Workshop on flow batteries

Organizer: IREC
Venue: IREC. Jardins de les Dones de Negre,
1. 2nd floor, Conference Room
Sant Adrià del Besòs. 08930. (Spain).

Friday
26/02/2016

The FP7 project **InFluENCE** aims at improving the fundamental understanding and control of interfaces of a battery type based on Li-ion and Na-ion active materials:semi solid flow batteries (SSFB). The methods and techniques developed are however generic and could as well be implemented for conventional Li- and Na-ion systems for the techniques that do not focus on flow aspects.

A main objective is the investigation and optimization of the interfaces developing between the electrolyte and the electrochemically active material particles in fluid electrodes. The acquired knowledge would allow the chemical and morphological optimization of active materials as well as the design of optimized interfacial layers (also called artificial Solid Electrolyte Interfaces, art-SEI) capable of warrant stable interfaces.

A second main objective is the understanding and control the mechanical and conductive behaviours of the slurries. For this, it is necessary to determine the role of shape anisotropy and the overall nature (attractive or repulsive) of the short ranged interactions of the active materials besides the strength of the attractive forces for conductive nano-particles. The cross interaction should allow intimate contact between active material and the conductive particles.

More information:
email: fp7-influence@vito.be
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This workshop will focus on rheology, electrochemical and system design for flow batteries in general, with special regards to the promising alternative based on Semi-Solid Flow Batteries

Program

09:00 - 09:15	**Opening & Registration**
09:15 - 09:30	**Welcome. Introduction by project coordinator** *Yolanda Álvarez Gallego, VITO, (Belgium)*
09:30 - 09:55	***Transfer Principles of Flow Battery Stack Design to Semi Solid Flow Batteries*** *Jens Burfeind, Fraunhofer UMSICHT, (Germany)*
09:55- 10:20	***The 3D printing of a polymeric electrochemical cell body and its characterisation; use for energy storage cells*** *Carlos Ponce de Leon, University of Southampton, (United Kingdom)*
10:20 - 10:45	***An Overview on Flow Battery Chemistry*** *Belabbes Merzougui, Qatar Energy & Environment Research Institute, (Qatar)*
10:45 - 11:15	**Coffee Break**
11:15 - 11:40	***Performance and optimization of a flow capacitor with surfactants under continuous flow operation*** *Juhan Lee, INM - Leibniz Institute for New Materials, (Germany)*
11:40 - 12:05	***Perspective on SSFB towards high-density electrical energy storage*** *Cristina Flox, IREC, (Spain)*
12:05 - 12:30	***Rheology of SSFBs: some design aspects*** *Michel Duits, University of Twente, (Netherland)*
12:30 - 12:55	***Standarization of flow batteries*** *Grietus Mulder, VITO, (Belgium)*
12:55 - 13:10	**Final remarks & Workshop closing** *Joan Ramon Morante, IREC, (Spain).*

Online inscription

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