Aalto University
School of Engineering

Friday 17th May
Aula Denina

Seminar talk on

Circular Economy approach for material science

The need for renewable energy systems and energy storage devices is increasing significantly in the future. As many of the materials used in these applications are critical, we will need to ensure the material recovery at high quality is possible so that we can used these materials back into the same applications as secondary raw materials. The highest impact of the recycling will be done at the device design stage: and therefore, everyone who are working with material design for energy systems should be aware of the main challenges and bottlenecks of the recycling for these devices. At this seminar talk, the main principles of circular economy design for energy devices are presented.

Biography

Assistant professor Annukka Santasalo-Aarnio was appointed as the head of Energy Storage research team at Aalto School of Engineering in September 2018. Her research focus is on circular design of energy devices, thermal energy storage systems and materials, large scale hydrogen production and storage, power-to-fuels and safe handling of end-of-life batteries. She is currently running 4 national academic research projects, 2 industrial and an EU project on electrolysis with 20 researchers innovating on these topics. She is also the responsible professor at Aalto for the InnoEnergy Energy Storage and SELECT master programs.

Annukka's background is in electrochemistry, and she obtained her PhD on Fuel Cell material development and single cell testing in 2012. After that, she worked shortly on the development of lithium-ion battery materials and their cycling in cold climates conditions. Majority of her postdoctoral work she carried out the Department of Material Science and Metallurgy in a Horizon 2020 project on Solar to Hydrogen (Sol2Hy), where she was responsible for the development of a SO_2 depolarized electrolyser and complete process integration. She obtained a University Teacher position on circular economy and material science in 2015. She has planned and executed over 20 different bachelor and master level courses and currently is the responsible professor of 6 master level courses.

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