

Colloquium Thermo- and Fluid Dynamics

Latent heat storage research at the Lucerne University of Applied Sciences: From fundamental research to pilot plant development

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The Competence Center of Thermal Energy Storage (CCTES) of the Lucerne University of Applied Sciences and Arts (HSLU) strives to assist the decarbonization of energy systems by developing novel thermal energy storage materials and components as well as optimizing TES units design and their integration in complex systems. This presentation will focus on important developments of the latent heat storage group of CCTES. The group consist of a multidisciplinary team of scientists (chemists, material scientists and engineers) who work closely together to enable the development of novel Phase Change Materials (PCMs) and their optimal integration in components and systems. The team collaborates with industrial partners to develop the next generation of PCM-based products and at the same time it strives to answer underlying fundamental material-level questions on nucleation and prevention. This talk will present some examples of important methodologies, scientific findings and products that result from this journey across disciplines and TRLs and discuss the associated challenges and opportunities.



Anastasia Stamatiou studied chemical engineering at the National Technical University of Athens, Greece. In 2007 she came to Switzerland to do a Master in Energy Science and Technology at ETH Zurich. From 2008 to 2012 she performed her PhD studies in the Professorship of Renewable Energy Carriers at ETH Zurich on the topic of fuel production using solar thermochemical cycles. In 2014 she joined Lucerne University of Applied Sciences and Arts as a senior researcher in the field of thermal energy storage and from 2017 until 2020 she continued her research activities as a SNSF Ambizione Energy grantee. She is currently serving as Head of the Latent Heat Storage Group in the Competence Center Thermal Energy Storage. In September 2022 she was promoted to lecturer and Head of the Bachelor's Program in Energy and Environmental Systems Engineering at HSLU.

Date: Friday, 16 December 2022
Time: 15:00 – 16:00
Place: ETH Zurich, ML H 44
Host: Prof. Aldo Steinfeld, PREC