中国矿业大学 CHINA UNIVERSITY OF MINING AND TECHNOLOGY

低碳能源与动力工程学院 School of Low-Carbon Energy and Power Engineering

“能源科学与工程”创新论坛

储能前沿技术学术沙龙

Energy Science and Engineering Innovation Forum —

Academic Salon on Energy Storage Frontier Technologies

时　　间：2025 年 10 月 15 日
报告地点：南湖校区计算机楼 B102
主办单位：能源学院、低碳能源与动力工程学院

Invited lecturer	Time	Title of Presentation
Opening Ceremony	9:00-9:10	
Takahiro NOMURA, 能村 贵宏 *Hokkaido University*	9:10-9:50	Development of microencapsulated phase change material for generalized thermal management 相变微胶囊的开发及其在广义热管理中的应用
Zhangjing ZHENG, 郑 章靖 *CUMT*	9:50-10:30	Research on intelligent biomimetic fins for phase change heat storage enhancement 智能仿生翅片在相变储热强化中的应用研究
Break time		
Deqiu ZOU, 邹 得球 *Ningbo University*	10:40-11:20	Research on the application of liquid metal microcapsules in thermal management and thermal runaway protection 液态金属微胶囊在热管理及热失控防护中的应用研究
Changhui LIU, 刘 昌会 *CUMT*	11:20-12:00	Study on the synthesis and application of organic phase change materials 有机相变材料的合成与应用研究
Break time		
Liwu FAN, 范 利武 *Zhejiang University*	14:00-14:40	Sugar alcohol phase-change materials for high-performance low-to-medium temperature thermal energy storage 面向高性能中低温储热的糖醇相变材料
Nan SHENG, 盛 楠 *CUMT*	14:40-15:20	High-temperature phase change heat storage capsule based on macro-encapsulation design 基于宏封装设计的高温相变储热胶囊
Break time		
Chenggong HAN, 韩 成功 *Guangzhou University*	15:30-16:10	Ionic thermoelectric gels and application 离子热电凝胶及其应用
Keyan SUN, 孙 克衍 *CUMT*	16:10-16:50	Design and thermal management application of flexible phase change materials 柔性相变材料的设计及热管理应用

欢迎全校师生参加！

报告专家简介

Takahiro NOMURA，能村 贵宏

能村贵宏博士，北海道大学工学院，教授。2014 年起先后在日本顶尖学府北海道大学工学研究院任助理教授、副教授、教授，蓄热材料领域国际知名青年学者。累积以第一作者或通讯作者发表 SCI 论文近百篇，担任储能领域知名期刊 Journal of Energy Storage 编辑，出版多部日、英文专业著作，取得多项蓄热及材料科学领域发明专利。先后主持多项日本科学技术振兴机构（JST）及新能源产业技术机构（NEDO）国家级重点项目，以及多家知名跨国企业的校企合作研发项目，在蓄热技术领域有优秀的国际学术声誉和丰富的产业技术合作经验。能村教授十余年来深耕蓄热材料与蓄热技术领域，重视科学技术的产业转化，尤其在相变储能材料领域取得了大量先进的研究成果，其团队开发的高性能高温金属基相变微胶囊技术已经实现了初步产业转化。

Professor Takahiro Nomura, graduated from the Department of Materials Science, Faculty of Engineering, Hokkaido University, where he also earned a Ph.D. in Engineering. Since 2014, he has held positions as Assistant Professor, Associate Professor, and Professor at the Faculty of Engineering, Hokkaido University, a leading Japanese institution. He is an internationally renowned young scholar in the field of thermal energy storage materials. He has published nearly 100 papers as first author or corresponding author, serves as an editor for Journal of Energy Storage, and has authored multiple professional works in Japanese and English. He has also obtained several patents in the fields of thermal energy storage and materials science. He has led numerous national key projects funded by the Japan Society for the Promotion of Science (JSPS) and the New Energy and Industrial Technology Development Organization (NEDO), as well as industry-academia collaborative R&D projects with several well-known multinational corporations.

