

## Daniela Chrenko – Modelling Basics Battery

### Date

Wednesday 08 June: 8h45 – 9h45: Modelling Basics 1 Batteries

Wednesday 08 June: 11h00 – 12h30 and 13h45-15h15: Lab 1 Batteries

*Position:* Associate Professor

*Institution:* UTBM and Femto-ST/Sharpac

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### Biography and expertise:

Daniela Chrenko obtained her PhD in 2008 on Energetic Macroscopic Representation (EMR) based model of a diesel driven fuel cell system, she was associate professor at University of Burgundy, France Higher Institute of Automobile and Transport UB ISAT from 2009-2016 and is now associate professor at Technical University of Belfort-Montbéliard (UTBM), and researcher at Femto-ST/Energy in France. She obtained her habilitation in 2017. Her research interests are system description of sustainable energy systems especially batteries with a holistic approach.

### Presentation:

Batteries are a cornerstone for the energy storage needed in a wide number of sustainable energy systems, no matter if they are stationary or mobile. Modelling is important to be able to dimension systems and predict their behaviour without the need to run expensive test. Therefore, different modelling approaches are available including electrochemical modelling, equivalent circuit modelling and black box modelling. All approaches will be introduced and advantages and inconvenient highlighted.

The Battery lab session will allow to acquire hands on experience testing the behaviour of a battery cell.