International Conference on Energy Storage and Sustainable Circularity

ESSC 2026

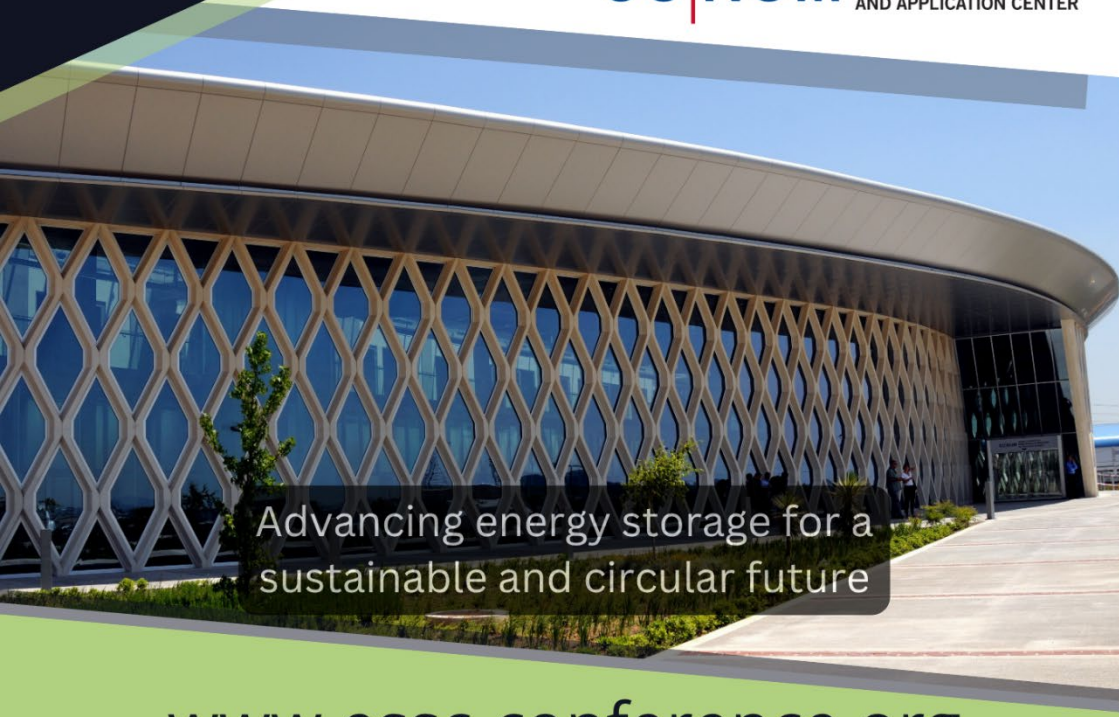
ESSC 2026

1 - 2 JULY

2026

SU NUM

SABANCI UNIVERSITY
NANOTECHNOLOGY RESEARCH
AND APPLICATION CENTER



www.essc-conference.org

ATOMİKA TEKNİK

ULTRA TEKNOLOJİK SİSTEMLER A.Ş.

ZEISS

rotalab Bilimsel Cihazlar

NOVIUM

SCIONS

HYENSYS CONSULTANCY

TEKAFOS TEKNOLOJİK SİSTEMLER

HEIDELBERG INSTRUMENTS

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SciTech DEVELOPMENT

Springer

MDPI

WELCOME

Message from Chairman

It is a great pleasure to welcome you to the Energy Storage and Sustainable Circularity Conference 2026 (ESSC 2026). We are delighted to bring together researchers, academics, industry professionals, and innovators from around the world to exchange ideas, share experiences, and discuss the future of energy storage and sustainable circularity.

We are especially pleased that ESSC 2026 is being organized at Sabancı University Nanotechnology Research and Application Center, a distinguished hub of research, innovation, and interdisciplinary collaboration. We believe that this inspiring setting will provide an excellent environment for meaningful discussions, new partnerships, and valuable scientific exchange.

As the global community continues to seek sustainable and forward-looking solutions, ESSC 2026 aims to serve as a welcoming platform for dialogue, cooperation, and innovation. We hope this conference will not only highlight recent advances in the field but also encourage lasting collaborations and fresh perspectives.

It is our sincere hope that your participation in ESSC 2026 will be both professionally rewarding and personally enjoyable. We look forward to welcoming you to SUNUM, Sabancı University, and to sharing with you an engaging and memorable conference experience.