Deqiu ZOU，邹 得球

邹得球博士，宁波大学教授、博士生导师。入选全球前 2%顶尖科学家（2025），爱思唯尔(Elsevier)“中国高被引学者”（2023-2024），浙江省高校领军人才培养计划-高层次拔尖人才，浙江省高校中青年学科带头人，宁波市领军和拔尖人才，宁波市重点高层次人才。主持国家自然科学基金 3 项、浙江省自然科学基金及科技计划项目 3 项、宁波市自然科学基金 3 项。以第一/通讯作者在 Energy Storage Materials、Advanced Functional Materials、Energy、Applied Energy、Energy Conversion and Management、Journal of Energy Chemistry、Chemical Engineering Journal、International Journal of Heat and Mass Transfer、International Journal of Mechanical Sciences 等权威期刊上发表 SCI/EI 收录论文 60 余篇（30 余篇 IF>10），其中 ESI 高被引 9 篇（2 篇同时为热

点论文），单篇论文最高/次高 SCI 分别引用 555/381 次(Web of Science)，授权和公开发明专利 20 余件（已授权 10 件）。

Deqiu Zou is a Professor and Doctoral Supervisor at Ningbo University. He has been recognized as a Global Top 2% Scientist (2025) and an Elsevier Highly Cited Chinese Researcher (2023-2024). His honors include selection for the Zhejiang Provincial Higher Education Leading Talent Program - High-Level Distinguished Talent, the Zhejiang Provincial Higher Education Young Academic Leader Program, the Ningbo Municipal Leading and Top Talent Program, and the Ningbo Municipal Key High-Level Talent Program.

He has led three projects funded by the National Natural Science Foundation of China, three projects from the Zhejiang Provincial Natural Science Foundation and Science & Technology Plan, and three projects from the Ningbo Municipal Natural Science Foundation.

As first author or corresponding author, he has published over 60 SCI/EI-indexed papers in authoritative journals such as Energy Storage Materials, Advanced Functional Materials, Energy, Applied Energy, Energy Conversion and Management, Journal of Energy Chemistry, Chemical Engineering Journal, International Journal of Heat and Mass Transfer, and International Journal of Mechanical Sciences. More than 30 of these publications have an Impact Factor greater than 10. Among them, 9 are ESI Highly Cited Papers (two of which are also Hot Papers). The highest and second-highest cited papers have received 555 and 381 Web of Science citations, respectively. He also holds over 20 authorized and publicly disclosed invention patents (with 10 already granted).

Liwu FAN，范 利武

范利武博士，现任浙江大学能源工程学院教授，并担任浙江大学热能工程研究所所长，同时兼任浙江大学能源清洁利用国家重点实验室研究员。范利武教授的研究聚焦于面向低碳未来的相变与微尺度传热及其在热能转换与储存中的应用。他在国际知名期刊发表论文 120 余篇，包括《自然·通讯》《能源存储材料》《先进功能材料》《流体力学杂志》《国际传热传质杂志》等。2021 年 7 月荣获吴仲华优秀青年学者奖，2022 年入选国家青年人才项目。

Dr. Liwu FAN is Professor in the School of Energy Engineering at Zhejiang University. He is the Head of the Institute of Thermal Science and Power Systems at Zhejiang University, and is also affiliated with the State Key Laboratory of Clean Energy Utilization at Zhejiang University. Dr. FAN's research activities have been focused on phase change and microscale heat transfer for thermal energy conversion and storage applications towards a decarbonized future. He has published >120 peer-reviewed international journal papers, including Nat. Commun., Energy Storage Mater., Adv. Funct. Mater., J. Fluid Mech., Int. J. Heat Mass Transfer, etc. He was conferred the Wu Chung-Hua Excellent Young Scholar Award on July 2021, and elected to the National Youth Talent Support Program on 2022.

Chenggong HAN，韩 成功

韩成功博士，广州大学化学化工学院教授，广州市青年拔尖人才，研究聚焦于柔性离子热电凝胶及其可穿戴器件集成应用。目前在 Science、Angew. Chem. Int. Ed.、Energy Environ. Sci. 等国际著名期刊上发表 SCI 学术论文 30 余篇。以第一作者身份在 Science 上发表“柔性离子热电凝胶及柔性可穿戴器件”的研究论文，开辟了一个全新的研究领域，为未来以离子作为载能子实现热到电的转化提供了可能。主持国家自然科学基金面上项目、青年项目和广东省自然科学基金面上项目等研究课题。

Dr. Chenggong Han is a professor at the School of Chemistry and Chemical Engineering in Guangzhou University and a young top-notch talent in Guangzhou. His research focuses on flexible ionic thermoelectric gels and their integrated applications in wearable devices. To date, his works with more than 30 SCI papers have been published in internationally renowned journals including Science, Angew. Chem. Int. Ed., Energy Environ. Sci. etc. He as the first author published a research article about "Flexible Ion Thermoelectric Gel and Flexible Wearable Devices" in Science, opening a brand-new research field and providing the possibility for the future conversion of heat to electricity using ions as energy carriers. He has presided over research projects such as the National Natural Science Foundation of China's general projects, youth projects, and the Guangdong Provincial Natural Science Foundation's general projects.

