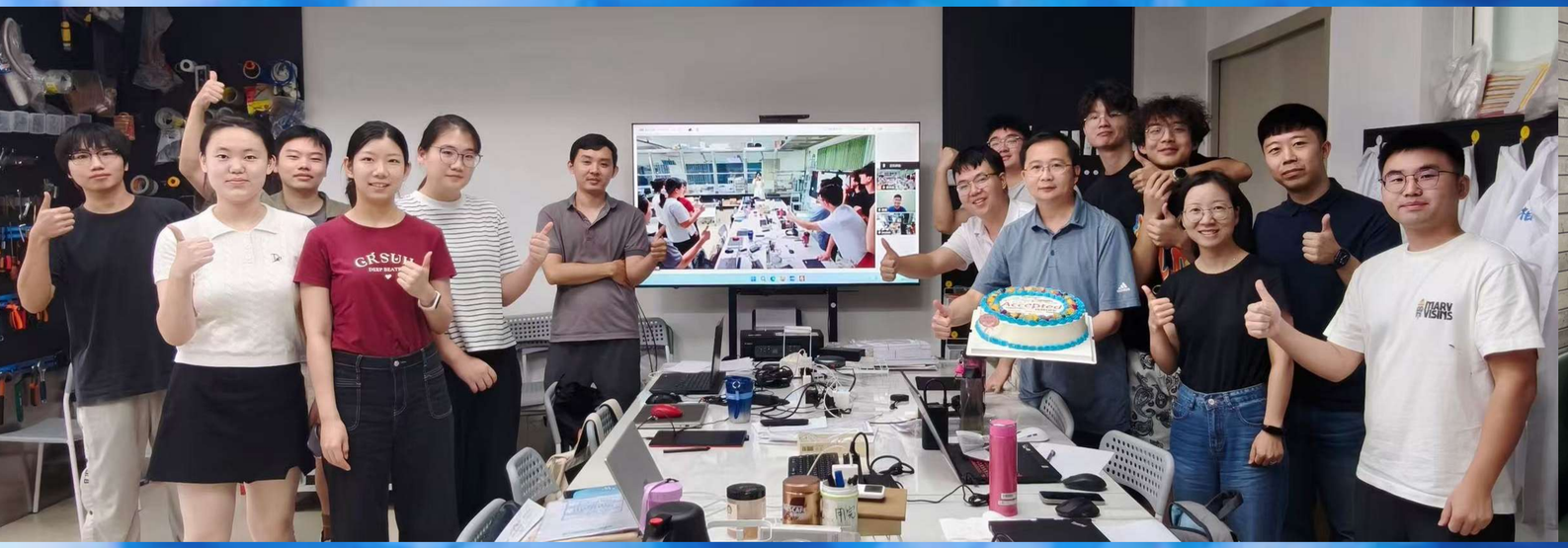
JMOLab

Air-quality & Energy-saving in Confined Spaces (AECS)

2025 Bulletin @ Shenzhen University / Tsinghua University http://jmo-lab.net



Our Team

莫金汉 Jinhan MO

Distinguished Professor
Shenzhen University
Team leader

Research interests include component transportation and separation at interfaces and building integrated photovoltaics.

范成 Cheng FAN

Associate Professor
Shenzhen University

Research interests include AI-driven technologies for smart building energy management, energy efficiency diagnostics, and control optimizations.

邓娇娇 Jiaojiao DENG

Associate Research Fellow
Shenzhen University

Research interests include advanced energy storage materials and devices, as well as thermal safety protection technologies for energy storage systems within next-generation energy infrastructure.

Our Team

谢锐杰 Ruijie XIE

Associate Professor
Shenzhen University

Research interests include environmental pollution purification, advanced oxidation processes (AOPs), functional nanomaterials, gas–liquid micro-interface catalytic oxidation, and related interdisciplinary areas.

田恩泽 Enze TIAN

Associate Research Fellow
Songshan Lake Materials Laboratory

Research interests include:

- Membranes for filtration
- Air and water purification
- Gas sensing
- Electro-active materials
- 2D materials

汪琰 Yan WANG

Assistant Professor
Shenzhen University

Research interests include the development and application of methods for sensing trace-level, multi-component volatile organic compounds (VOCs)

Our Team

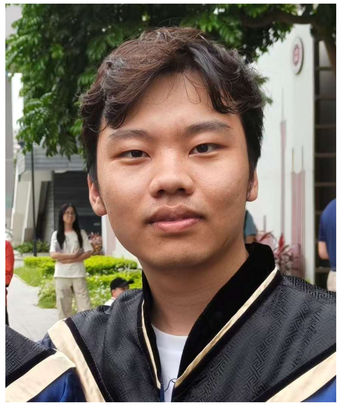
Zhuo CHEN (陈着)
Postdoc
City University of Hong Kong

Fanxuan XIA (夏凡轩)
Postdoc

Wuwei ZOU (邹武威)
Ph.D. student
Tsinghua University

Xihui LIU (刘锡慧)
Ph.D. student
Tsinghua University

Dongqing PANG (庞冬晴)
Ph.D. student



Zishang ZHU (祝子尚)
Ph.D. student

Guoyuan ZHANG (张国远)
Ph.D. student

Jiyi MI (米纪一)
Master student

Ziquan YIN (殷梓筌)
Master student

Erwei ZHOU (周二威)
Master student

Junquan CHEN (陈俊权)
Master student

Xinxin WANG (王鑫鑫)
Master student

Jiahao DUAN (段佳豪)
Master student

Research Activities Fun

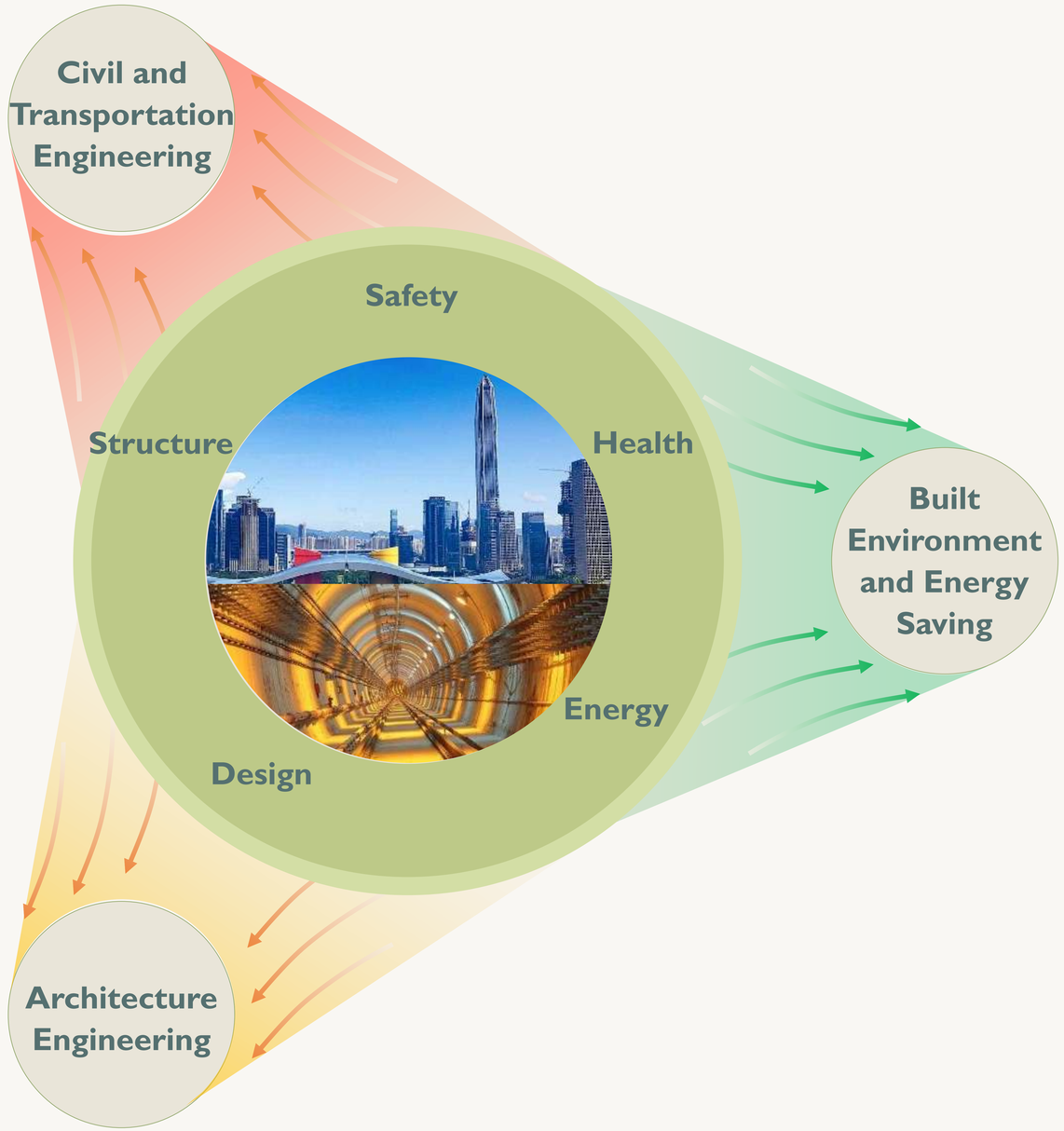
Objectives

- From built environments to confined spaces 从建环到受限空间
- From pollution to environmental control system 从污染到环控系统
- From energy utilization to energy saving and storage 从用能到节能储能

受限空间空气质量与节能
Air-quality & Energy-saving
in Confined Spaces
AECS

志向	Slogans
追求乐趣	Seek for funs!
提升人品	Improve your personality!
展现才华	Show your talents!
贡献人类	Contribute to humanity!

Research Activities Fun



Air-quality & Energy-saving in Confined Spaces

Particle and radon purification

Electrostatic/magnetic-responsive air purification

Gaseous pollutant and CO_2 capture

Heterogeneous interfacial, physical/chemical processes in porous medium

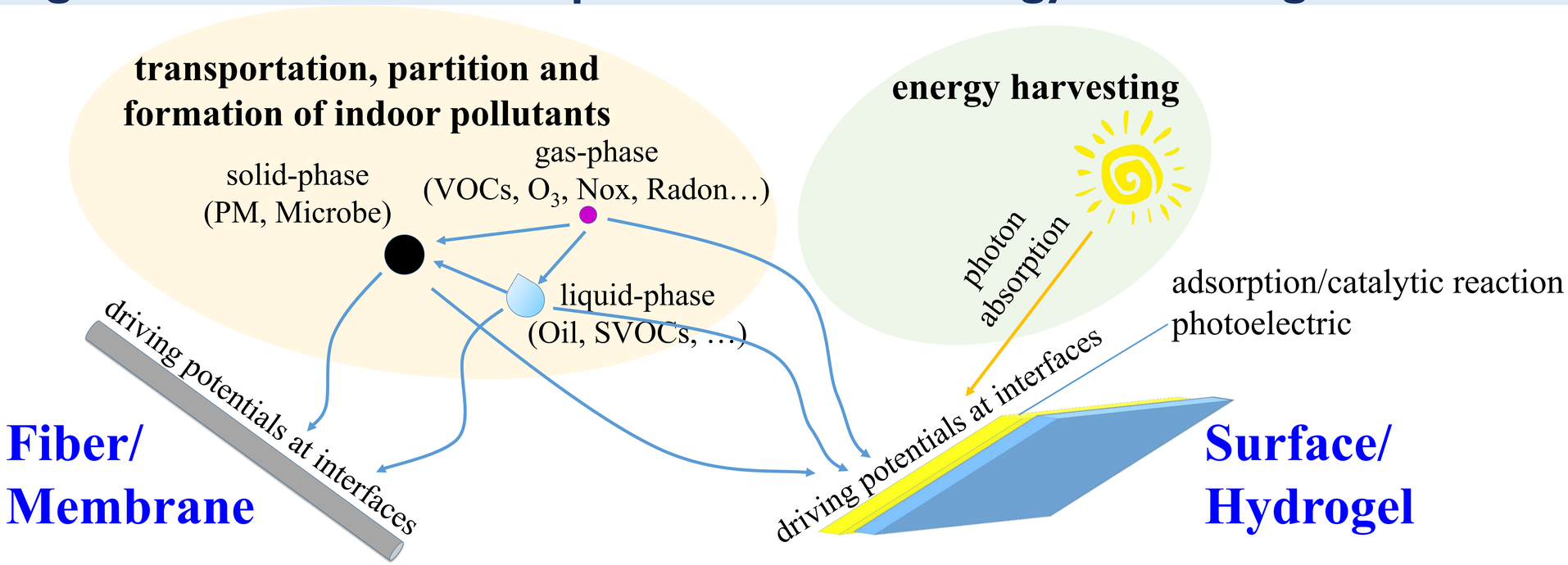
Solar energy utilization

Weather-responsive building integrated photovoltaics

Research Activities Fun

Approaches

- **Air pollution sensing, analysis and risk assessment for human health**
- **Heterogeneous interfacial, physical/chemical processes in confined spaces**
- **Design and fabrication of air purification and energy harvesting material/surface**



Low cost, low operating power materials → mechanical/electric/magnetic /lighting potential, etc. → **Enhancement: responsive to external driving potentials or forces at interfaces**

