China–SCO Higher Education Cooperation Center

Xi'an Jiaotong University

Frontier Technologies of Clean Energy and Energy Storage

Summer Camp

Project Name: Frontier Technologies of Clean Energy and Energy Storage

Organizer: School of Energy and Power Engineering, Xi'an Jiaotong University

Introduction of the Project: This summer camp is designed for outstanding university students from SCO member states and countries along the Belt and Road. Focusing on core fields including clean energy, new energy storage, carbon peaking and carbon neutrality goals, and green energy transition, it creates a three-dimensional learning model integrating academic research in laboratories, immersive experience of Chinese culture, and on-site practice in energy enterprises.

During the camp, participants will visit leading new energy enterprises, energy storage laboratories, as well as photovoltaic and hydrogen energy demonstration bases, gaining in-depth exposure to cutting-edge technologies such as photovoltaics, energy storage, hydrogen energy and integrated energy systems. They will also tour cultural landmarks and experience intangible cultural heritage projects, promoting energy technology cooperation and people-to-people exchanges under the framework of the SCO.

Guided by the principles of "green development, technological empowerment and international coordination", the project will hold expert lectures, technical seminars and youth roundtables to comprehensively enhance participants' international vision, scientific research capacity and cross-cultural collaboration capabilities in the field of clean energy and energy storage.

Program language:English

Introduction to Xi'an Jiaotong University: Xi'an Jiaotong University is one of China's most prestigious and internationally renowned institutions of higher education, serving as a national key university directly under the Ministry of Education. According to the data released by Essential Science Indicators (ESI) in January 2024, 19 disciplines of the university rank among the top 1% of global academic institutions, with 6 disciplines entering the top 1‰. Engineering ranks 9th globally.

As a comprehensive research university, Xi'an Jiaotong University covers 11 academic disciplines including science, engineering, medicine, economics, management, humanities, law, philosophy, art, pedagogy, and interdisciplinary studies. The university comprises 34 schools, departments, and centers, 9 undergraduate colleges, and 3 affiliated hospitals. It ranks highly in terms of the number of national science and technology awards obtained.

Course Schedule

Project Duration: July 6–16, 2026

Day 1		Welcome Dinner and Project Opening Ceremony
Day 2	Morning	Expert Report 1: Global Energy Transition and Clean Energy Development Trends. Expert Report 2: Frontiers and Industrial Applications of New Energy Storage Technologies.
	Afternoon	Roundtable Discussion 1: Opportunities and Challenges of International Cooperation in Clean Energy and Energy Storage.
Day 3	Morning	Expert Report 3: Advanced Energy Storage Technologies and Equipment.
	Afternoon	Roundtable Discussion 2: Current Status and Cooperation Potential of Clean Energy Development in Various Countries.
Day 4	Morning	Expert Report 4: Energy System Modeling, Optimization and Low-Carbon Development.
	Afternoon	Roundtable Discussion 3: Group Completion of Small-Scale Energy System Scheme Design and Presentation.
Day 5	Morning	Expert Report 5: Hydrogen Energy Production, Storage, Transportation and Application Technologies.
	Afternoon	Roundtable Discussion 4: Discussion on Industrial Chain Development, Technical Bottlenecks and International Cooperation Opportunities.
Day 6	Morning	Cultural Visit 1: Experience of Chinese Traditional Culture Features.
	Afternoon	Roundtable Discussion 5: Chinese and Foreign Youth Cultural Exchange Sharing Session.
Day 7	Morning	Cultural Visit 2: Study Tour of World Cultural Heritage in Xi'an.
	Afternoon	Roundtable Discussion 6: In-depth Urban Cultural Experience and Exchange.
Day 8	Morning	Cultural Visit 3: Joint Laboratory for Clean Energy and Energy Storage of the Belt and Road, Xi'an Jiaotong University and Shaanxi Xuqing Times Technology.
	Afternoon	Roundtable Discussion 7: Laboratory Scientific Research Exchange Forum.
Day 9	Morning	Cultural Visit 4: JVisit to Leading Clean Energy and Energy Storage Enterprises: Longi Green Energy Technology and State Energy Group Shaanxi Electric Power.
	Afternoon	Roundtable Discussion 8: Enterprise Technology Forum and Exchange.
Day 10	Daytime	Closing Sharing Session: Each Group's Research Achievement Report, Learning Experience, Cooperation Prospects and Suggestion Exchange.
	Evening	Closing Ceremony.
Day 11		Return Journey