Zhangjing ZHENG，郑 章靖

郑章靖博士，中国矿业大学低碳能源与动力工程学院副教授。主要研究方向：太阳能利用和储热技术。主持有国家自然科学基金面上项目等国家级和省部级项目 5 项，在国际知名学术期刊上发表 SCI/EI 收入论文 50 余篇，授权国家发明专利 15 项。

Zhangjing Zheng, Ph.D., Associate Professor at the School of Low Carbon Energy and Power Engineering, China University of Mining and Technology. Main research direction: Solar energy utilization and thermal storage technology. Presided over 5 national and provincial-level projects, including the National Natural Science Foundation General Project. Published over 50 SCI/EI papers in internationally renowned academic journals and granted 15 national invention patents.

Changhui LIU，刘 昌会

刘昌会博士，中国矿业大学低碳能源与动力工程学院副教授，储能科学与技术研究所所长，斯坦福大学前 2%科学家。2016 年 6 月博士毕业于华中科技大学，曾任日本东京大学特任研究员，2018 年 5 月加入中国矿业大学，主要从事储能及新能源开发方面的研究工作。发表 SCI 论文 130 余篇，其中第一/通讯作者发表 97 篇，授权发明专利 20 余件，发表中英文专著各一部。

Changhui Liu earned his PhD from the Huazhong University of Science and Technology in 2016 under the supervision of Prof. Yanlong Gu, and then worked as a postdoctoral researcher in the group of Prof. Shu Kobayashi at The University of Tokyo (Japan) from 2017 to 2018. Currently, he works as an Associate Professor at the China University of Mining and Technology.

Nan SHENG，盛 楠

盛楠博士，中国矿业大学低碳能源与动力工程学院，副教授、博士生导师。主要研究方向：中高温相变储热材料的热能存储与传热传质强化。主持国家自然科学基金面上项目在内的国家级及省部级项目共 4 项。在国际知名学术期刊上发表 SCI/EI 收入论文 60 余篇，入选全球前 2% 顶尖科学家（2023-2025）。

Nan Sheng, Ph.D., is an Associate Professor and Doctoral Supervisor at the School of Low Carbon Energy and Power Engineering, China University of Mining and Technology. Her primary research focuses on thermal energy storage and the enhancement of heat and mass transfer in medium- and high-temperature phase change materials. She has led four national and provincial-level research projects, including two grants form the National Natural Science Foundation of China. Dr. Sheng has published over 60 SCI papers in internationally renowned academic journals and has been listed among the World’s Top 2% Scientists list (2023-2025).

Keyan SUN，孙 克衍

孙克衍博士，中国矿业大学 低碳能源与动力工程学院，副教授。研究方向：相变储能及热管理技术。科研成果：主持国家自然科学基金、中国博士后科学基金面上项目、辽宁省博士启动基金等科研项目，以第一作者/通讯作者在 Energy Storage Materials，Nano Energy，Chemical Engineering Journal（含高被引论文 1 篇），Journal of Materials Chemistry A，ACS Sustainable Chemistry & Engineering 等知名学术期刊上发表 SCI 学术论文 10 余篇，授权发明专利 5 项。

Keyan Sun Associate professor, school of Low-Carbon Energy and Power Engineering, China University of Mining and Technology. Research interests: Phase change energy storage and thermal management technology.

Academic achievements: leading National Natural Science Foundation of China, General Program of China Postdoctoral Science Foundation and Doctoral Startup Fund of Liaoning Province, publishing more than 10 SCI-indexed academic papers as the first author or corresponding author in renowned journals including Energy Storage Materials, Nano Energy, Chemical Engineering Journal (including 1 highly cited paper), Journal of Materials Chemistry A, and ACS Sustainable Chemistry & Engineering; 5 invention patents authorized.