New design for air purification/energy harvesting process

New fabrication and coating methods of materials

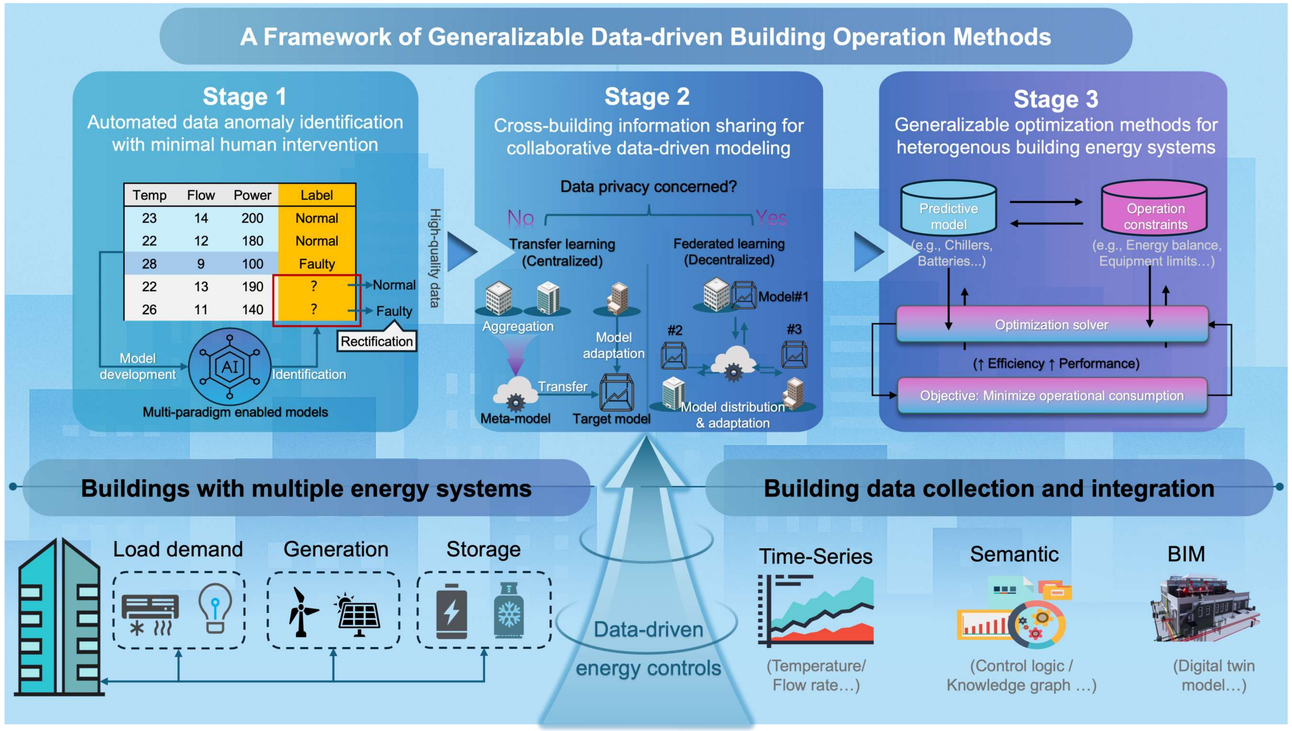
Research Activities Fun

Generalizable data-driven building operation control methods for scalable cross-building applications, by Cheng FAN

Leveraging advancements in AI, data-driven methods have attracted considerable interest for automating conventional human-centric building operation approaches, thereby enhancing the efficacy of various building operation tasks. This letter analyzes the key challenges in developing generalizable methods for scalable cross-building applications and proposes potential data-driven solutions to address these challenges.

- Identifies 3 key challenges, i.e., limited human resources resulting in unreliable data ground truths, inconsistent data quality and semantics leading to inaccurate models, and heterogeneous systems requiring customized control strategies.
- Proposes promising research directions, i.e., multiple machine learning paradigms-enabled anomaly identification, cross-building collaborative data-driven modeling, stable and efficient optimization for heterogeneous building energy systems.

Fan C, Lei YT, Piscitelli MS, Mo JH*, Energy Use, 2025, 1, 100008. https://doi.org/10.59717/ipj.energy-use.2025.100008



Cheng was awarded as the "Top Ten Outstanding Young Faculty" of Shenzhen University.

Research Activities Fun

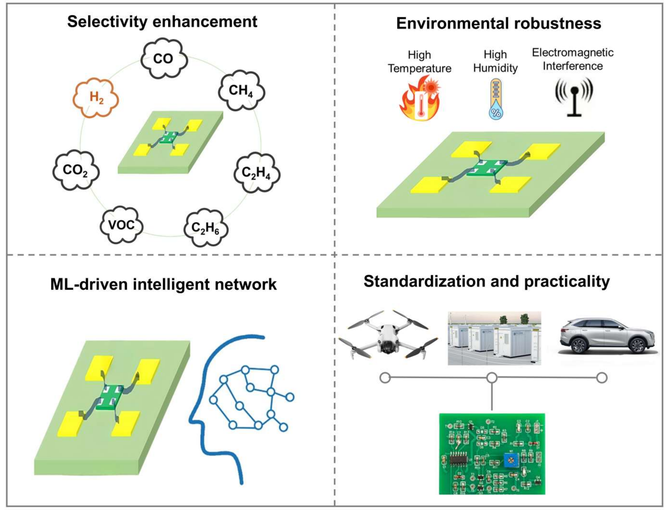
Jiaojiao is attending the 4th International Conference for Global Chinese Academia on Energy and Built Environment held in Xi'an.

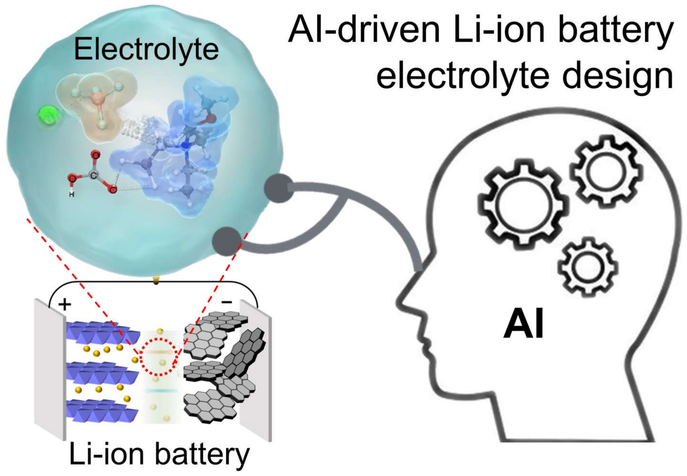
Jiaojiao is attending the 16th Building Physics Conference of China held in Chongqing.

Cutting-edge gas sensor design for monitoring thermal runaway in lithium-ion batteries: a critical review, by Jiaojiao DENG

This study provided a critical review of cutting-edge gas sensor design for monitoring TR in LIBs. We highlighted gas sensor design through multi-scale engineering methods encompassing material innovations, device configurations, and system integration. We critically discussed the gas release dynamics during TR and the challenges confronting gas sensor design in LIBs.

Deng JJ, Yu XL, Pang DQ, Fei B, Mo JH*, Journal of Energy Chemistry, 2025, 109: 769-785.

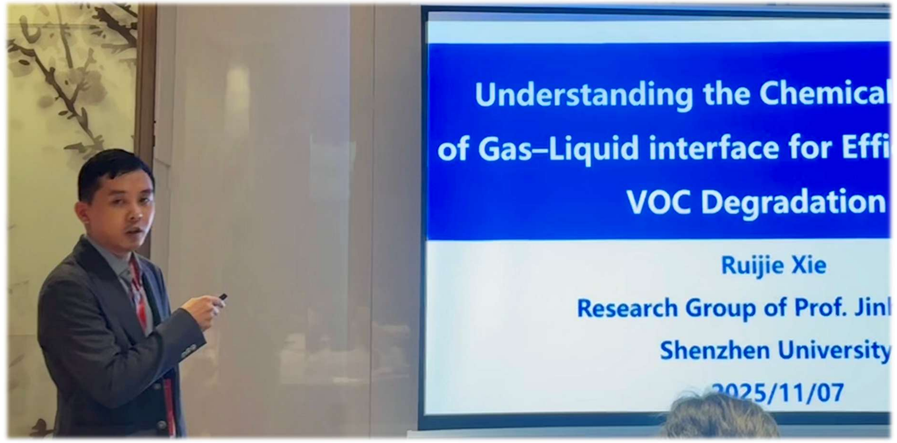




Data-Driven Electrolyte Design for Advanced Rechargeable Lithium Batteries, by Jiaojiao DENG

This review comprehensively examines the burgeoning paradigm of data-driven electrolyte design. We explored the integration of high-throughput computation (HTC), automated experimentation, multiscale modeling (from quantum chemistry to continuum), and machine learning (ML) algorithms to accelerate the discovery and optimization of novel electrolyte formulations.

Deng JJ, Chen XZ, Bai Y, Mo JH, Yu XL*, Chinese Journal of Chemistry, 2026, 285: 113623. https://doi.org/10.1002/cjoc.70321

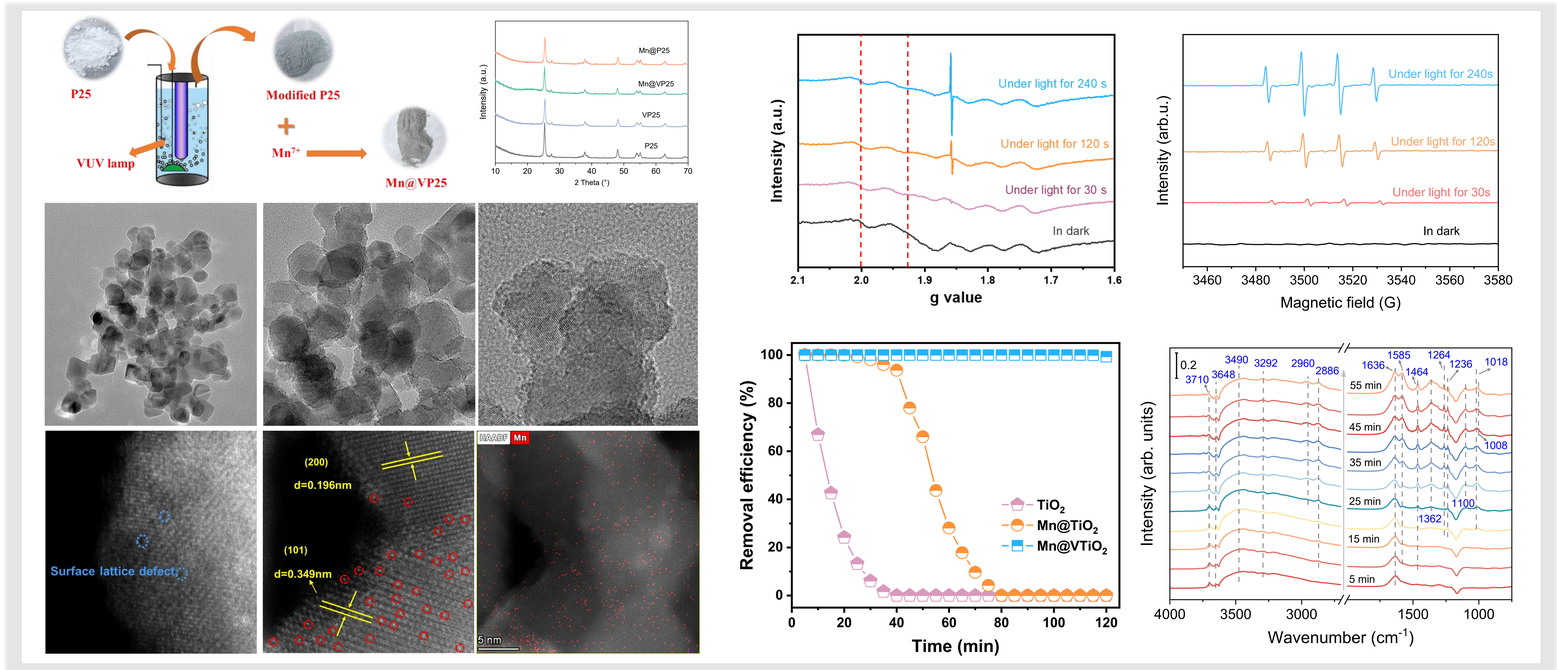


Xie is attending the 12th Annual National Conference on the Prevention and Control of VOCs in Guangzhou, where he delivered a presentation in the session on the Chemical Behavior of VOCs in Indoor Environments.

Study of a Single-Atom Mn Catalyst Prepared via VUV Light–Induced Reduction of High-Valence Manganese, by Ruijie Xie

This study employed high-energy VUV photons to induce the reduction of high-valence manganese and its deposition onto the surface of P25 (Mn@VP25), forming a single-atom manganese photocatalyst. The photocatalytic performance for VOC oxidation was then evaluated, leading to the following key conclusions:

- **Material characterizations:** Single Mn atoms were homogeneously distributed on the surface of Mn@VP25 and strongly coupled with surface O atoms, forming Mn–O–Ti bonds.
- **Enhanced charge separation:** EPR results showed that the generation of photogenerated electrons in Mn@VP25 increased significantly, indicating excellent photogenerated electron–hole separation.
- **Outstanding performance:** the removal efficiency of toluene reached 98%, showing excellent photocatalytic oxidation activity.

