



武汉理工大学
Wuhan University of Technology



硅酸盐建筑材料国家重点实验室
State Key Laboratory of Silicate Materials for Architectures

玻璃力学性能前沿国际论坛



Organizers
举办单位

Chinese Ceramic Society · Glass Branch
Chinese Ceramic Society · Films and Coatings Branch
Hubei Ceramic Society
State Key Laboratory of Silicate Materials for Architectures
中国硅酸盐学会 · 玻璃分会
中国硅酸盐学会 · 薄膜与涂层分会
湖北省硅酸盐学会
硅酸盐建筑材料国家重点实验室

Locations
会议地点

Wuhan University of Technology, Conference Center 201
武汉理工大学，会议中心 201

Date & Time
日期时间

Jun. 18-19, 2022
2022年6月18日~19日

2022 玻璃力学性能前沿国际论坛

Mechanical Performances Frontiers Forum on Glasses

新时代·新材料·新机遇——探寻功能玻璃材料发展之路

邀请函

各有关单位、专家学者：

玻璃，作为重要的基础材料，广泛应用于建筑、交通、航空和航天等各个领域。同时，随着科学技术的飞速发展，玻璃也逐渐成为一类关键的功能材料，在电子、通讯、能源和生命科学等领域承担着越来越重要的角色。不管作为基础结构材料，还是作为先进功能材料，玻璃的力学性能一直以来广受关注。但是，由于“近程有序远程无序”的独特复杂结构，阐释玻璃材料力学性能的多尺度结构起源一直是玻璃材料领域极具挑战性的难题。尽管如此，国内外学者近些年来在玻璃力学科学以及力学性能提升方面取得了系列重要突破。

2022年被联合国批准为“国际玻璃年”；这也是联合国首次以单一材料命名年份。作为国际玻璃年系列活动之一，本论坛特别邀请了国内外玻璃材料力学、材料基因工程等领域知名专家，分享本领域最新前沿技术和成果。

热忱欢迎各高校、科研院所和企事业单位等积极参与！



聚焦玻璃新材料·助推技术再升华

探寻玻璃力学性能发展之路

Mechanical Performances Frontier Forum on glasses

As a class of important basic materials, glasses have been widely used in various fields such as construction, transportation, aviation and aerospace. Meanwhile, with the rapid development of science and technology, glasses have gradually become a kind of key functional materials, playing increasingly important roles in electronics, communications, energy, life science and other fields. The mechanical properties of glass have always been the focus of people's attention, whether as basic structural materials or advanced functional materials. However, due to the unique and extremely complex structure of "short-range order and long-range disorder", it is a great challenge to reveal the multi-scale structural origin of the mechanical properties of glass. Despite this, scientists have made a series of considerable breakthroughs in glass mechanics science and mechanical properties improvement in recent years.

The year 2022 is approved by the United Nations as the "International Year of Glass", which is the first time for the United Nations to name the year after a single material. As one of the series activities of the International Year of Glass, the organizer of this symposium has specially invited well-known experts in glass materials and mechanics, materials genetic engineering and other fields at home and abroad to share the most cutting-edge technologies and achievements in this field.

We sincerely welcome colleagues from universities, research institutes, enterprises and institutions to participate in this symposium!

会议组织

主办单位：中国硅酸盐学会·玻璃分会

中国硅酸盐学会·薄膜与涂层分会

湖北省硅酸盐学会

硅酸盐建筑材料国家重点实验室（武汉理工大学）

主 席：赵修建（武汉理工大学教授）

章向华（法国雷恩第一大学 法国国家科研中心主任研究员）

岳远征（丹麦奥尔堡大学 欧洲科学院院士）

祖成奎（中国硅酸盐学会·玻璃分会 理事长）

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董淑娟（中国硅酸盐学会·薄膜与涂层分会）

阮汉霞（湖北省硅酸盐学会）

张 明（硅酸盐建筑材料国家重点实验室）

会议形式：线上线下结合报告（主会场：武汉理工大学会议中心 201）

赞助企业：AGC 株式会社（日本）

神光光学集团有限公司

Organizing Committee

Organizers

China Silicate Society • Glass Branch

China Silicate Society • Films and Coatings Branch

Hubei Silicate Society

State Key Laboratory of Silicate Materials for Architectures (Wuhan University of Technology)