Clean Energy Technology Section

Qiuwang Wang, Professor, PhD Supervisor, School of Energy and Power Engineering, Xi'an Jiaotong UniversityRecipient of the National Science Fund for Distinguished Young Scholars, Cheung Kong Distinguished Professor. His research focuses on heat transfer enhancement in energy conservation and storage, etc. He has published more than 200 SCI papers in journals such as Nature Communications. He presides over national-level scientific research projects including the National Key R&D Program and Key Projects of the National Natural Science Foundation of China. He has won awards such as the Second Class National Technological Invention Award and the Innovation Team Award of the National Science and Technology Progress Award. He is elected as a Fellow of the American Society of Mechanical Engineers (ASME) and a Fellow of the American Society of Thermal and Fluids Engineers (ASTFE).

Wenxiao Chu, Professor, PhD Supervisor, School of Energy and Power Engineering, Xi'an Jiaotong UniversityNational High-level Overseas Young Talent. His research interests include advanced enhanced heat transfer and energy-saving technologies, electronic heat dissipation and thermal management systems, and the mechanism and regulation of two-phase heat and mass transfer. He has published more than 60 SCI papers in Nature Communications, International Journal of Heat and Mass Transfer, Applied Thermal Engineering and other journals. He presides over and participates in projects such as the Youth Project of the National Natural Science Foundation of China, Key Projects of the National Natural Science Foundation of China, international cooperation projects, and sub-projects of the National Key R&D Program. He serves as the Executive Editor of the international journal Energy Storage and Saving.

Energy Storage Technology Section

Linlin Fei, Professor, PhD Supervisor, School of Energy and Power Engineering, Xi'an Jiaotong University National High-level Overseas Young Talent. He engages in pore-scale mechanism research on multiphase flow and phase-change heat and mass transfer in porous media, as well as its application in solar-driven interfacial evaporation and hydrogen production via water electrolysis. He has published more than 50 SCI papers in authoritative journals in the field of fluid mechanics such as the Journal of Fluid Mechanics. He presides over scientific research projects including the National Science and Technology Major Project, the National Natural Science Foundation Project, and the EU Extreme-scale Supercomputing Simulation Project. He serves as an editorial board member of 4 international journals including the Journal of Building Physics.

Shen Du, Associate Professor, PhD Supervisor, School of Energy and Power Engineering, Xi'an Jiaotong UniversityFellow of the China Postdoctoral Science Foundation Innovative Talent Support Program. His main research focuses on full-spectrum solar energy utilization and other directions. He has published more than 60 SCI papers. He presides over and undertakes sub-projects of the National Science and Technology Major Project, sub-projects of the National Key R&D Program, and the Youth Project of the National Natural Science Foundation of China, etc. He serves as a Young Member of Commission B1 of the International Institute of Refrigeration, a Member of the Artificial Intelligence Application Working Committee of the Chinese Society of Refrigeration, and a Young Editorial Board Member of journals such as The Innovation Energy.

Energy System and Carbon Peaking & Carbon Neutrality Section

Yidong Chen, Professor and Chair of the Department of Mechanical Engineering, University of Nevada, Las Vegas, USACo-Director of the Energy Research Center, Fellow of the American Society of Mechanical Engineers. His research covers renewable energy systems, fuel cells and other fields. He has published more than 90 academic journal papers, 2 monographs and 6 book chapters. His research has been funded by the U.S. Department of Energy, the National Science Foundation and other institutions. He has won numerous awards such as the UNLV's highest teaching honor "Alex G. and Faye Spanos Distinguished Teaching Award", the highest academic honor "Barrick Distinguished Scholar Award", and the "2012 Outstanding Professor" of the Tau Beta Pi Engineering Honor Society. He serves as the Associate Editor of the international journal Heat Transfer Research.