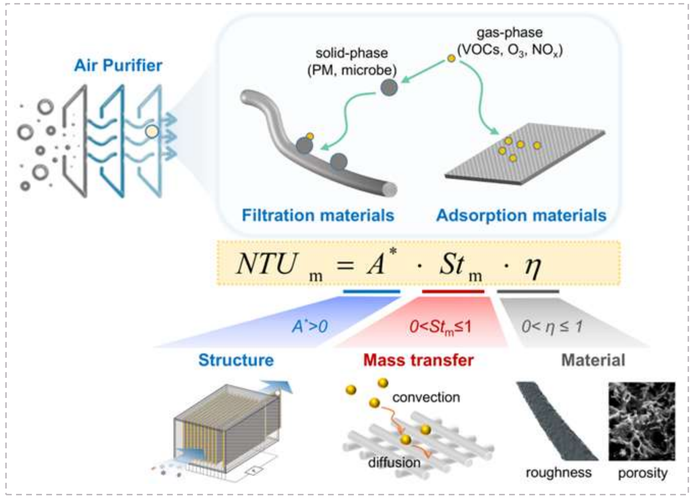


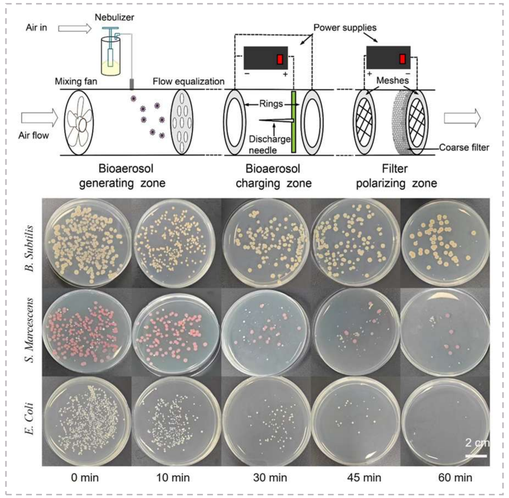
Research Activities Fun

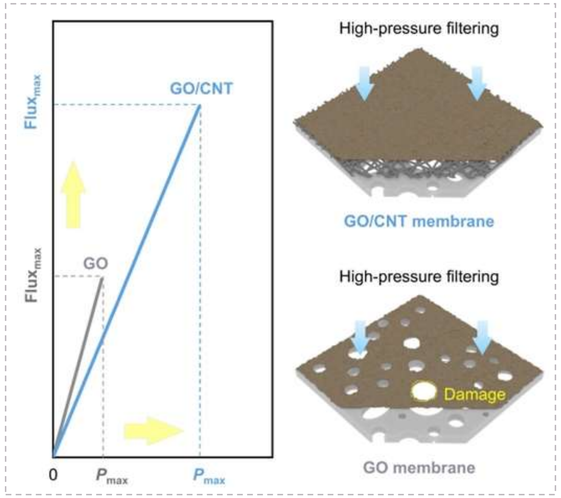
Advancing indoor air purification by mass transfer enhancement: Bridging the gap between high-performance materials and technologies, by Enze TIAN

A comprehensive review in *Engineering* lays out a practical roadmap for the next generation of indoor air-cleaning devices, arguing that the key to better performance lies not in fancier materials but in mastering the physics of mass transfer. By deliberately engineering how pollutants move to—and into—filtration and adsorption media, researchers can simultaneously raise removal efficiency and slash the fan power that currently devours 20%–30% of electricity in Chinese public buildings and even more in cleanrooms.

Tian EZ, Chen QW, Gao YL, Chen Z, Wang Y, Mo JH*, Engineering, 2025, https://doi.org/10.1016/j.eng.2025.07.003







Quantifying corona charging vs. polarizing effects on bacterial disinfection of EAA filtration

He JZ, …., Tian EZ*, Building and Environment, 2026, 287(Part B), 113911, https://doi.org/10.1016/j.buildenv.2025.113911

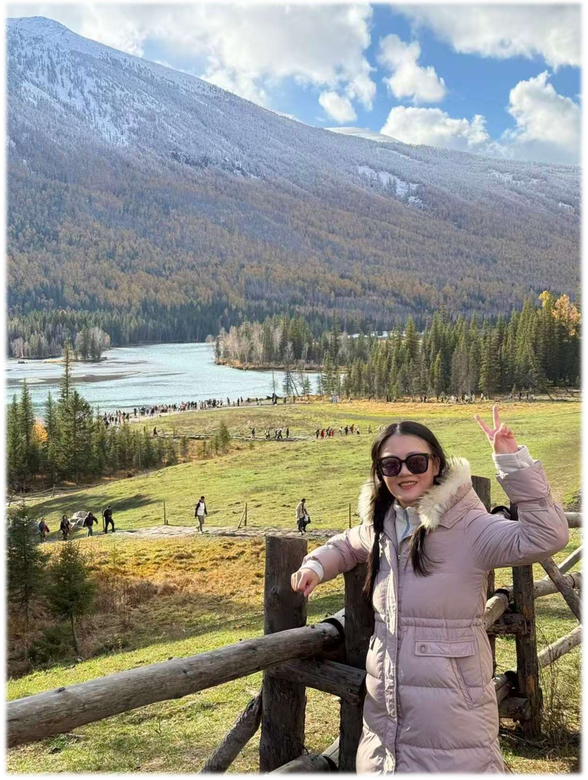
Sensing O_3 via ultrasonic signal of corona discharge

Feng CY, …, Tian EZ*, Applied Acoustics, 2025, 237, 110738, https://doi.org/10.1016/j.apacoust.2025.110738

GO membranes for aqueous nanofiltration

Zhu XY#, Tian EZ#, …, Liu KH*, Liu KH*, Advanced Functional Materials, 2025, 35(45), 2503432, https://doi.org/10.1002/adfm.202503432

Li ZX#, Tian L#, …, Tian EZ*, Zhao GR*, Chemical Engineering Journal, 2025, 525, 169929, https://doi.org/10.1016/j.cej.2025.169929



Enze is enjoying nature!

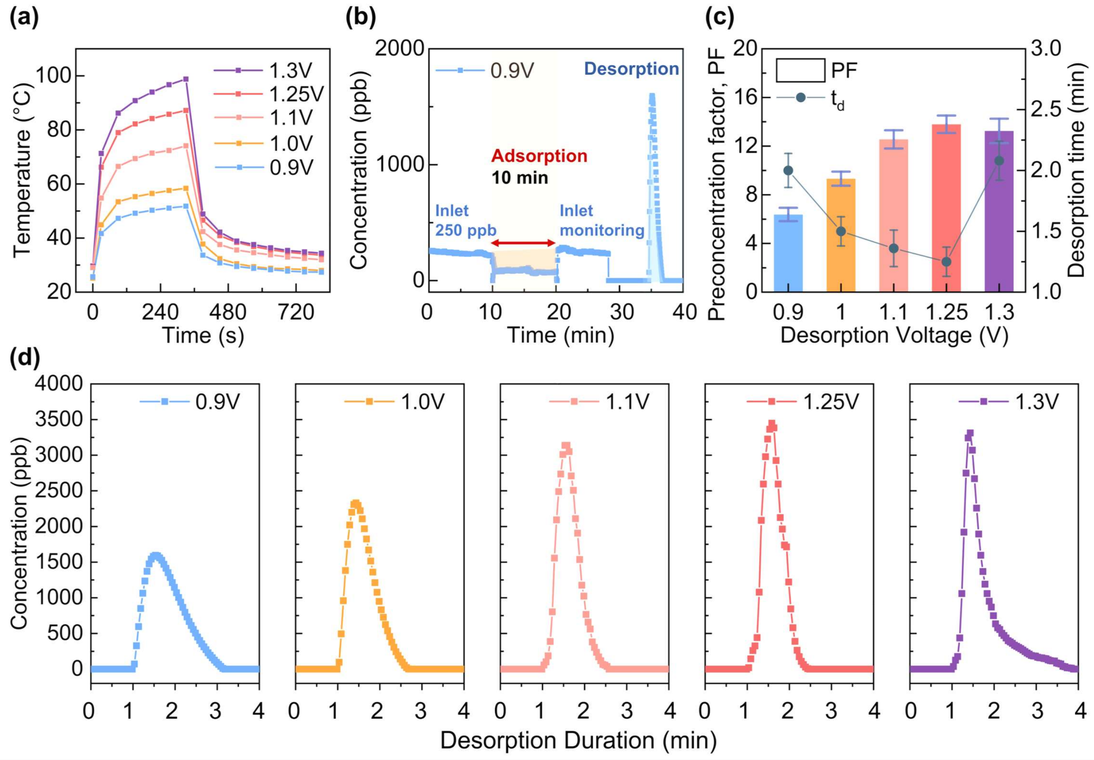
She was elected as Secretary of the Youth Committee in the Indoor Environment & Health Branch of the Chinese Society for Environmental Science (IEHB), and approved to lead the SLAB Young Scientists Program

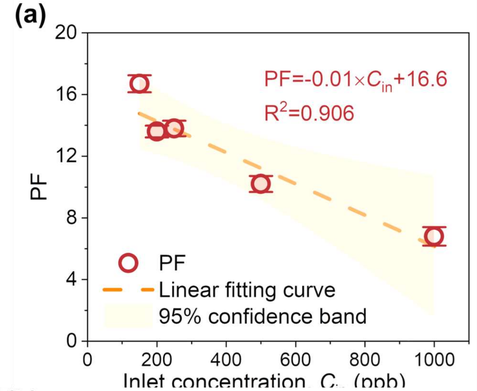
Research Activities Fun

Nickel foam-based preconcentrator for sensitive and accurate detection of low-concentration volatile organic compounds, by Yan WANG

- This study proposes an innovative preconcentrator that combines nickel foam with Tenax TA adsorbent to significantly improve the detection limits for VOC detectors. The device utilizes the inherent Joule heating characteristics of nickel foam to develop an in-situ heated preconcentration element.
- The maximum preconcentration factor was achieved up to 22, while the minimum desorption time and temperature can be controlled at 1.1 min and 87°C, respectively.
- Paired with a PID, the preconcentrator achieves the limit of detection (LOD) of 4.8 ppb for toluene.

Wang Y, Pang DQ, Mo JH, Chen Z* (2025) *Building and Environment* 279: 113070. https://doi.org/10.1016/j.buildenv.2025.113070





Yan had her graduation photos taken at the Tsinghua University Library

She joined Shenzhen University as an Assistant Professor in November 2025.

Research Activities Fun

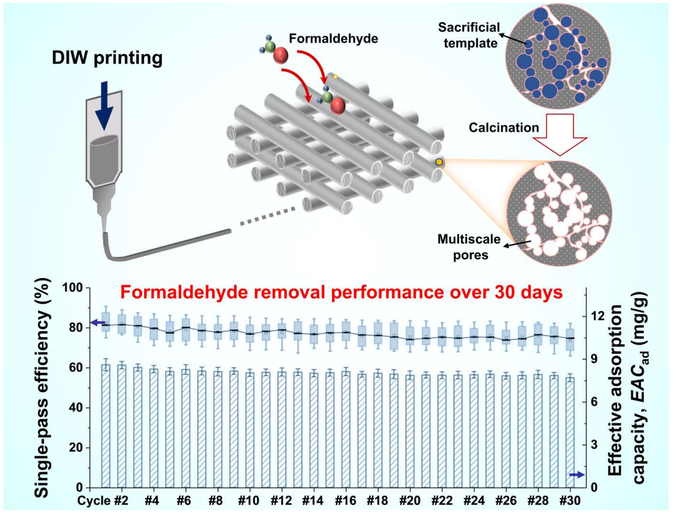
Zhuo is attending the 16th Building Physics Conference of China held in Chongqing. He also received the Best Paper Award at this conference.

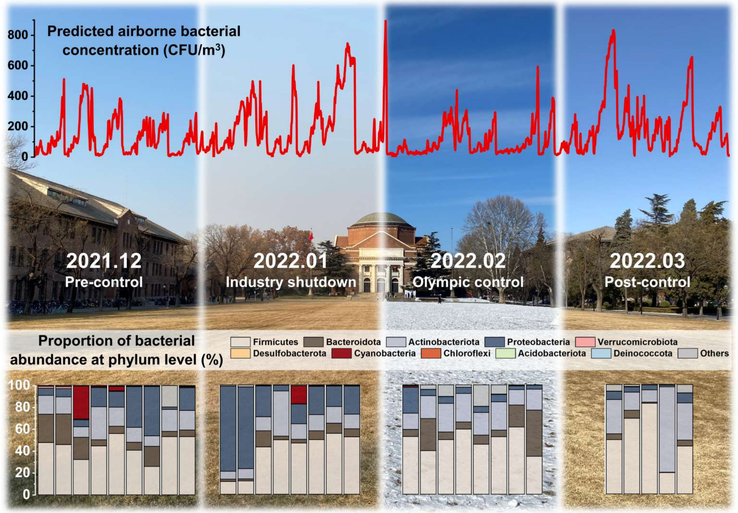
He is currently a postdoctoral researcher at the School of Energy and Environment, City University of Hong Kong.

Tuning multi-scale pore structures in carbonaceous films via direct ink writing and sacrificial templates for efficient indoor formaldehyde removal, by Zhuo CHEN

- This study proposed a mass-transfer–guided design and fabrication strategy, and then built carbonaceous net-like adsorption films with multiscale pore structures via direct ink writing and sacrificial templating for efficient indoor formaldehyde removal. The developed films substantially improved single-pass removal efficiency from 68.1% to 89.0% and effective adsorption capacity up to 8.60 mg/g.

