluation of thin films using optical coherence tomography & Terahertz pulsed imaging
Prof. Shuncong Zhong, Fuzhou University, China
40) A floquet-based bar-spring model for load-bearing biological and bioinspired composites
Prof. Zuoqi Zhang, Wuhan University, China
41) Strength and ductility of layered metals revisited from local stress and local strain
Prof. Guohua Fan, Nanjing Tech University, China
42) How does cell switch swirling direction upon one-way torsional drive?
Prof. Bin Chen, Zhejiang University, China
43) Damage assessment of structural materials by small sample testing technique
Prof. Shin-ichi Komazaki, Kagoshima University, Japan
44) Plating in li-ion batteries: recent progress and current challenges
Dr. Dongsheng Ren, Tsinghua University, China
45) Aging mechanisms of LiNi0.8Co0.15Al0.05O2/graphite battery after overcharging at low temperatures
Prof. Shixue Wang, Tianjin University, China
46) Semiconductor material design towards batteries and solar cells with improved stability
Prof. Lianzhou Wang, The University of Queensland, Australia
47) Mechanical failure assessment of lithium battery electrode
Prof. Haofeng Chen, University of Strathclyde, UK
48) Highly Stressed Volume Approach in Notch Fatigue Analysis: Recent Advances and Challenges
Prof. Shun-Peng Zhu, University of Electronic Science and Technology of China, China
49) Prediction of creep damage with the help of basic cavitation models
Prof. Rolf Sandstrom, KTH Royal Institute of Technology, Sweden
50) Common SI approaches to corrosion fatigue in the Carbon Neutral Energy Era
Prof. Kamran Nikbin, Imperial College London, UK
51) High-reliability manufacture and repair of single-crystal hot section components from Ni-base superalloy powders: Trends, opportunities and challenges
Prof. Bo Chen, University of Leicester, UK
52) A Data-Driven Approach to Predicting the Anisotropic Mechanical Behaviour of Voided Single Crystals
Prof. Esteban Busso, Harbin Institute of Technology-Shenzhen, China
53) Integrated computation of welding residual stress and strain
Prof. Hao Lu, Shanghai Jiao Tong University, China

54) The Recent Developments on Ultrasonic Fatigue Testing Method for Very High Cycle Fatigue
Prof. Chong Wang, Sichuan University, China
55) Fracture behaviour of additively manufactured IN718 in the presence of crack-like defects
Dr. Guiyi Wu, Centre of Excellence for Advanced Materials, China
56) Polylactide for green manufacturing: Its mechanical property, processability, applicability and durability
Dr. Rui-hua Hu, Zhengzhou University of Industrial Technology, China
57) EBSD observation of microstructure characteristic at crack tip and beneath mated crack surfaces in very high cycle fatigue
Prof. Chengqi Sun, Institute of Mechanics, Chinese Academy of Sciences, China
58) Aircraft Structural Operational Integrity-The Comprehensive Quality Characteristic of Aircraft Structure
Prof. Yuting He, Air Force Engineering University, China
59) Random Ratchetting Fatigue Damage of a Cryogenic Liquid Semitrailer Tank under Road Spectrum Load
Prof. Bingjun Gao, Hebei University of Technology, China
60) Structural integrity assessment for deep-water subsea pipelines
Prof. Nian-Zhong Chen, Tianjin University, China
61) Infrared Thermography and Machine Learning Methods for Nondestructive Testing of Defects in Carbon Fiber Composites
Prof. Yi Liu, Zhejiang University of Technology, China

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四、会议日程、地点及费用

1) 会议日程

日期	时间	安排
10 月 8 日	10:00—22:00	参会代表入住酒店，办理报到手续
	15:00—17:00	基于 RcM 的装备高质量发展研讨会(仅部分代表)
10 月 9 日	08:30—08:45	大会开幕式
	08:45—10:15	串行会场
	10:15—10:30	会议合影&茶歇
	10:30—12:00	串行会场
	12:00—	午餐（自助餐）
	14:00—15:30	串行会场
	15:30—16:00	茶歇
	16:00—18:00	串行会场
	18:30—	欢迎晚餐
10 月 10 日	08:30—10:10	并行会场、专题讨论
	10:10—10:30	茶歇
	10:30—12:10	并行会场、学生论文竞赛专场