Prof. Dr. Alpagut Kara
Assoc. Prof. Dr. Mustafa Kemal Bayazıt

Event Chairmen, ESSC 2026

01 July 2026			
09:00 - 09:30	Welcoming and Registration		
09:30 – 10:00	Welcome address by Chairmans		
	Introduce SUNUM		
10:00 – 10:20	**Zeiss Company presentation**		
10:20 – 10:40	**Keynote:** Prof. Dr. John Irvine, University of St Andrews		
10:40 – 11:00	**Rotalab company presentation**		
11:00 – 11:20	**Dr. Vildan Bayram Karakuşlu, TÜBİTAK RUTE**		
11:20 – 11:40	**Keynote:** Prof. Dr. Rezan DEMİR ÇAKAN, Gebze Technical University		
11:40 – 13:30	Networking and lunch		
13:30 – 13:50	**Atomika company presentation (online)**		
Paper presentation session			
14:00-14:15	**14:15-14:30**	**14:30-14:45**	**14:45-15:00**
2612 *Lukas Riedelbauch* Explainable Machine Learning for EIS-Based Clustering of Second-Life EV Batteries	**2604** *Abhishek Sureshbhai Khairnar* Integrating Material Innovation and Circularity: An Early-Stage LCA of Solid-State and Sodium-Ion Battery Pathways	**2611** *Faranak Manteghi* Electrochemical Hydrogen Production Using CoFe-LDH/Ni nanotube on Nickel Foam Substrate	**2608** *Negar Amirhaghian* Poly(2-ethyl-2-oxazoline) -Based Solid Polymer Electrolytes for Multifunctional Structural Batteries

15:00-15:15	15:15-15:30	15:30-15:45	15:45-16:00
2602 *Eray Tabak* MOF/MXene Hybrid Electrodes Applied in Capacitive Deionization for Desalination	**261117** Barun Kumar Chakrabarti Engineering Deep Eutectic Solvent Platforms for Sustainable Recovery of Battery Materials	**2603** *Mahrokh Nazari* Practical Challenges and Solutions in In-Situ Growth of Trimetallic MOF/MXene Composite for Enhanced OER Stability: A Case Study	**261111** *Parisa Zardari* Mixed-Dimensional Perovskite Solar Cells with Enhanced Performance and Stability via Optimized Nanostructured Architect
19:00 – 21:00	**Gala Dinner** (registered participants only)		
02 July 2026			
09:00 – 09:20	Welcoming and Registration		
09:20 – 09:40	**Keynote:** Prof. Dr. Qiong Cai, University of Surrey		
09:40 – 10:00	**Novium company presentation**		
10:00 – 10:20	**Keynote:** Prof. Dr. Can Erkey, Koç University		
10:20 – 10:40	**Tetratek company presentation**		
10:40 – 11:00	**Tekafos company presentation**		
11:00 – 12:00	**Lab tour**		
12:00 – 13:30	Networking and lunch		

13:30-13:45	13:45-14:00	14:00-14:15	14:15-14:30
2607 *Oluwatosin Johnson Ajala* Waste to Watt: Optimization of Cigarette Butt–Derived Carbon for Enhanced Electrochemical Energy Storage Performance	**2605** *Huseyin Unsal* Enhanced Stability of SOFC Interconnects via $MgCr_2O_4$–LSCF Composite Coating for Chromium Poisoning Suppression	**2606** *saba Davachi Tousi* The effect of the circular economy on carbon dioxide	**2610** *Kamal Asadipakdel* Flexible PEO/CNT Composite Films for Solid-State Electrochemical Applications
14:30-14:45	**14:45-15:00**	**15:00-15:15**	**15:15-15:30**
2613 *Neda Shateri* A Comparative Analysis of Lithium–Sulfur Battery's Performance Under Dynamic Conditions	**2614** *Baidaa Alkhateab* UV-curable Gel Polymer Electrolyte for Flexible Lithium-ion Batteries	**2615** *Rayhaneh Ghafourian* Engineering Quasi-Solid-State Electrolytes for Advanced Sodium-Ion Battery Applications	**2609** *Elham Habibzade* Iron-Substituted Paddle-Wheel MOFs as Redox-Flexible Platforms for High-Efficiency Oxygen Evolution Electrocatalysis

15:30-15:45	15:45-16:00	16:00-16:15	16:15-16:30
2616 *Qiong Cai* AI-assisted Digital Tools for Multiscale Materials and Interface Design for Next-Generation Batteries	**2621** *Tülay İnan* Hybrid Composite Membranes for Sustainable Energy Applications	**2617** *Sultan Serter* Transformation of Energy Routes: From Fossil Fuels to Circular River Energy The Case of Türkiye	**2618** *Shamik Chaudhuri* Sustainable Surface Engineering and Electrochemical Characterization of Carbon Cloth Electrodes Using Deep Eutectic Solvents and N-Doped Carbon Nanotubes
16:30-16:45	**2619** *Reza Afshar Ghotli* Performance Characteristics of a Hybrid H2/BQDS Regenerative Flow Battery		
16:30 – 17:00	**Closing ceremony**		

How to access the venue

Sabancı University, Orta Mahalle, 34956 Tuzla, İstanbul, Türkiye
Phone: +90 216 483 90 00

Map https://goo.gl/maps/u8D37B9gD8z2srWR8