  Chen Z, Chen QW, Wang Y, Zou WW, Mo JH* (2025) *Journal of Hazardous Materials* 487: 137203. https://doi.org/10.1016/j.jhazmat.2025.137203





Effects of stringent industrial control during the 2022 Beijing Winter Olympics on bacterial variations in the atmosphere and built environments, by Zhuo CHEN

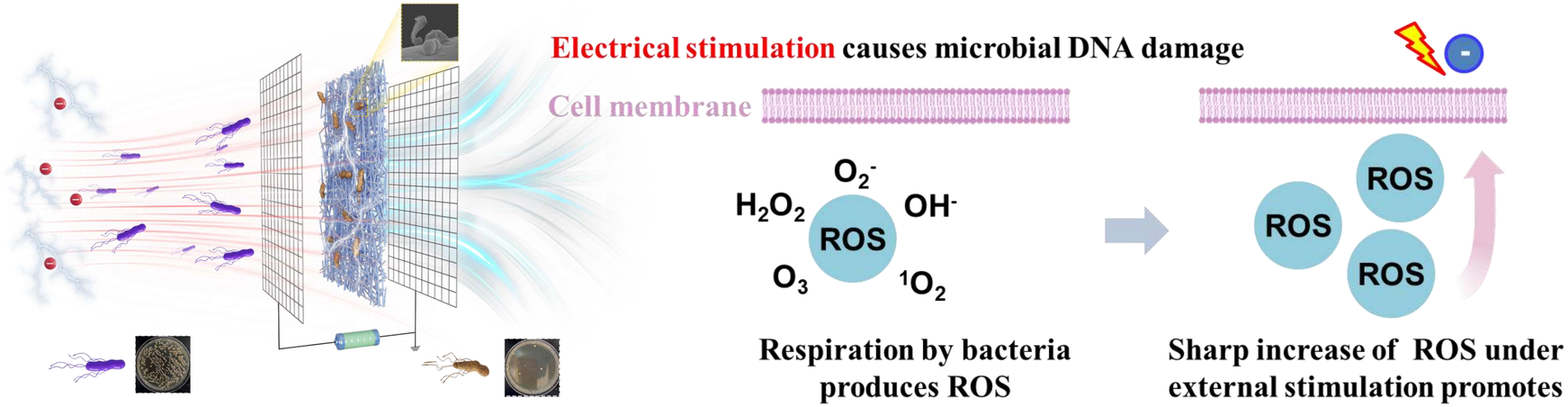
- This study conducted a four-phase field campaign around the 2022 Beijing Winter Olympics to quantify how stringent industrial emission controls reshape outdoor airborne bacterial concentrations, diversity, and potential pathogenicity using high-throughput sequencing and ecological analyses. It further linked outdoor dynamics to an indoor transport and exposure model to estimate indoor distributions and health risks.

  Chen Z, Xia FX, Wang Y, Zou WW, Mi JY, Li ZW, Yu T, Leng WJ, Mo JH* (2025) *Building and Environment* 285: 113623. https://doi.org/10.1016/j.buildenv.2025.113623

Research Activities Funs

Study on the Composition Characteristics of Microbial Aerosols and the Electrostatic Coupling Purification Mechanism in Subway Environments, by Fanxuan Xia

- This study clarifies the impact patterns of subway environmental parameters on microbial aerosol assembly characteristics through environmental sampling and analysis across climate-diverse subway platforms. A dynamic risk prediction system will be developed by integrating the Wells-Riley model with machine learning algorithms. The research reveals non-thermodynamic damage mechanisms of microbial membranes induced by electrostatic fields, elucidating energy thresholds for electrical disintegration of microbial membranes and DNA damage. A dual-zone synergistic electrostatic purification module will be designed to achieve low resistance along with high capture and inactivation efficiency for microbial aerosols.



Electrostatic Coupling Purification

- The outcomes will establish a molecular-level theoretical framework for microbial contamination control in subway environments, advancing air purification technology towards low-resistance, high-efficiency and pollution-free operation. This research provides standardized solutions for constructing green, low-carbon and healthy public transportation environments.

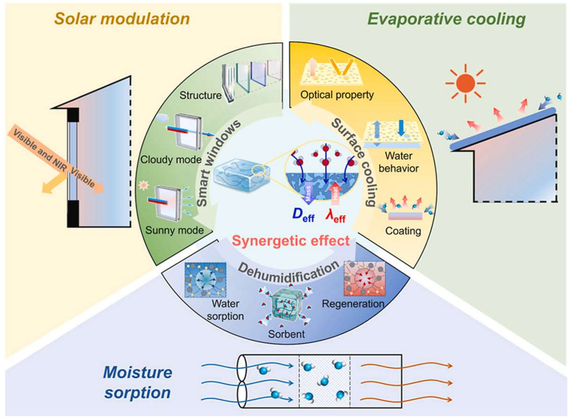
Fanxuan has been supported by the Young Scientists Fund of the National Natural Science Foundation of China

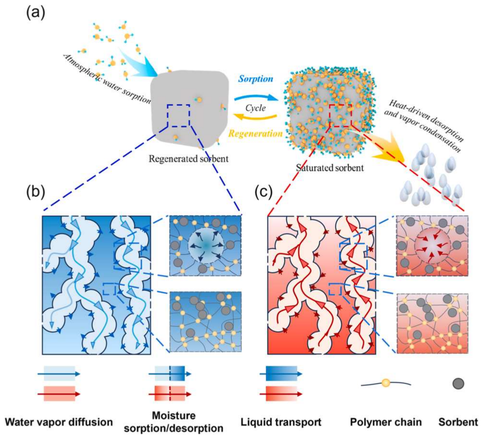
Fanxuan is riding a white yak in Shangri-La, Yunnan

Research Activities Fun

Wuwei is giving an oral presentation at CEBE 2025 in Xi'an, China

Advances in hydrogel-based materials for improving building energy efficiency, by Wuwei ZOU

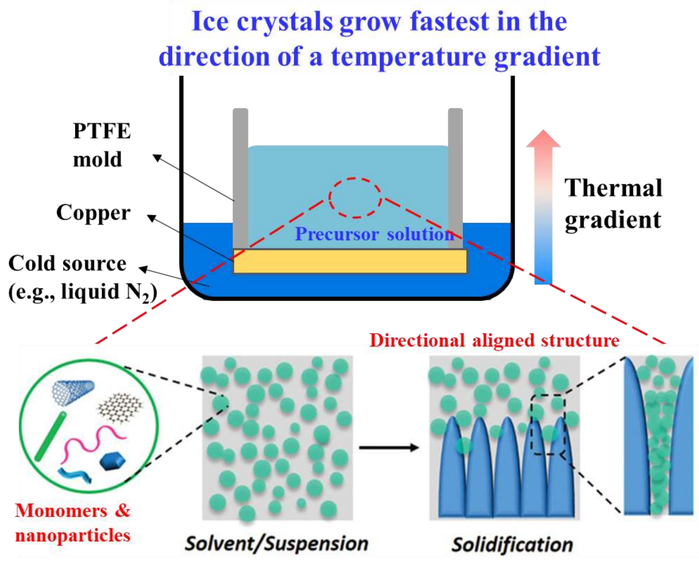


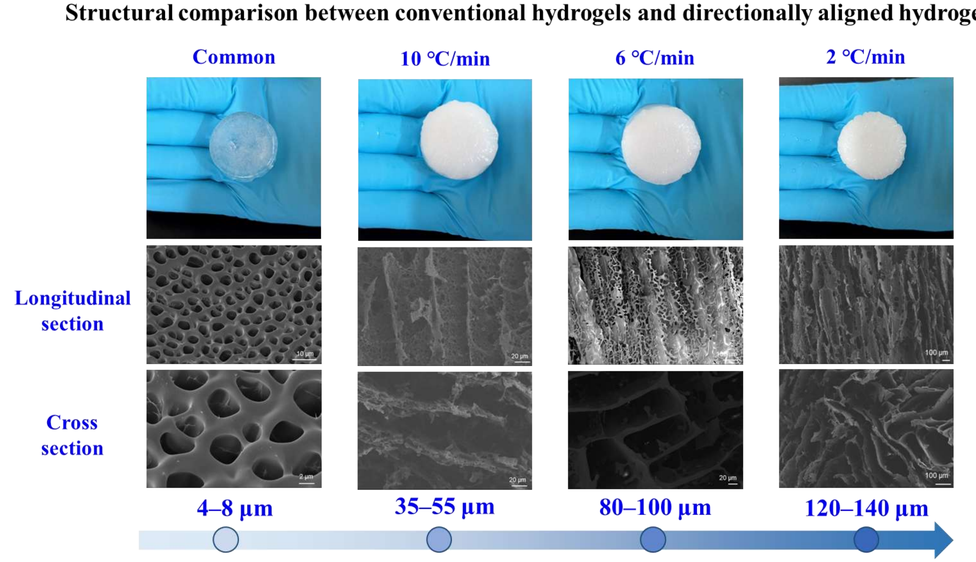


This work presents a comprehensive summary of recent progress in hydrogel-integrated building components with a focus on their roles in smart windows for modulating sunlight dynamically, sorption-based dehumidification systems for effective humidity regulation, and passive thermal management on building surfaces.

Zou WW, Mo JH*, Chen Z* et al., Renewable and Sustainable Energy Reviews, 2026, 226: 116303. https://doi.org/10.1016/j.rser.2025.116303

Dehumidification Enhancement within Directionally Aligned Hygroscopic Hydrogels, by Wuwei ZOU

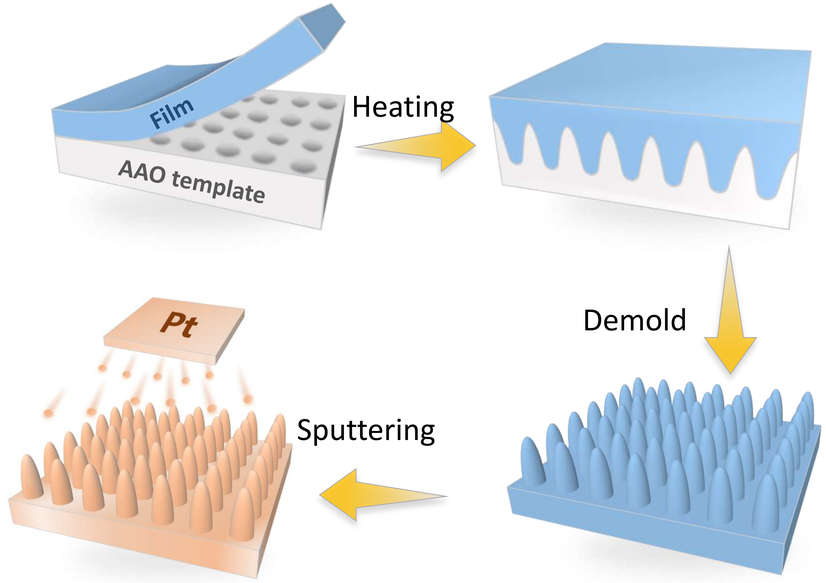


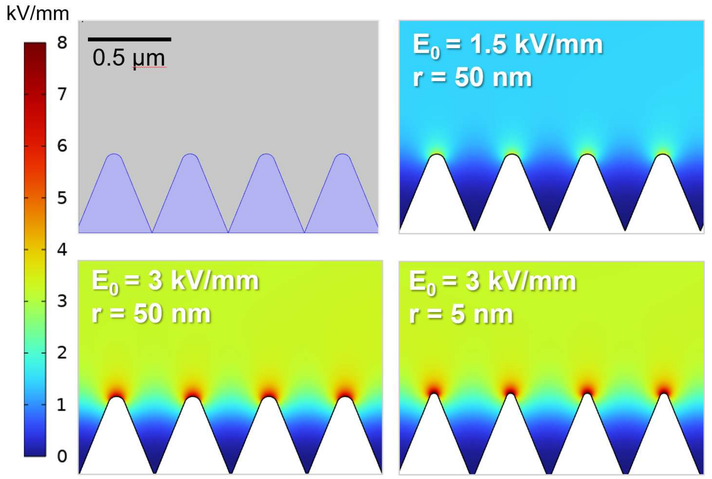


Research Activities Fun

Enhanced Airborne Bacterial Inactivation through Combined Electrostatic and Interface Effects, by Xihui LIU

- We developed a novel bactericidal surface based on the combined electrostatic and interfacial effects and applied it as the collecting electrode in an electrostatic precipitator.
- Using an AAO template-assisted method and metal sputtering, a polyvinyl chloride (PVC) sheet was modified to form a tailored nano-spine surface topography, with an average height of 425 nm, an interval of 40 nm, and a tip diameter of 100 nm.
- Due to the tip effect, the interfacial electric field intensity—where bacteria deposit—was doubled. Under a background electric field of 0.5 kV/mm and an exposure time of 30 min, the synergistic effects of enhanced interfacial electric fields and mechanically induced cell membrane tearing increased the bactericidal efficiency from 73% to 90%.





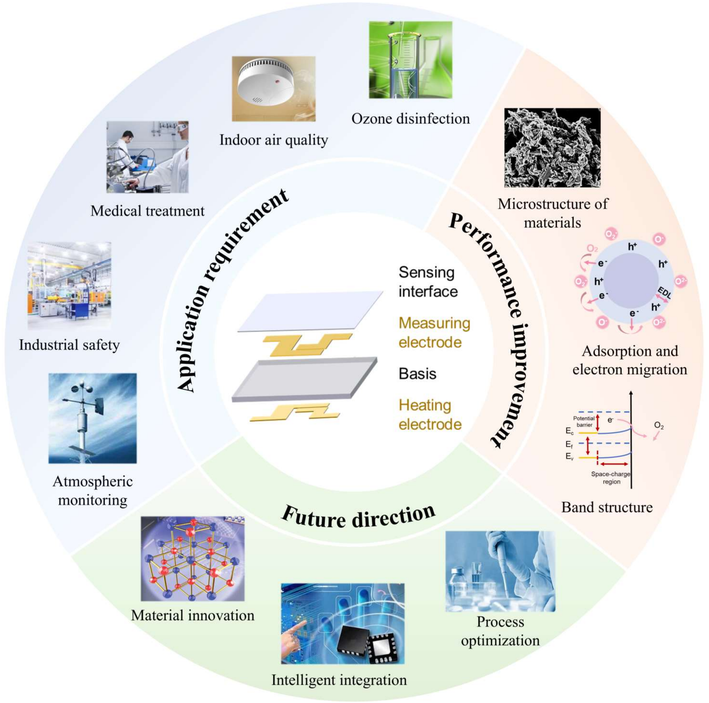
Xihui is enjoying the beautiful autumn scenery of the campus.