	12:10—	午餐（自助餐）
	13:30—15:30	并行会场、学生论文竞赛专场
	15:30—16:00	茶歇
	16:00—17:50	并行会场、学生论文竞赛专场
	16:00—18:30	海报展示环节
	18:30—	晚餐（自助餐）
10 月 11 日	08:30—10:00	并行会场
	10:30—11:30	大会闭幕式
	14:00—18:00	参观活动（仅部分代表）
结束		

2) 会议地点

蝶来浙江宾馆（浙江省杭州市西湖区三台山路 278 号）

3) 会议住宿

会议安排住蝶来浙江宾馆，费用自理，请在会议回执中填写入住要求。因会议期间房源紧张，请参会代表 **9 月 24 日前**返回回执**（请扫描文末二维码填写参会回执）**，以便会务组安排住宿。如会议酒店预留房源约罄，由会务组统筹安排至周边宾馆，敬请谅解。

4) 交通路线

杭州火车站：约 7 公里；计程车，约 28 元。

杭州高铁东站：约 13 公里；计程车，约 50 元。

杭州高铁南站：约 21 公里；计程车，约 65 元

杭州萧山国际机场：约 34 公里；计程车，约 100 元。

5) 会议注册费

注册费可采取如下三种方式支付：

① 现场注册支付，支持现金、银行卡、支付宝和微信方式支付。

② 对公汇款至指定会务公司（苏州瓴泽文化发展有限公司）账户（**请备注参会人姓名及单位信息**）：

账户名称：苏州瓴泽文化发展有限公司

纳税人识别号：91320508MA221HX55X

地址：苏州市姑苏区西环路 1788 号中广核苏州科技大厦 B 座 908 室

开户银行：上海浦东发展银行苏州姑苏支行

银行账号：89190078801700000977

联系电话：0512-81880988

③ 支付宝和微信线上支付至指定会务公司 (苏州瓴泽文化发展有限公司) 账户 (**请备注参会人姓名及单位信息**)：

支付宝 微信

注册费包含：会务费和资料费。食宿统一安排，费用自理。

正式代表：2600 元/人　　学生 1800 元/人(注册现场请出示学生证)

6) 特别说明

① 为减少现场注册等待时间，各位参会代表可提前转账或线上支付注册费。

② 提前提供开票信息的参会代表，现场注册时可领取注册费发票。现场填写开票信息的参会代表，可在会议期间领取发票或会后统一邮寄。

③ **海报报告人**请**自行打印**海报并带至会场，**海报尺寸：0.8×1.2 米（宽×高)。**

④ 如因疫情管制等特殊情况，可申请作线上报告。线上口头报告人请于 **9 月 30 日前**回复**摘要 ID 和申请**至 **issi2021@china-sic.net。**

五、会务、投稿联系人

会务组联系方式：

会务组	负责人	联系方式
注册、住宿接待组	阎川阳	18767118480
外勤接待组	郑文健	17682349100

研讨会协调人：

温建锋，联系电话: 021-64251623，E-mail: jfwen@china-sic.net

会议网址: http://issi2021.china-sic.net

中国结构完整性联盟公众号

会议微信群

（如群二维码过期失效，请联系微信号lvchuanyang001）

参会回执

鸣谢机构/院校/企业：

国家自然科学基金委员会

中国机械工程学会材料分会（高温材料及强度专业委员会）

中国机械工程学会压力容器分会

中国机械工程学会失效分析分会

国际焊接学会(IIW) -压力容器，锅炉和管道

杭州市特种设备检测研究院

过程装备及再制造教育部工程研究中心

嵊州市浙江工业大学创新研究院

华东理工大学

郑州大学

韦尔通（厦门）科技股份有限公司

深圳市新威尔电子有限公司

复纳科学仪器（上海）有限公司

杭州仰仪科技有限公司

中机试验装备股份有限公司

MTS 系统公司

会议主办单位：中国结构完整性联盟

会议承办单位：浙江工业大学

2021 年 9 月 28 日