Abstracts

Renewable energy will cover an increasing share of our future energy supply. Renewable energy sources such as solar and wind power are plentiful but of fluctuating nature and therefore seldom match our energy consumption. To ensure security of supply in a future energy system based on 100% renewable energy it is necessary to develop efficient, flexible and durable technologies for conversion and storage of electrical energy from renewable power sources. This can be obtained via a variety of energy conversion technologies and today's inaugural lectures will touch upon two of these technologies; batteries and electrolysis cells.

First, **Professor Johan Hjelm** will give a lecture discussing electrochemical analysis of batteries and the emerging area of organic redox flow batteries. Such batteries are well suited for stationary energy storage due to their independently scalable power (stack and cell size) and energy (tank size) ratings. Organic molecules also provide possible avenues to lower storage cost and introduction of greater amount sustainable materials in energy storage, issues of pivotal importance for widespread and large scale adoption.

Second, **Professor Anne Hauch** will give a lecture that guides us through 15 years of R&D of solid oxide electrolysis cells. This lecture will touch upon performance and durability of this energy conversion technology, as well as describing the puzzling interplay between processing parameters, obtained microstructures, and the resulting electrode performance and stability. Furthermore, it will illustrate how complementary characterization techniques have paved the way for development of high performance long-term stable solid oxide electrolysis cells.