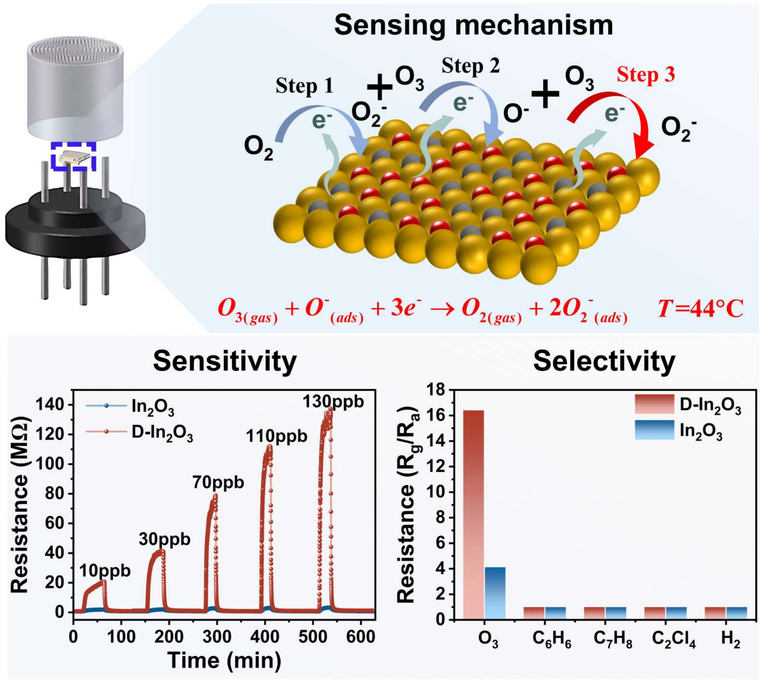
Research Activities Fun

Advances and challenges in metal oxide semiconductor-based sensors for indoor ozone detection, by Dongqing Pang

This study summarizes the sensing mechanism of MOS-based O_3 sensors, including O_3 adsorption, charge transfer, and conductivity change, and links material composition and microstructure to sensing properties to guide their design for practical applications like indoor monitoring.

Pang, DQ; Deng, JJ*; Mo, JH (2025) Building and Environment 285: 113596 DOI: 10.1016/j.buildenv.2025.113596.





Surfactant-mediated oxygen-vacancy engineering of defect In_2O_3 for ppb-level ozone sensing at low operating temperature, by Dongqing Pang

This study introduced a surface-active-agent–regulated strategy to engineer a defect In_2O_3 (D-In_2O_3) nano-brick to enhance O_3 adsorption and electron-transfer capabilities, enabling highly sensitive, low-concentration O_3 detection.

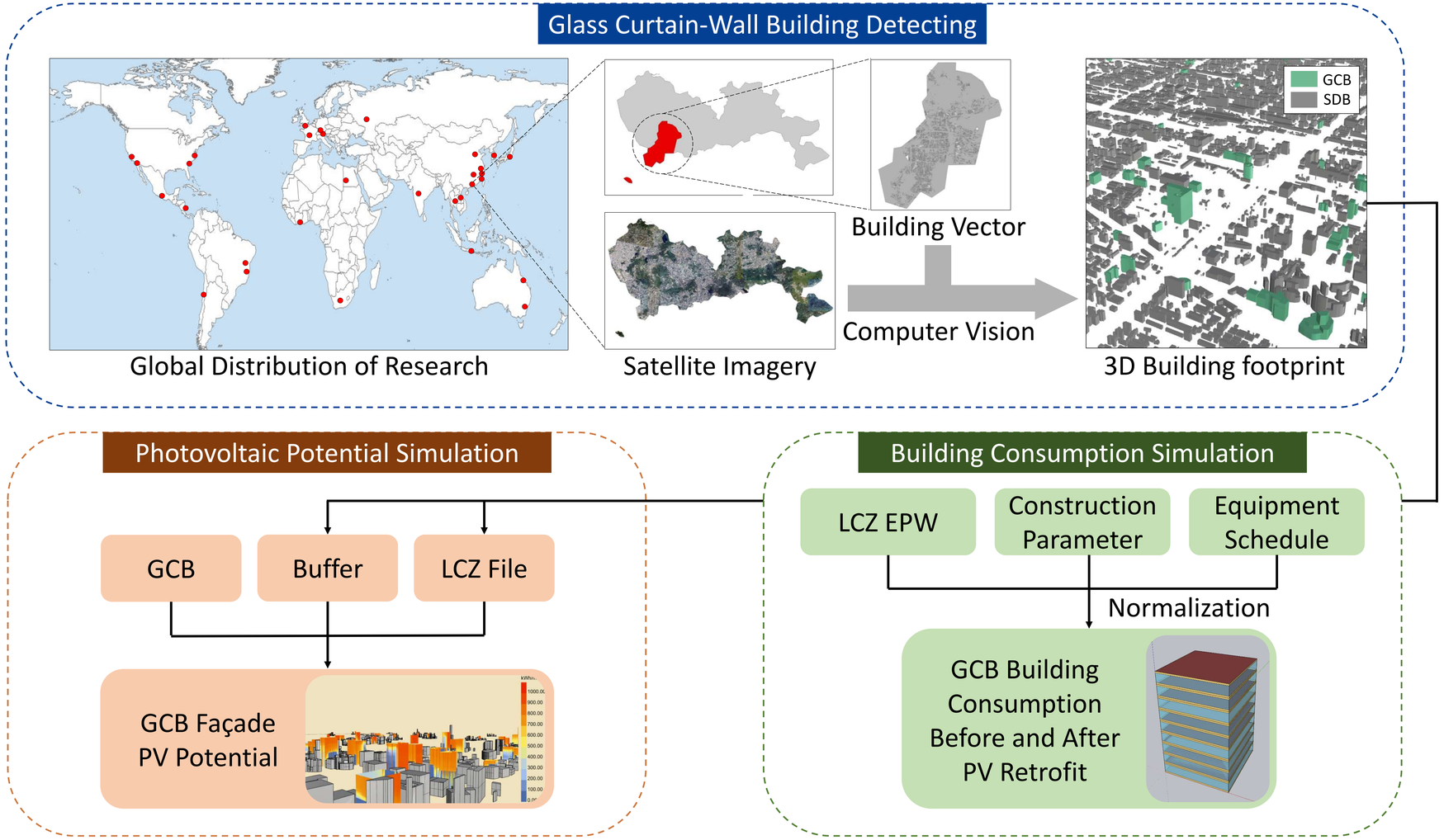
Dongqing is presenting her work on the ozone sensor at the China-IEHB Conference.

Research Activities Fun

Zishang just completed a 26km hike, made it to the finish line and earned a finisher's medal.

Global potential of vertical photovoltaic retrofit in high-density urban building facades, by Zishang ZHU

This study proposes a methodology for establishing a facade photovoltaic potential assessment model specifically for glass curtain walls. The work is divided into three main parts: the first involves detecting glass curtain wall buildings using satellite imagery and associating them with building vector data; the second and third parts focus on facade photovoltaic power generation simulation and building energy consumption simulation.

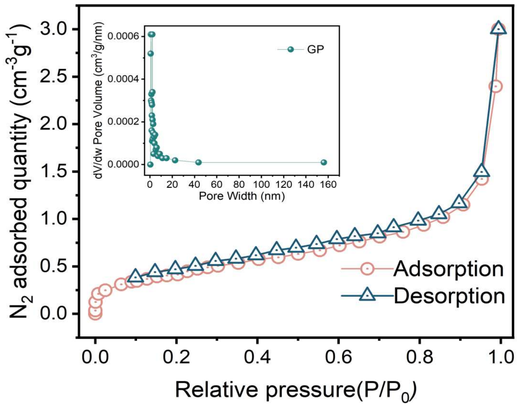


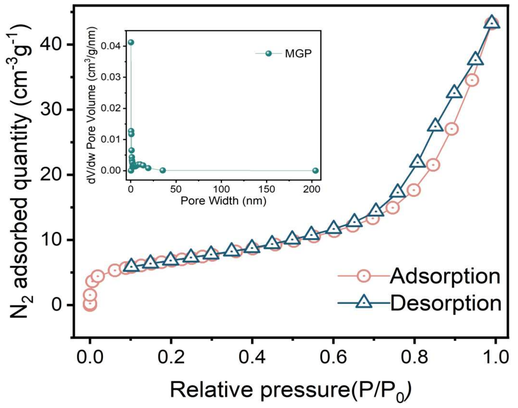
Research Activities Fun

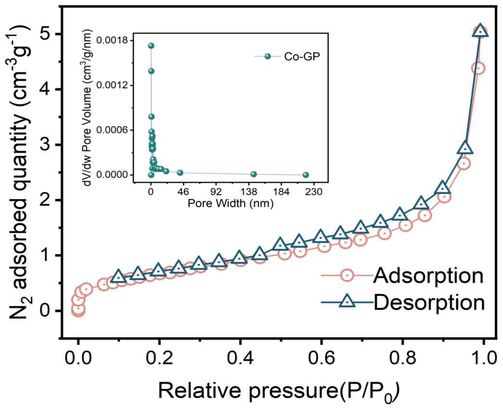
Guo Yuan is installing fan ducts in the laboratory.

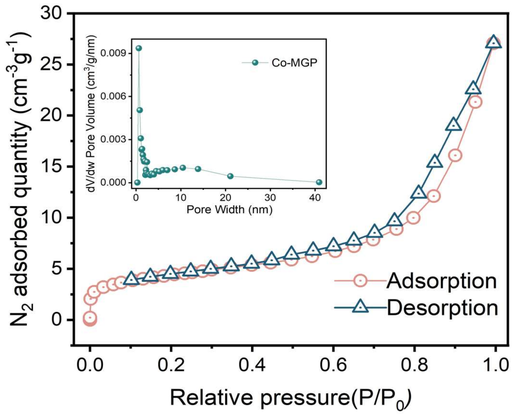
Research on the Preparation of Environmentally Functional Materials Based on Slag-Based Geopolymer Solid Waste Modification and Their Applications, by Guoyuan ZHANG

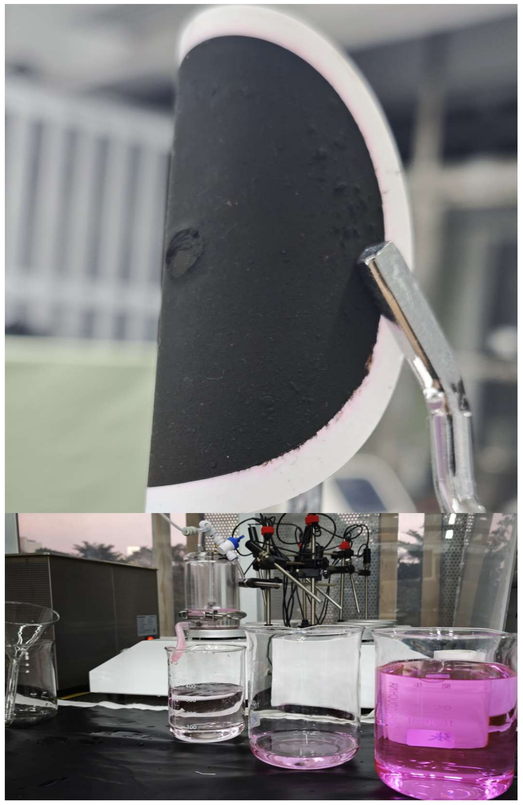
This study proposes a design and manufacturing strategy for preparing environmentally functional materials using geopolymer-modified solid waste. Subsequently, microfiltration membranes are synthesized from geopolymers to achieve efficient pollutant removal. The removal efficiency of 0.5g of the modified material remained above 90% over 600 minutes.