Hui Wang, Professor, PhD Supervisor, School of Energy and Power Engineering, Xi'an Jiaotong University. His main research direction is the thermal management of new energy systems. He presides over many projects including the National Key R&D Program projects and the Key Joint Project of the National Natural Science Foundation of China. He has published more than 80 SCI journal papers in Nature Communications and other journals, including 3 ESI Highly Cited Papers and has won 2 journal paper awards. He has obtained 4 provincial and ministerial level awards and the Excellent Master Thesis Supervisor Award of the Chinese Society of Aeronautics. He serves as a Young Editorial Board Member of journals such as the Acta Aeronautica et Astronautica Sinica (Chinese and English Editions) and Green Energy and Intelligent Transportation (IF=16.4).

Guobin Zhang, Associate Professor, School of Energy and Power Engineering, Xi'an Jiaotong UniversityWang Kuan-cheng Young Scholar. His main research focuses on the thermal and water management of hydrogen fuel cells and water electrolyzers. He has published more than 80 academic papers in Joule, Energy & Environmental Science and other journals, including 2 ESI Hot Papers, with a total of more than 5,700 citations. He has 6 authorized invention patents and has won 2 provincial and ministerial level awards. He presides over the Youth Project of the National Natural Science Foundation of China, 1 sub-project of the Key Project of the National Natural Science Foundation of China, and 3 sub-projects of the National Key R&D Program, etc. He has given 14 invited reports and serves as a Young Editorial Board Member of journals such as Case Studies in Thermal Engineering.

Xi'an Jiaotong University Clean Energy and Energy Storage "Belt and Road" Joint Laboratory

A key research platform for energy cooperation under the "Belt and Road" initiative, focusing on cutting-edge studies in photovoltaics, energy storage, hydrogen energy, and integrated energy systems. The laboratory is equipped with comprehensive experimental facilities and a dedicated research team.

Shaanxi Xuqing Times Technology

A key enterprise in the hydrogen energy sector, mainly engaged in the R&D, production, and sales of hydrogen fuel cell stacks. The company continuously provides high-quality products and technical solutions to promote the application of hydrogen energy. It has substantial practical experience in hydrogen fuel cell system development and collaborates with leading domestic stack and system companies on R&D projects to jointly develop high-power hydrogen fuel cells.

LONGi Green Energy Technology

A global leader in the photovoltaic industry, focusing on monocrystalline silicon wafers, solar cells, modules, photovoltaic solutions, and green hydrogen equipment. It builds a "green electricity + green hydrogen" system, with globally leading BC/TOPCon high-efficiency cell technology. Its products and solutions serve large-scale ground power plants, distributed photovoltaics, and energy storage coupling scenarios worldwide.

China Energy Investment Corporation Shaanxi Electric Power

A core subsidiary of China Energy Investment Corporation Co., Ltd. in Shaanxi, responsible for the development and operation of thermal, hydro, wind, photovoltaic, energy storage, and integrated energy projects. It serves as Shaanxi's main platform for new energy and a key support for the "West-to-East Electricity Transmission" initiative, focusing on large-scale wind and solar bases and integrated source-grid-load-storage projects.

Application Requirements

·**Application Materials**: Project application form

·**Submission Email**: wanghui198@xjtu.edu.cn
(Please compile all materials into a single package and name the file using your full name.)

·**Contact Person**: Wang Hui, Clean Energy and Energy Storage "Belt and Road" Joint Laboratory, School of Energy and Power Engineering, Xian Jiaotong University
Phone: +86-29-82668543
Email: wanghui198@xjtu.edu.cn

Project Costs

Organizer will sponsor costs for project courses, company visits, cultural visits, and learning materials.

Students are required to pay a fee of **RMB 3,000**, which includes: accommodation and local transportation, etc.

Students are responsible for purchasing insurance and covering their own flight tickets.

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