Chairman

Xiujian Zhao: Wuhan University of Technology

Xianghua Zhang: University of Rennes 1, Director Research Fellow of the French
National Research Center

Yuanzheng Yue: Aalborg University, Academician of the European Academy of Sciences

Chengkui Zu: Chinese Ceramic Society • Glass Branch Chairman

Executive Chairman

Haizheng Tao

State Key Laboratory of Silicate Materials for Architectures (Wuhan University of Technology)

Secretary General

Ang Qiao

State Key Laboratory of Silicate Materials for Architectures (Wuhan University of Technology)

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Secretary

Yanfang Zhang: China Silicate Society • Glass Branch

Shujuan Dong: China Silicate Society • Films and Coatings Branch

Hanxia Ruan: Hubei Silicate Society

Ming Zhang: State Key Laboratory of Silicate Materials for Architectures

Meeting form

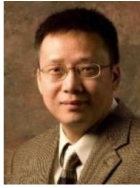
Online and offline report

Sponsors

AGC Inc. (Japan)

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Invited Speakers



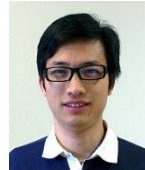
*Prof. Jincheng Du
University of North
Texas, USA*



*Dr. Lu Deng
Shanghai Institute of Optics
and Fine Mechanics*



*Prof. Liping Huang
Rensselaer Polytechnic
Institute, USA*



*Prof. Zhisheng Zhao
Yanshan University, China*



*Dr. Satoshi Yoshida
AGC Inc., Japan*



*Prof. Zhaoyong Zou
Wuhan University of
Technology, China*



*Prof. Xiujun Han
Qilu University of
Technology, China*



*Dr. Zhen Zhang
Xi'an Jiaotong University,
China*



*Prof. Detian Wan
China Building Materials
Academy, China*



*Dr. Linfeng Ding
Donghua University, China*



*Prof. Junjie Li
XinJiang Technical
Institute of Physics and
Chemistry, China*



*Dr. Xin Lai
Wuhan University of
Technology, China*



*Prof. Haizheng Tao
Wuhan University of
Technology, China*



*Prof. Ang Qiao
Wuhan University of
Technology, China*

玻璃力学性能前沿国际论坛安排

6月18日

玻璃力学性能前沿国际论坛

线上会议，线下：会议中心 201

时间	报告人	报告题目	编号
08:25-08:30	开幕式 赵修建 教授 致欢迎词		
主持人：陶海征 教授（武汉理工大学）			
08:30-09:10	黄立萍 教授	美国 伦斯勒理工学院 尖锐荷载下玻璃的变形和碎裂行为	01
09:10-09:50	杜金成 教授	美国 北德克萨斯大学 压力诱导的玻璃结构和力学性质变化及机理	02
09:50-10:00	茶 歇		
主持人：任进军 研究员（中国科学院上海光学精密机械研究所）			
10:00-10:40	Satoshi Yoshida 研究员	AGC 株式会社（日本） 基于电磁感应现象玻璃压痕行为动力学的评估方法探索	03
10:40-11:20	邓路 博士	中国科学院上海光学精密机械研究所 基于分子动力学模拟的多组分玻璃力学性能和耐化学腐 蚀性能研究	04
11:20-12:00	陶海征 教授	武汉理工大学 基于从头算方法硫系玻璃的拉曼光谱模拟与结构解析	05
12:00-14:00	午 餐		
主持人：林慧兴 研究员（中国科学院上海硅酸盐研究所）			
14:00-14:40	万德田 教授	中国建筑材料科学研究总院有限公司 陶瓷涂层高通量力学性能测试技术应用与挑战	06
14:40-15:20	韩秀君 教授	齐鲁工业大学 基于超算高通量计算平台构建多元体系势函数	07
主持人：王衍行 研究员（中国建筑材料科学研究总院有限公司）			
15:20-16:00	张真 博士	西安交通大学 硅酸盐玻璃非线性弹性行为的微观起源	08
16:00-16:40	丁林锋 博士	东华大学 硅酸盐玻璃的纳米压痕形变机理研究	09
16:40-16:50	总 结		