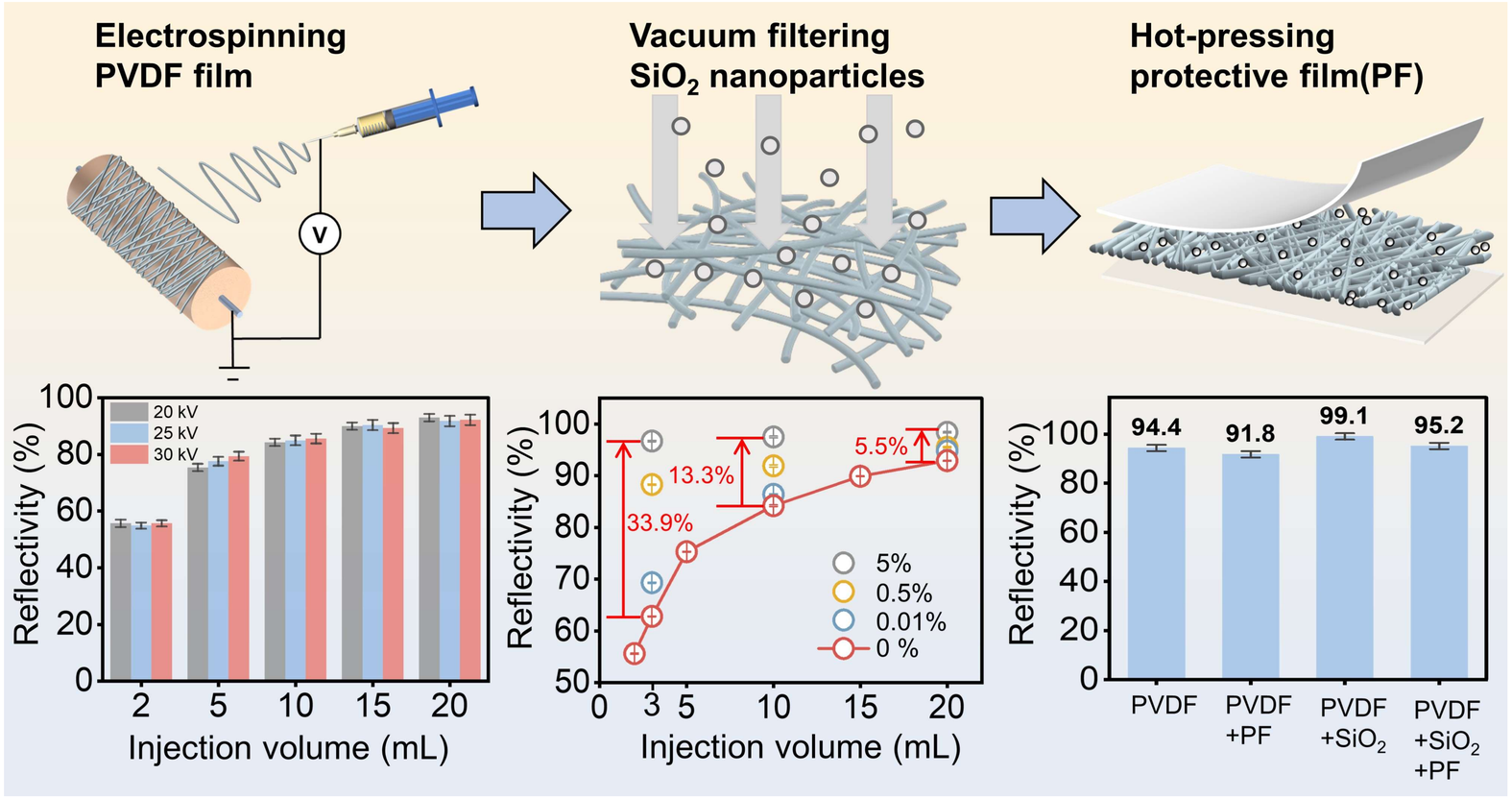




Research Activities Fun

A Fast Three-Step Strategy for Fabricating Highly Reflective and Durable Radiative-Cooling Roll Films, by Jiyi MI

This work presents a fast three-step method to make a durable radiative-cooling roll film with high reflectance. First, a highly reflective PVDF membrane is fabricated by electrospinning. Second, SiO2 nanoparticles are deposited via vacuum filtration to raise the reflectance to about 98%. Finally, protective films are hot-pressed onto both sides of the membrane. The final roll film keeps over 95% reflectance and is durable for outdoor use.

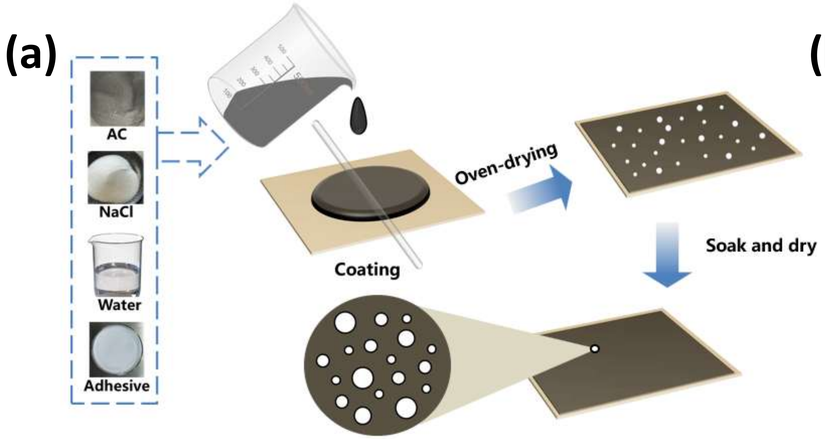


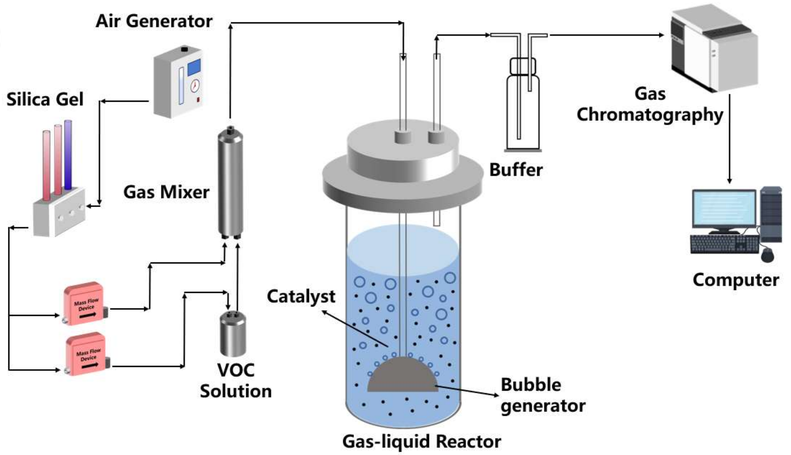
Jiyi is presenting his work on radiative cooling film at the 4th CEBE Conference.

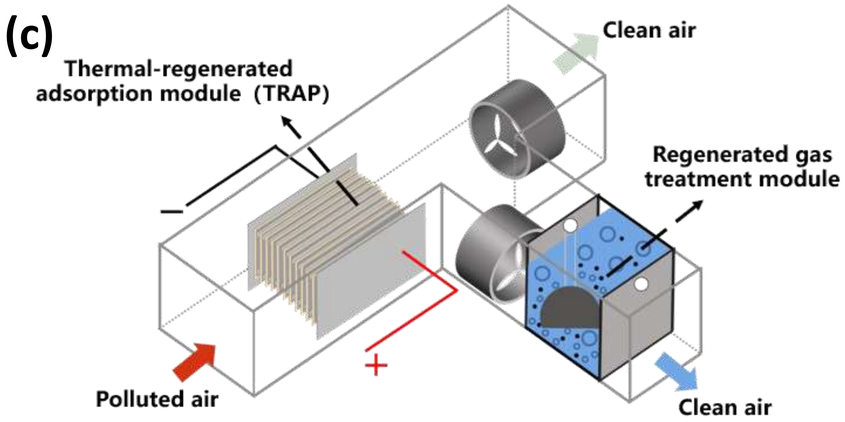
Ziquan is preparing a BET test.

Research on In-situ Purification Technology for Tunnel Air Pollutants, by Ziquan YIN

We developed a tunable, multiscale-channeled adsorptive film that enhances VOC adsorption at low flow resistance (via increased effective surface area and site utilization)(a), and an aqueous-phase catalytic system based on metal-loaded molecular sieves, where channel-confined active sites enable efficient VOC oxidation(b).



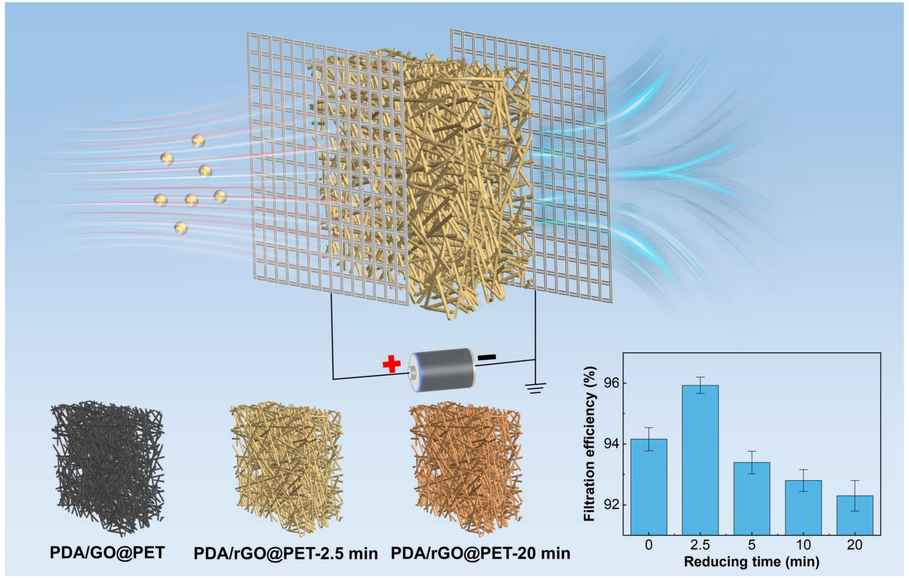


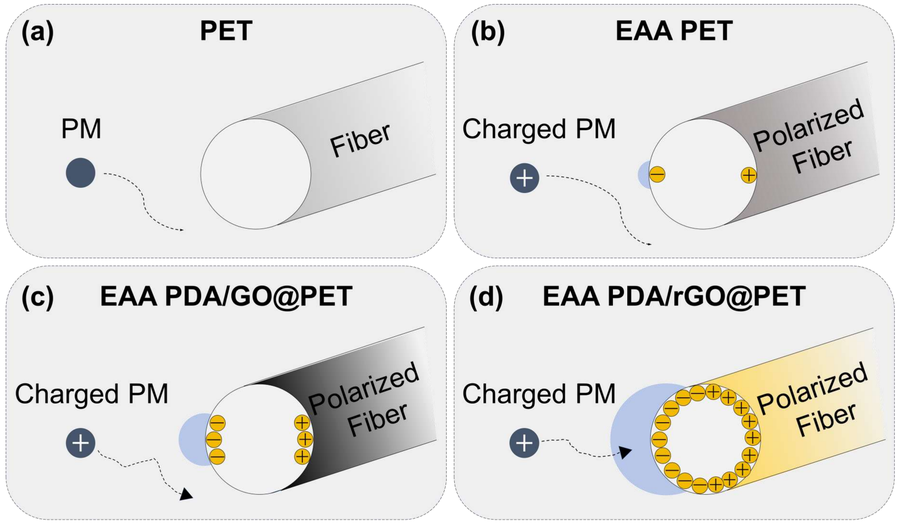


We aim to develop a tunnel air-pollutant purification device in which a TRAP module adsorbs pollutants, is regenerated in situ by heating to desorb them, and the desorbed off-gas is sent to a water tank for aqueous-phase catalytic removal, enabling continuous purification (c).

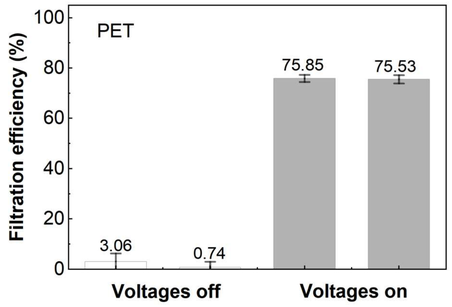
Research Activities Fun

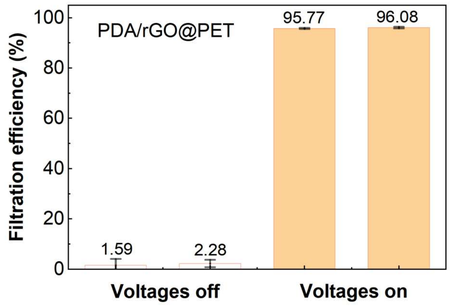
Balancing ultralow pressure drop and high filtration efficiency via electrostatic-assisted filters modified by reduced graphene oxide, by Erwei ZHOU.

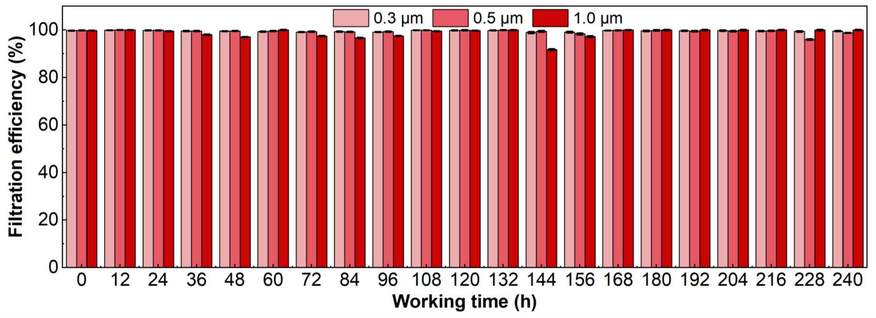


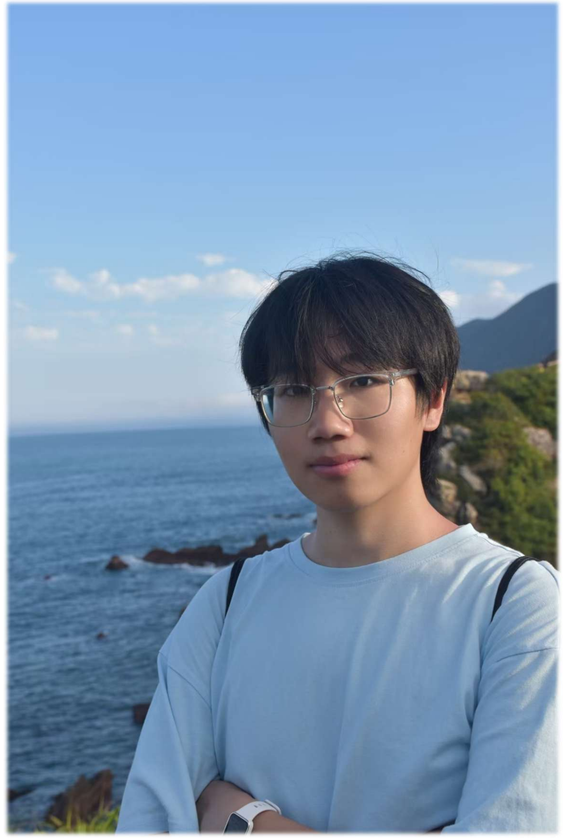


The blue area indicates the intensity of the induced electric field.







