



Professor Maria Lukatskaya

«The development of clean and renewable energy solutions is essential. I strive to share my passion for energy research with my students by combining fundamental concepts with real-world applications.»

Electrochemical Energy Systems Laboratory

Institute of Energy and Process Engineering

Our group targets challenges related to the development of new solutions to satisfy the growing demand for energy. We study complex phenomena in solids and liquids – and at their electrified interfaces – that are associated with energy storage and conversion processes. We then apply our findings to develop new materials for batteries and electrocatalysis that can deliver improved performance and safety while ensuring industrial scalability. In addition, we are interested in designing eco-friendly energy systems that have minimal environmental impact.

Focus

- Energy storage and conversion
- Material and electrolyte design for energy applications
- Electrochemical interfaces and fundamental processes in electrolyte solutions

Tools and methods

- Electrochemical methods
- *In situ* tracking of materials evolution and electrode-electrolyte interfaces

Further details online:
www.echemes.ethz.ch

