Invited Speakers – Third StoRIES Summer School 2025

⇒ Dr. Peter Fischer

General Manager at SEI Automotive Europe GmbH

Dr. Fischer studied Physical Chemistry at Heinrich-Heine-University Düsseldorf. He worked in fuel cell projects in collaboration with German Aerospace and Center for Fuel Cell Research - ZBT in Duisburg. In 2011, he became group leader of the newly formed redox flow battery group at Fraunhofer ICT and was responsible for the lighthouse project Redox Wind. He also worked in hybrid storage projects, which combines redox flow batteries with short duration storage, like the EU-projects Hyflow and SMHYLES.

Lecture Title: General aspects of relevant applications for hybrid energy storage

⇒ Dr. Fride Vullum-Bruer

Senior Researcher at SINTEF Energy Research

Dr. Vullum-Bruer has more than 20 years of experience in Li-ion battery (LiB) research, including materials development and materials and electrochemical characterization. In recent years, she has gained more experience with larger cells and modules and work more specifically also with battery safety of large LiB systems in buildings. In addition to battery research, she has been involved in thermal energy storage using phase change materials, both on materials and system level.

Lecture Title: Hybrid thermal and electrochemical energy storage in buildings

⇒ Dr. Esther Rojas Bravo

Senior Researcher at the Center for Energy, Environmental and Technological Research (CIEMAT)

Dr. Rojas Bravo has expertise on enhancing heat transfer and optimising the energy performance of thermal energy systems, both theoretically (simulation) and experimentally (experimental), according to the application. These thermal energy systems have been solar thermal parabolic trough collectors and, since 2007, thermal energy storage systems.

Lecture Title: Thermal Energy Storage: the key piece for long-term energy storage for grid application

⇒ Prof. Giovanna Cavazzini

Associate Professor at the University of Padova

Prof. Cavazzini works as Associate Professor in Fluid Machines and Energy Systems at the University of Padova in Italy. Her current research interests focus on the design and optimization of fluid machines and energy systems with a particular focus on hydropower and pumped-hydropower. She is Sub-Program coordinator in the EERA JP Hydropower on hydro-electric equipment and of the mechanical storage in the EERA Joint Program on Energy Storage. She is now vice-chair of the Cost Action PEN@Hydropower, focusing on hydropower sustainability and coordinator of the Horizon Europe project H-HOPE on hidden hydropower.

Lecture Title: Mid- to Long-term Hybrid Energy Storage: pumped-hydropower plant and its hybridization

⇒ **Prof. Tor Haakon Bakken**

Professor at Norwegian University of Science and Technology (NTNU)

Prof. Bakken has been a full-time professor at the Norwegian University of Science and Technology (NTNU) since 2019 and holds a PhD in water resources management from the same university. He has a wide experience within water resources management and development of renewable energy projects during his professional career in Norway and

internationally. Bakken's focus is on water resources modelling and management of river basins regulated for hydropower production. This includes the role of reservoirs, environmental impacts from hydropower regulations, climate change and the effects on hydropower operations and the affected river systems. Bakken currently leads the SusHydro project, an interdisciplinary research project built around seven PhD-studies.

Lecture Title: The role of hydropower in balancing a renewable energy system with a large share of intermittent power sources

⇒ Dr. Gerd Hovin Kjølle

Chief Scientist, Centre Director at SINTEF Energy Research

Dr. Kjølle is research manager/centre director for the former centre for environment-friendly energy research (FME) CINELDI and the newly started FME SecurEL. Her areas of expertise include power systems, grid operation and development, smart grids, and security of electricity supply.

Lecture Title: A flexible and intelligent power grid for the energy transition

⇒ Prof. Odne Stokke Burheim

Professor at Norwegian University of Science and Technology (NTNU)

Prof. Burheim is a professor in the field of energy storage in his tenth year. Both research and teaching focus particularly on electrochemical engineering science, with a focus on kinetics and thermodynamics of systems. He has several books and over 140 research publications in this field.

Lecture Title: Energy storage systems and future systems