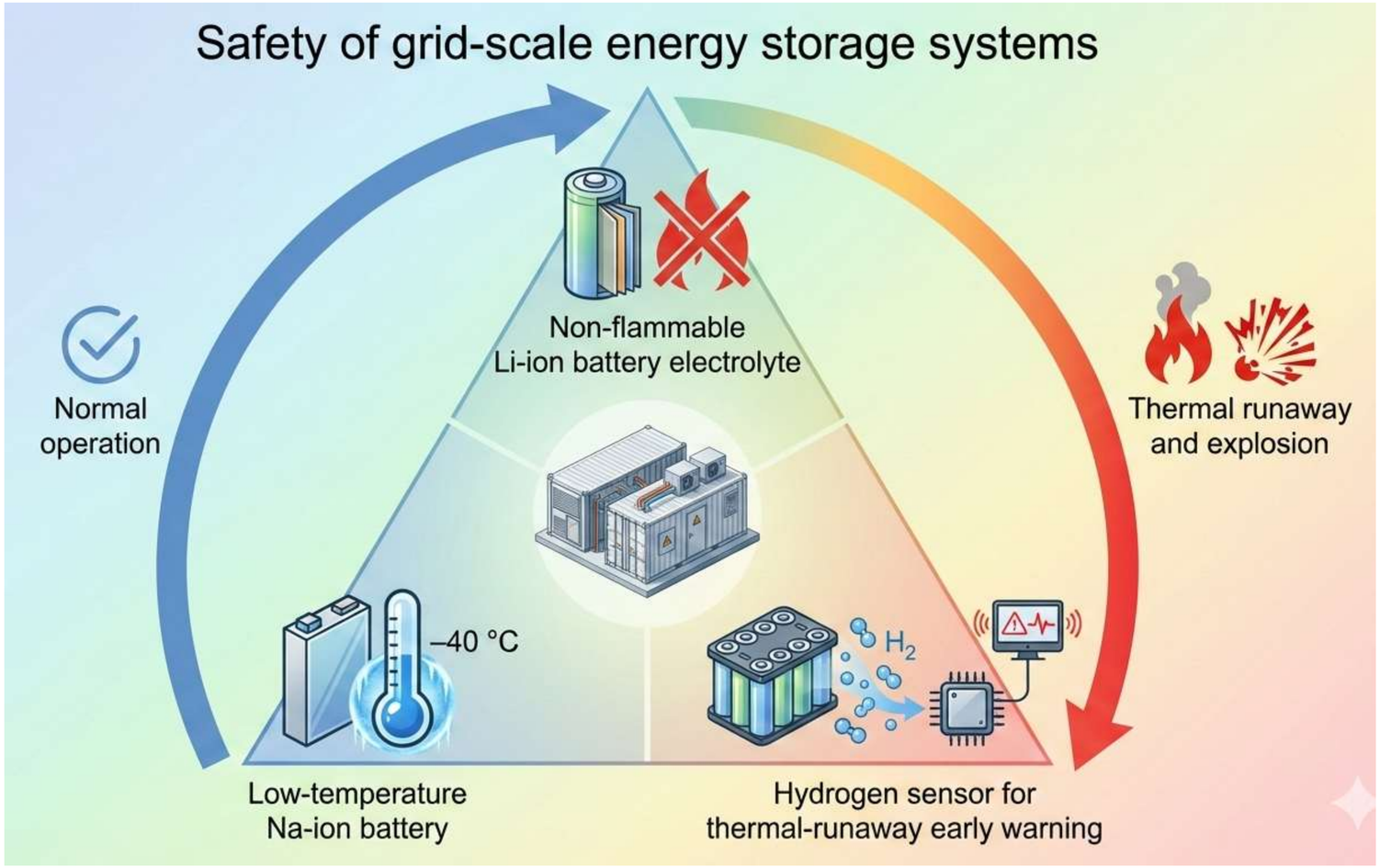


Erwei is traveling in Dapeng Peninsula.

This study proposed a polyethylene terephthalate coarse filter modified with high-εr reduced graphene oxide via a polydopamine-mediated in situ coating. It achieved a filtration efficiency of over 99% and a pressure drop of 1.4 Pa at an air velocity of 0.053 m s^{-1}. After 240 hours of continuous operation, the filtration efficiency remained at 99.6% of its initial value, and the pressure drop was almost unchanged.

Research Activities Fun

Thermal protection for energy storage power stations, by Junquan CHEN



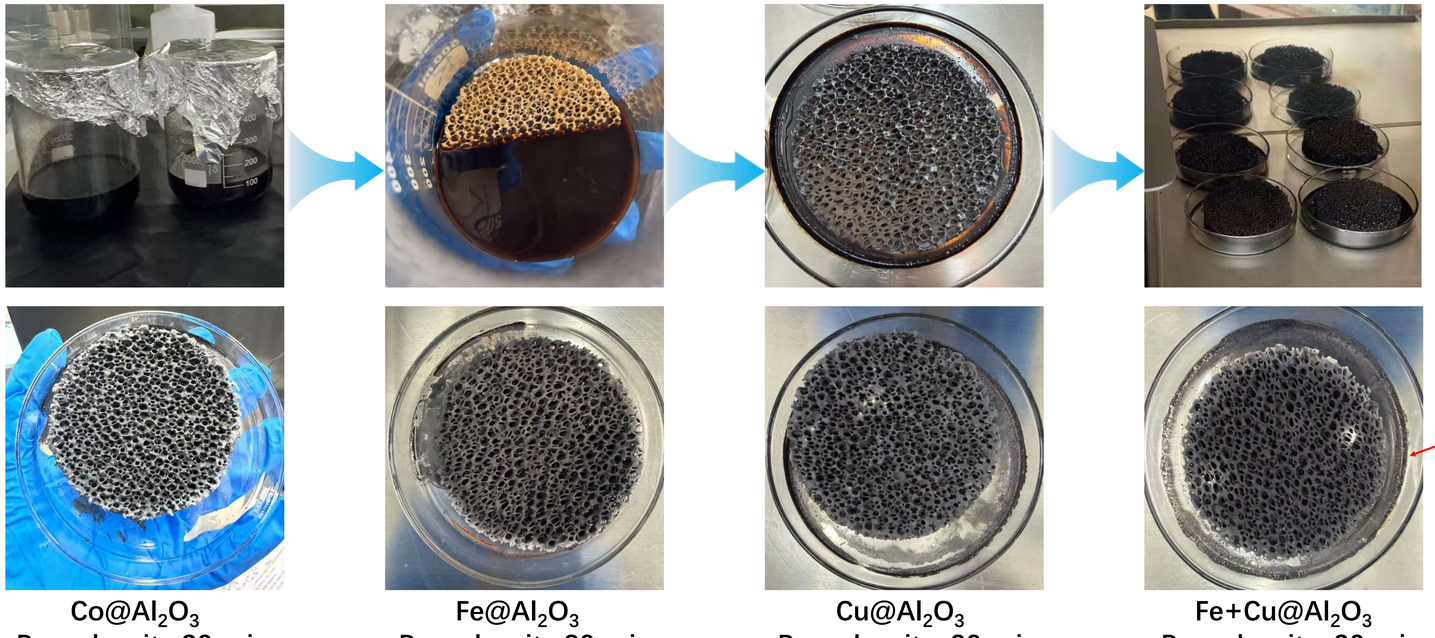
Junquan is dedicated to addressing the safety issues of energy storage stations. His research mainly focuses on three aspects: developing non-flammable electrolytes, replacing lithium batteries with sodium batteries, and developing hydrogen sensors for early warning of thermal runaway.

Junquan enjoys the sea breeze in Cheju, Korea.

Research Activities Fun

A catalyst loaded on honeycomb ceramics is used for the wet degradation of VOCs in microbubble systems, by Xinxin Wang

This system integrates honeycomb ceramic catalyst supports within a micro-bubble multiphase reactor for VOC degradation, leveraging high surface area and low pressure drop. The synergy with micro-bubble technology drastically enhances gas-liquid-solid mass transfer and VOC diffusion onto immobilized active sites. This configuration ensures rapid catalytic kinetics, high mineralization rates, and superior pollutant removal efficiency.

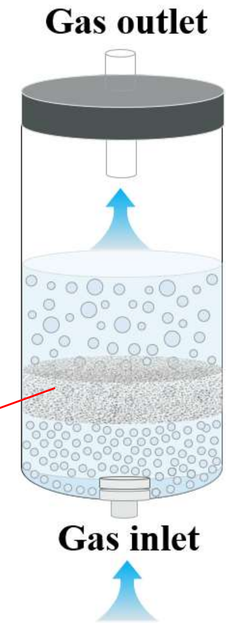


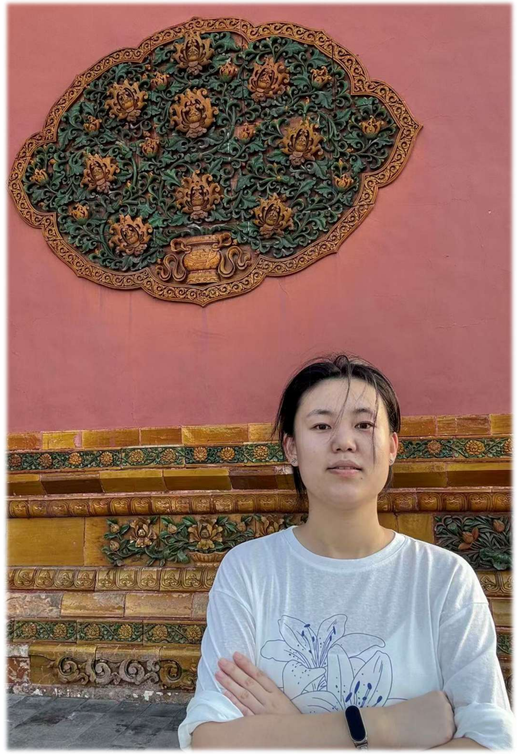
$Co@Al_2O_3$
Pore density:30ppi

$Fe@Al_2O_3$
Pore density:30ppi

$Cu@Al_2O_3$
Pore density: 30ppi

$Fe+Cu@Al_2O_3$
Pore density: 30ppi





Xinxin pauses in front of Centuries of craftsmanship.

Research Activities Fun

In-situ High-efficiency Electrocatalytic Method for Hydrogen Peroxide Synthesis Supplementary Notes, by Jiahao DUAN

Jiahao is learning to conduct experiments related to electrocatalytic hydrogen peroxide

Jiahao is exercising at the campus gym

Research Activities Fun

Some publications we achieved in 2025. (all papers are listed on https://jmo-lab.net/publications)

- Tian EZ, Chen QW, Gao YL, Chen Z, Wang Y, Mo JH*, Advancing indoor air purification by mass transfer enhancement: Bridging the gap between high-performance materials and technologies, ***Engineering***, 2025, https://doi.org/10.1016/j.eng.2025.07.003
- Fan C, Lei YT, Piscitelli MS, Mo JH*. Generalizable data-driven building operation control methods for scalable cross-building applications. ***Energy Use***, 2025, 1(1), 100008.
- Chen Z, Xia FX, Wang Y, Zou WW, Mi JY, Li ZW, Yu T, Leng WJ, Mo JH*, Effects of stringent industrial control during the Beijing Winter Olympics on bacterial variations in the atmosphere and built environments, ***Building and Environment***, 2025, 285, 113623.
- Deng JJ, Yu XL, Fei B, Mo JH*, Cutting-edge gas sensor design for monitoring thermal runaway in lithium-ion batteries: a critical review, ***Journal of Energy Chemistry***, 2025, 109: 769-785.
- Mi JY, Zou WW, Wang Y, Gao YL, Mo JH*, Chen Z*, Evaluation of the cooling mechanisms and performance of passive radiative cooling coatings in track-slab applications, ***Construction and Building Materials***, 2025, 473, 141057.
- Chen Z, Chen QW, Wang Y, Zou WW, Li Y, Mo JH*, Tuning multi-scale pore structures in carbonaceous films via direct ink writing and sacrificial templates for efficient indoor formaldehyde removal, ***Journal of Hazardous Materials***, 2025, 487, 137203.
- Chen Z, Tian EZ, Jing Y, Mo JH*, Global perspectives on indoor phthalates and alternative plasticizers: Occurrence and key transport parameters, ***Journal of Hazardous Materials***, 2025, 482, 136506.
- Gao YL, Wang J, Tian EZ, Chen Z, Mo JH*, Electric-field activating on-surface tailored (OST) coarse polyester fibers for efficient airborne particle removal: Interfacial morphologies and electrical response, ***Separation and Purification Technology***, 2025, 353, 128291.
- Deng JJ, Chen XZ, Bai Y, Mo JH, Yu XL. Data-driven electrolyte design for advanced rechargeable lithium batteries. ***Chinese Journal of Chemistry***, 2026, 44, 403-418.
- Pang DQ, Tian EZ, Xie RJ, Yin ZQ, Chen JQ, Deng JJ*, Mo JH, Advances and challenges in metal oxide semiconductor-based sensors for indoor ozone detection, ***Building and Environment***, 2025, 285, 113596.
- Wang Y, Pang DQ, Mo JH, Chen Z*. Nickel foam-based preconcentrator for sensitive and accurate detection of low-concentration volatile organic compounds. ***Building and Environment***, 2025, 113070.
- Liu XH, Gao YL, Mo JH, Tian EZ*, Sub-kilovolt electrostatic precipitation for efficient and safe removal of airborne particles, ***Separation and Purification Technology***, 2025, 36l, 131251.
- ….

