

NURER 2026

ALMATY, KAZAKHSTAN • PHYSICAL CONFERENCE PROGRAM • SEPTEMBER 10, 2026

08:00 - 09:00	REGISTRATION
09:00 - 09:30	WELCOME AND OPENING SPEECHES Prof. Dr. Nurzada Beisen (<i>Al-Farabi Kazakh National University, Kazakhstan</i>) - NURER Conference Co-Chair Prof. Dr. H. Mehmet Şahin (<i>Gazi University, Türkiye</i>) - NURER Conference General Chair
09:30 - 10:00	KEYNOTE SPEECH Prof. Dr. Madina Mansurova (<i>Al-Farabi Kazakh National University, Kazakhstan</i>) Title: <i>From Energy Data Lakes to Sovereign AI: Building an AI-Ready Data Space for Nuclear and Renewable Energy Systems</i>
10:00 - 11:45	SESSION I - Advanced Fission Systems & Nuclear Reactor Technologies
11:45 - 12:00	COFFEE BREAK
12:00 - 13:30	SESSION II - Hydrogen & Renewable Energy Technologies
13:30 - 15:00	LUNCH & GROUP PHOTO
15:00 - 16:45	SESSION III - Nuclear Materials, Fuel Cycle & Fusion Energy
16:45 - 17:00	COFFEE BREAK
17:00 - 18:30	SESSION IV - AI, Energy Management & Sustainable Energy Systems

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SESSION I | 10:00 - 11:45

Advanced Fission Systems & Nuclear Reactor Technologies

Session Chair: Erdem Çiftçi

#58	The influence of the fuel type and beam intensity on the per-formance of ADSR Mihaela Paraipan, Oleg V. Belov, Vafa M. Javadova, Toan N. Tran
#93	Enhanced net vapor generation modeling for boiling steam-water flow in narrow rectangular channels Xu Han, Shixun He, Meng Wang, Jianjun Wang
#95	Verification of LOCUST based on steady-state operation of the primary loop of Qinshan nuclear power plant Haoyu Wang, Puzhen Gao
#115	Investigation on Gaseous Cavitation Characteristics of Fluid Supply System Pipelines Zhipeng Ren, Zhenbing Gu, Yuxin Zhong, Zhiyuan Zhang, Zhenjian Jia, Lingcong Nie, Weixing Zhou
#137	Numerical Simulation of Corrugated Heat Exchanger Utiliza-tion for Sodium-Cooled Fast Reactors Murat Öztürk, Erdem Çiftçi
#161	Preparation of Gyroid Heat Exchangers for CFD Analysis: nTop-Based Design and Fault-Tolerant Meshing Workflow in Ansys Fluent Meshing Ömür Akbayır, Can Alican, Neşet AKAR, Sameh M. S. Younis, Hacı Mehmet Şahin
#90	Performance Analysis and Optimization of Multiple Compression Brayton Cycle for Space Nuclear System Tong Lu, Haochun Zhang, Ziyang Zhou
#173	Experimental Performance Enhancement of a Methanol Re-forming-CO-PROX Packed-Bed System under Power Fluctuations Chenyang Wang, Chan Ha, Cong Wang, Jiang Qin

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SESSION II | 12:00 - 13:30

Hydrogen & Renewable Energy Technologies

Session Chair: Murat Kunelbayev

#33	Adaptive MPPT and High-Frequency SPWM Single-Phase Inverter for Standalone PV Systems Murat Kunelbayev, Gulnur Tyulepberdinova, Gulshat Amirkhanova, Ardak Tolepberdinova
#68	Mathematical Modelling and Analysis of the Thermal Characteristics of a Thermosiphon Solar Water Heating System Zhadyra Zhumasheva, Gulsim Mankeyeva, Murat Kunelbayev, Elmira Nazarova, Damir Zhangabergen , Serik Tolenov, Ali Tynymbayev
#73	Environmental Impact Assessment of Offshore Wind Power in Türkiye Berrin Kurşun
#121	Study on natural convection and entropy production characteristics of liquid lead-bismuth square cavity Dong Zhang, Haochun Zhang
#87	Accelerating Discovery of Perovskite Oxides for Solar Hydrogen Production via a Transformer Attention Graph Neural Network Model Yixing Du, Wei Wang, Shiyue Zhang, Dan Zhu, Rafique Muhammad, Alicia Bayon, Hong Qi, Yong Shuai, Lifeng Li, Bo Wang

