

**Speaker:** [Associate Professor Sabrina Sartori](#)

Department of Technology Systems  
University of Oslo  
Norway



**Date:** Tuesday 26 February 2019

**Time:** 1.00 pm

**Venue:** Science 2 building (N34) Room 0.04, Nathan Campus

---

**Title:** **Energy Storage Systems**

### Abstract

Metal hydrides are considered a viable option for both vehicular and stationary hydrogen-based storage technologies. A large number of compounds has been identified and characterized at different levels of detail. It is clear that the choice of the material is closely depended on the needs of the specific application for the storage systems, which comprises the tank, the H<sub>2</sub>-carrier and the heat transfer medium. Key parameters such as gravimetric and volumetric density of the hydrogen carrier, heat management and tank design are shown to be crucial in affecting the use of hydrides in different applications.

In this talk we will present some of the activities going on at the Energy Systems section at the Department of Technology Systems of the University of Oslo. In particular we will discuss the effect of milling on the microstructure and first hydrogenation properties of TiFe+4wt% Zr alloy<sup>[1]</sup>; the effect of applied synthesis methods on phase composition and *in-situ* hydrogenation in La-Mg-Ni-(Al) systems<sup>[2]</sup>; the importance of the development of unconventional methods of characterization for a deep understanding of the structural evolution in batteries during charge/discharge<sup>[3]</sup>.

### References

- [1] P. Lv, M.N. Guzik, S. Sartori, J. Huot, Effect of ball milling and cryomilling on the microstructure and first hydrogenation properties of TiFe+4 wt.% Zr alloy, *J. Mater. Res. Technol.*, 2019.
- [2] M.N. Guzik, J. Lang, J. Huot, S. Sartori, *Int. J. Hydrogen Energy*, 42 (2017), 30135.
- [3] M. Povia, J. Sottmann, G. Portale, K.D. Knudsen, S. Margadonna, S. Sartori, Operando SAXS/WAXS on the a-P/C as the Anode for Na-ion batteries, *Journal of Physical Chemistry C* 122 (11), (2018), 5917.

### Brief Biography

Sabrina is an associate professor and leader of the Energy Systems section at the Department of Technology Systems of the University of Oslo. She studied physical chemistry, materials science and engineering at the Universities of Padova and Bologna (Italy) where she received her PhD in 2003. Since 2004 she focuses her research towards energy storage systems. She moved to Norway in 2006 as a researcher at the Institute for Energy Technology and joined the University of Oslo in 2013. She participates to several national and international projects and serves as expert and leader in several committees, boards and initiatives, including the Materials Research Society (MRS) and the International Energy Agency (IEA) Hydrogen.

For enquiries, please contact Mrs Lacey Shaw: [l.shaw@griffith.edu.au](mailto:l.shaw@griffith.edu.au)

**ALL WELCOME**