Research Activities Fun

Yilun finished his PhD thesis defense. Congratulations to Dr. GAO!

Jiaze finished his Master thesis defense. Congratulations to Jiaze!

Yan finished her PhD thesis defense. Congratulations to Dr. WANG!

Group photo of the Tsinghua lab after defense

Graduation ceremony for Yilun GAO, Yan WANG and Jiaze WEI

From left to right:
Wuwei ZOU, Yilun GAO, Jinhan MO, Yan WANG, Jiaze WEI, Xihui LIU

Dr. Cheng Fan got the Guangdong Provincial Science and Technology Progress Award (Second prize)

广东省科技进步奖
证 书

为表彰 2024 年度广东省科技进步奖获得者，特颁发此证书。

项目名称：公共建筑低碳智能预测与监控关键技术及应用

奖励等级：二等奖

获 奖 者：范成

粤府证【2025】1653 号
项目编号:J11-2-09-R01

广东省科技进步奖
证 书

为表彰 2024 年度广东省科技进步奖获得者，特颁发此证书。

项目名称：公共建筑低碳智能预测与监控关键技术及应用

奖励等级：二等奖

获 奖 者：深圳大学

粤府证【2025】2398 号
项目编号:J11-2-09-D01

Our team has received funding from the National Natural Science Foundation of China (NSFC), the Guangdong Basic and Applied Basic Research Foundation, and the Shenzhen Natural Science Foundation.

国家自然科学基金资助项目批准通知

（预算制项目）

范成　先生/女士：

根据《国家自然科学基金条例》、相关项目管理办法规定和专家评审意见，国家自然科学基金委员会（以下简称自然科学基金委）决定资助您申请的项目。项目批准号：52578137，项目名称：基于跨建筑“数据-模型”协同的中央空调系统能效自适应诊断方法，直接费用：50.00万元，项目起止年月：2026年01月至2029年12月，有关项目的评审意见及修改意见附后。

国家自然科学基金资助项目批准通知

（预算制项目）

邓娇娇　先生/女士：

根据《国家自然科学基金条例》、相关项目管理办法规定和专家评审意见，国家自然科学基金委员会（以下简称自然科学基金委）决定资助您申请的项目。项目批准号：52578136，项目名称：建筑锂电储能站热失控的氢气传感预警方法与系统研究，直接费用：50.00万元，项目起止年月：2026年01月至2029年12月，有关项目的评审意见及修改意见附后。

国家自然科学基金资助项目批准通知

（包干制项目）

夏凡轩　先生/女士：

根据《国家自然科学基金条例》、相关项目管理办法规定和专家评审意见，国家自然科学基金委员会（以下简称自然科学基金委）决定资助您申请的项目。项目批准号：52508129，项目名称：地铁环境微生物气溶胶组构特征与静电耦合净化机制研究，资助经费：30.00万元，项目起止年月：2026年01月至2028年12月，有关项目的评审意见及修改意见附后。

国家自然科学基金资助项目批准通知

（预算制项目）

徐桂银先生/女士：

根据《国家自然科学基金条例》、相关项目管理办法规定和专家评审意见，国家自然科学基金委员会（以下简称自然科学基金委）决定资助您申请的项目。项目批准号：U25A20341，项目名称：面向超净过滤技术的纤维与颗粒界面传递电响应研究，直接费用：258.00万元，项目起止年月：2026年01月至2029年12月，有关项目的评审意见及修改意见附后。

2025年度深圳市基础研究专项
自然科学基金计划项目任务书
（包干制项目）

装 订 线

项目名称：	基于H2/CO双气体协同监测的城市锂电储能站热失控超前预测方法与技术研究		
资助经费：	30.00万元	执行时限：	3年
项目负责人：	邓娇娇	联系电话：	15899752609
项目联系人：	邓娇娇	联系电话：	15899752609
依托单位：	深圳大学（盖章）		
通讯地址：	深圳市南山区南海大道3688号		

2025年度深圳市基础研究专项
自然科学基金计划项目任务书
（包干制项目）

装 订 线

项目名称：	微液滴界面调控强化VOCs废气深度治理方法研究		
资助经费：	30.00万元	执行时限：	3年
项目负责人：	谢锐杰	联系电话：	13719343070
项目联系人：	谢锐杰	联系电话：	13719343070
依托单位：	深圳大学		

Dr. Ruijie XIE participated in this project and received a 1-million research grant.

Prof. Mo is presenting the research progress on the 14th Five-Year Plan Key R&D Project in Chengdu, Sichuan, China.

Prof. Jinhan Mo is presenting a keynote speech in the 24th National Conference on Ventilation Technology (2025)

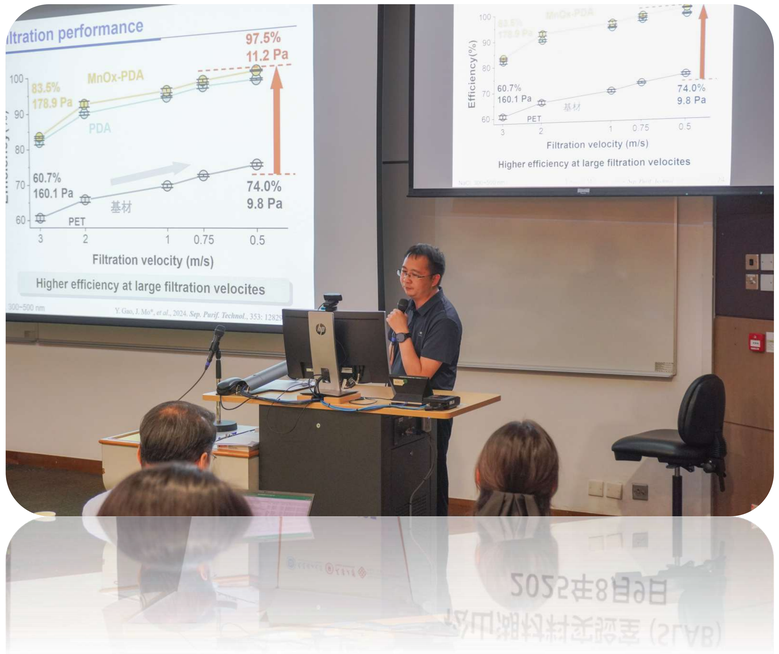
Prof. Jinhan Mo is attending the Launch Ceremony of EBES Sustainable Building and is presenting a keynote speech in the first Sustainable Building Conference 2025

Prof. Jinhan MO is presenting an invited speech in the 16th National Conference on Building Physics

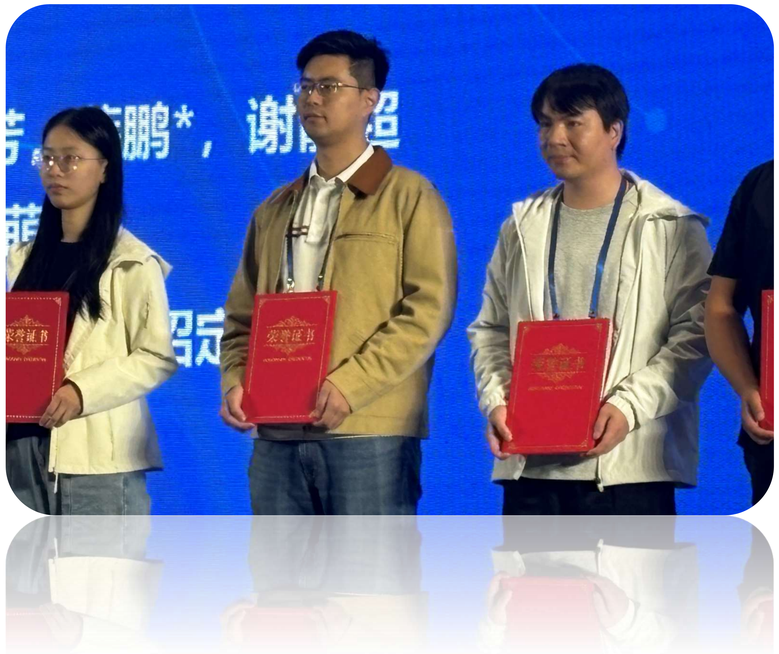
Dr. Enze TIAN is presenting an invited speech at the 12th Annual Conference of the Indoor Environment and Health Branch of the Chinese Society for Environmental Sciences (IEHB 2025) held by the Dalian University of Technology

Dr. Enze TIAN is presenting an invited speech in the Appliance Science & Technology Conference (ASTC 2025) held by China Household Electrical Appliances Research Institute

Dr. Enze TIAN is giving an invited speech in the 4th Young Scholars Symposium in Architecture held by Division of Engineering and Materials Science in NSFC,



Prof. Jinhan Mo is delivering an invited speech as part of the Beijing-Hong Kong University Alliance (BHUA) Academic Seminar on Smart Buildings and Low-carbon Cities.



Dr. Zhuo Chen got the poster award in the 16th National Conference on Building Physics

Prof. Jinhan Mo and Assistant Prof. Yan Wang are having lunch with the senior executive from Amway Company.

Dr. Zhuo CHEN and Xihui LIU attended the 9th National Bioaerosol Symposium in Hangzhou.

Associate Prof. Xie hosted his first academic workshop and invited Professor Leung (HKU) to deliver a keynote lecture.

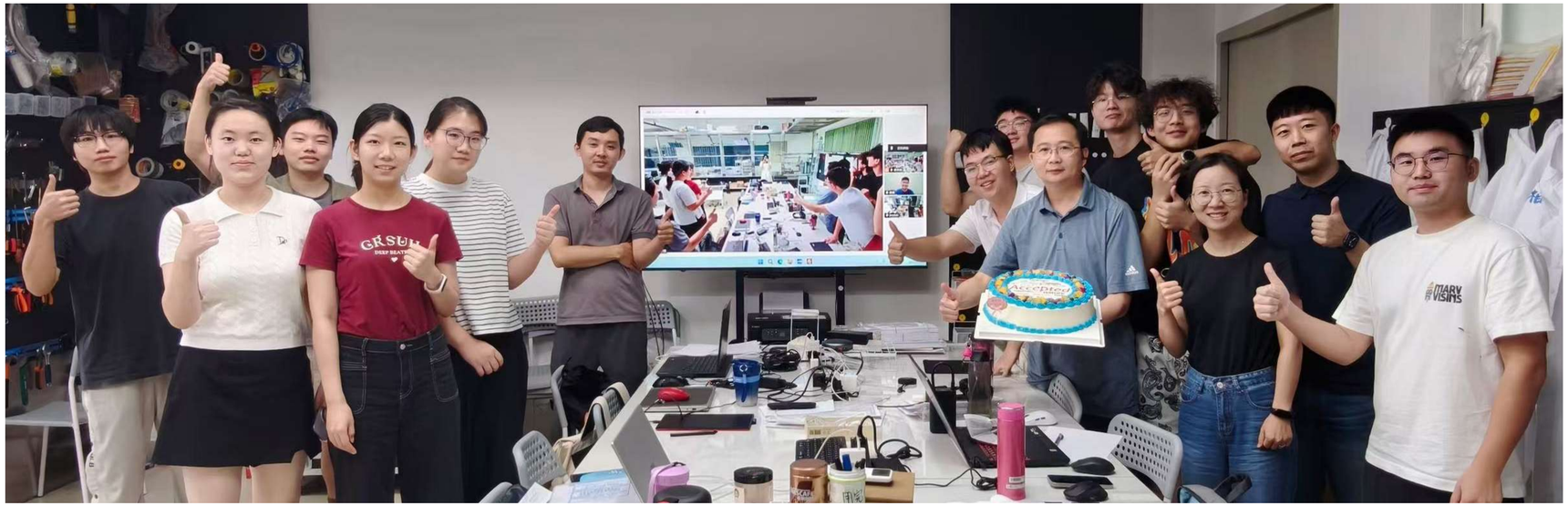
Dr. Deng and Dr. Wang are enjoying the campus scenery of Shenzhen University with Professor Qian Hua and executives from 352 Air Purification Company.

Our team is participating in the 12th Annual Conference of the Indoor Environment and Health Branch of the Chinese Society for Environmental Sciences (IEHB 2025), held in Dalian.

Our team members are taking a group photo with the sub-forum experts of the 4th International Conference for Global Chinese Academia on Energy and Built Environment.

Our team is participating in the 4th International Conference for the Global Chinese Academia on Energy and Built Environment.

Research Activities Fun



Happy New Year 2026!

JMO Lab – Air-quality & Energy-saving in Confined Spaces

this picture generated by China AI