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SESSION III | 15:00 - 16:45

Nuclear Materials, Fuel Cycle & Fusion Energy

Session Chair: Güven Tunc

#30	Investigation of a New Dosimetric Peak of Thermally Stimulated Luminescence in KCl:Li Crystals Kuanyshbek Shunkeyev, Shynar Sagimbayeva, Adelya Kenzhebayeva, Zhiger Ubaev
#48	Distribution of Radioactive Compounds and Research Results In The Zuunbayan and Toson-Uul Oil Fields of Mongolia Erdenetuya Myagmar, Alimaa Vanganjal, Pagamandulam Natsagdorj, Davaasuren Chimedregzen
#100	Extraction Behavior of Strontium and Yttrium with N, N-Bis (2-ethylhexyl) diglycolamic Acid (DEHDGA) Tingting Liu, Zhiqiang Sun, Yang Gao, Jingyang Wang, Yu Zhou
#102	Tritium Transport Behavior and Parameter Sensitivity Analysis of the Tokamak Exhaust Processing System Based on the TSAP Code Qimeng Dai, Zifan Wang, Chang Liu, Wei Shi, Tingting Liu, Meng Wang, Jianjun Wang
#103	Tritium Transport Behavior and Parameter Sensitivity Analysis of Tritium Extraction System Based on TRAP Program Zifan Wang, Qimeng Dai, Xiangrui Yin, Chang Liu, Wei Shi, Tingting Liu, Meng Wang, Jianjun Wang
#112	Thermodynamic Equilibrium Analysis of the Energy Conversion System for a Dual-Cooled Blanket Tokamak Reactor with Long-Pulse Operation Yuan Sun, Mingyang Gui, Haibo Jia, Zhaojun Li, Zhaosen Liu, Ruifeng Tian, Sichao Tan
#148	Propagation of Nuclear Level Density Uncertainties to Displacements-Per-Atom Calculations for Fusion-Relevant Tungsten 184W Isotope Mohammad Sepiani, Mehdi Nasri Nasrabadi, Latchesar Kroumov Kostov

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SESSION IV | 17:00 - 18:30

AI, Energy Management & Sustainable Energy Systems

Session Chair: Mehmet Şahin

#2	From Spatial to Nodal Connectivity: Nuclear Connectivity in the Age of Transition Mehmet Şahin
#54	Towards Trustworthy AI in Energy Systems: A Risk-Aware Evaluation Framework for Safe Deployment in Critical Infrastructure Ahsan Habib Shihab, Aman Mussa, Madina Mansurova
#88	A Rolling NSGA-II Optimization Framework Integrating Deep Learning Irradiance Forecasting for Solar-Assisted Multi-Energy Heating Systems Wei Wang, Yixing Du, Shiyue Zhang, Guangliang Wang, Zexin Yi, Jeffery Wong, Yong Shuai, Bo Wang, Lifeng Li
#124	Study on the Morphological Evolution of Dielectric Barrier Discharge under Different Gas Pressures and Its Effect on CO₂ Conversion Ye Tian, Chen Zhou, Chengxun Yuan
#168	Integration of a Photovoltaic Subsystem and a Digital Twin in the Power Supply System of Bakery Production Gulshat Amirkhanova, Murat Kunelbayev, Alina Raeva, Bauyrzhan Amirkhanov, Alikhan Amirkhanov
#187	Intelligent Predictive Energy Management of a Hybrid PV-Battery-Supercapacitor System with a PMSM Drive Zhadyra Zhumasheva, Ablay Yerallyev, Murat Kunelbayev, Yernar Zholdassov, Damir Zhangabergen, Ali Tynymbayev, Akerke Sultanmurat

POSTERS

#117	Energy recovery from waste polymers via pyrolysis fuels: emission assessment in diesel engine operation Jacek Hunicz
#120	Wind Turbine Blade Pyrolysis Oil as a Fuel Blending Component: Combustion Behavior and Emission Characteristics in Common-Rail Diesel Engine Arkadiusz Rybak