6月19日

玻璃力学性能前沿国际论坛

线上会议，线下：会议中心 201

时间	报告人	报告题目	编号
主持人：林常规 研究员（宁波大学）			
08:20-09:00	邹朝勇 教授	武汉理工大学 无定形相在生物矿物力学性能调控中的作用及其稳定机制	10
09:00-09:40	赵智胜 教授	燕山大学 碳玻璃:从超弹性到超硬度	11
主持人：董国平 教授（华南理工大学）			
09:40-10:20	李俊杰 教授	中国科学院新疆理化技术研究所 从非晶到晶体：非晶的晶化及晶体生长动力学	12
10:20-11:00	赖欣 博士	武汉理工大学 陶瓷复合防护结构抗侵彻行为近场动力学理论和方法研究	13
11:00-11:40	乔昂 研究员	武汉理工大学 MOF 玻璃及其力学性能	14
11:40-11:50	祖成奎 中国硅酸盐学会·玻璃分会 理事长 致闭幕词		

Symposium Program

Jun. 18 th , Morning		Mechanical Performances Frontier Forum on glasses	Online, Offline: Conference Center 201
Time	Speaker	Presentation Title	Number
8:25-8:30	Opening ceremony Prof. Xiujuan Zhao Greetings		
Host: Prof. Haizheng Tao (Wuhan University of Technology)			
8:30-9:10	Prof. Liping Huang	Rensselaer Polytechnic Institute, USA Deformation and Cracking Behavior of Glass under Sharp Contact Loading	01
9:10-9:50	Prof. Jincheng Du	University of North Texas, USA Pressure induced structural and mechanical property changes in borosilicate glasses: insights from molecular dynamics simulations	02
9:50-10:00	Coffee break		
Host: Prof. Jinjun Ren (Shanghai Institute of Optics and Fine Mechanics, CAS)			
10:00-10:40	Dr. Satoshi Yoshida	AGC Inc. Evaluation method of dynamic indentation behavior of glass based on electromagnetic induction phenomena	03
10:40-11:20	Dr. Lu Deng	Shanghai Institute of Optics and Fine Mechanics, CAS A molecular dynamics simulation based study on the mechanical properties and chemical durability of the multi-component glasses	04
11:20-12:00	Prof. Haizheng Tao	Wuhan University of Technology Structural investigation of chalcogenide glasses based on Raman scattering and ab-initio calculations	05
12:00-14:00	Lunch Time		
Host: Prof. Huixing Lin (Shanghai Institute of Ceramics, CAS)			
14:00-14:40	Prof. Detian Wan	China Building Materials Academy Application and challenges of high throughput mechanical properties testing techniques for ceramic coatings	06
14:40-15:20	Prof. Xiujun Han	Qilu University of Technology Parameterization of interatomic force field based on the platform of high-throughput computing	07
Host: Prof. Yanhang Wang (China Building Materials Academy)			
15:20-16:00	Dr. Zhen Zhang	Xi'an Jiaotong University Origin of the non-linear elastic behavior of silicate glasses	08
16:00-16:40	Dr. Linfeng Ding	Donghua University Lateral-pushing induced surface lift-up during nanoindentation of silicate glass	09
16:40-16:50	Summary		

Jun. 19 th , Morning		Mechanical Performances Frontier Forum on glasses	Online, Offline: Conference Center 201
Time	Speaker	Presentation Title	Number
Host: Prof. Changgui Lin (Ningbo University)			
8:20-9:00	Prof. Zhaoyong Zou	Wuhan University of Technology The role of amorphous phase in controlling the mechanical properties of biominerals and its stabilization mechanism	10
9:00-9:40	Prof. Zhisheng Zhao	Yanshan University Carbon glass: from super-elasticity to super-hardness	11
Host: Prof. Guoping Dong (South China University of Technology)			
9:40-10:20	Prof. Junjie Li	Xinjiang Technical Institute of Physics & Chemistry, CAS Dynamic observation on crystal nucleation and growth from amorphous precursor	12
10:20-11:00	Dr. Xin Lai	Wuhan University of Technology Theoretic and Systematic investigation and simulation on the penetration resistance of ceramic composites protective structure	13
11:00-11:40	Prof. Ang Qiao	Wuhan University of Technology MOF Glass Mechanics	14
11:40-11:50	Chengkui Zu, Glass Branch of China Silicate Society Chairman Concluding Remarks		