

The International Flow Battery Forum 2018: Conference programme

Time	Tuesday 10 th July		
09:00	Check-in at Information Desk. Refreshments served.	Name	Affiliation
	Introduction		
	Welcome to Switzerland	Hubert Girault	EPFL
	Welcome to IFBF		
	Progress in the flow battery community		
	Possible Swiss Grid / Swiss electrical industry speaker: Large and small-scale energy storage in Switzerland		
	Changing energy policy with new technology	Doris Leuthard	Head of the Swiss Federal Department of the Environment, Transport, Energy and Communications
	Is energy storage good business or good for business?	Noel McEvoy	UK Department of International Trade representative for Switzerland and Lichtenstein
	Session 1 –Recent progress in the flow battery industry		
		Panel format	
	Status and Future Perspectives of Redox Flow Batteries	Gary Yang	UET
	<i>The economic and business model of an 8 MWh pilot VFB in California</i>	Yoshiyuki Nagaoka	Sumitomo Electric USA
		Gregor Polcyn	Thyssen Krup
		Wiebrand Kout	Elestor (Confirmed)
		Scott McGregor	REDT
	Discussion: Is there an opportunity for longer duration energy storage?		
	Session 2 - Flow battery industry		Chairman
	Field test experience with 2.5 kW fully welded stacks	Thorsten Seipp	Volterion
	A field test and business model development of zinc-bromine 20kW/100kWh battery system in the Dutch electricity market.	Jeroen de Veth	Trinergie
	Small company growing using innovation from large companies	Mike Perry	Vionx
	Discussion		
	Session 3 – Markets		Chairman
	Overview of the Flow battery market opportunity		Clean Horizon
	The energy storage market opportunity in South Korea	Jeehyang Huh	H2 Inc
	Current status and recent opportunities for FB investment in Iran	Ali Davoodi	Iran
	Present and future policies of China influence the global FB market	Mianyan Huang	Pu Neng
	Discussion		
	Departure for Evening Reception and Conference Dinner at the Olympic Museum	Own transport arrangements	Sponsored by Solvay

Time	Wednesday 11 July		
	Check-in at Information Desk. Refreshments served.	Name	Affiliation
09:00	Session 4 - Flow battery developments		
	Smaller scale flow battery systems	Patrick Ruch	IBM Zurich
	Vanadium - Oxygen Hybrid Fuel cell: Design & Performance	Chris Menictas	UNSW
	Questions		
	Field Experience and Application Benefits with New Generation VRFB	John DeBoever, Z. Gary Yang	UniEnergy Technologies, Mukilteo, USA
	Questions		
	Development work at LBNL on transport phenomena and the incorporation of the FE – FE electrochemistry	Adam Weber	LBNL
	Discussion		
	Session 5 - Materials and components		
	Membranes for flow battery technology	Panel format Ruidong Yang	Chemours
	Development and optimisation of Mersen graphite soft felt electrode material for use in Flow Batteries	George Law	Mersen
	Flexible ceramic membranes for high performance redox flow batteries	Gregory Newbloom	Membrion, Inc., Seattle, USA.
	Discussion	Petr Mazur	Petr to be included
	Session 6 - Manufacturing and systems		
	Title not known.	Lothar Heinemann	Trumpf
	Decentralized Battery Management System	Thomas Luth	KIST
	Session 6 - Prospects for the flow battery industry		
	Vanadium market analysis based on supply/demand/inventory/applications	Panel format Terry Perles	Chairman: Anthony Price TTP
	ElectriStor™ - Setting a New VRB Cost and Performance Standard	John Hilbert	Vanitec
	Combined paper on Czech work	Greg Cipriano	WattJoule, Devens, USA
	Voltage propagation within flow battery system and its implications on safety, DC topology and PCS selection	Petr Mazur	
	<i>Posters speed pitch</i>	Eugene Kizhnerman	Independent
	Refreshments and poster session		Chairman
	Evening Reception in the poster and Exhibition Area – TBC		Sponsored by Oxchem

Time	Thursday 12 July		
09:00	Check-in at Information Desk. Refreshments served.	Name	Affiliation
	Session 7 Bromine systems		
	FleXtore II: 50kW Hydrogen Bromine Flow Battery	Natalia Mazur	Elestor
	Testing of a prototype 25 kW/50 kWh Zn-Br ₂ battery at the Power Networks Demonstration Centre and integrated to a community wind turbine	Len Berlouis	University of Strathclyde
	Bromine complexation agents in H ₂ /Br ₂ flow battery cathodes: Physicochemical processes and their influence on cell operation and cell performance	Michael Kuettinger	F-ICT
	Enhanced performance of membrane separated bromine based flow batteries using complexing agents.	Ran Elazari	ICL
	Zinc-Bromine Battery Cell Performance - presentation and analysis Discussion	Bjorn Hage	B H Consulting
	Session 7A Thermal Management		
	Non-aqueous copper slurry flow batteries for energy storage and heat-to-power conversion	Pekka Peljo & Sunny May	EPFL
	A novel integration of waste energy with thermo-chemical-electricity generation, with a Lithium air flow battery	Hui Cao	University of Birmingham
	Harvesting low-grade heat using all-vanadium redox flow batteries Discussion	Danick Reynard	EPFL, Sion, Switzerland.
	Organics		
	New organic electroactive molecules for electrolytes of redox flow batteries	Thibaut Gutel	CEA
	High energy density anolyte for aqueous organic redox flow batteries	Wei Wang	PNNL
	Redox active organic molecules and the influence of ionic liquid supporting electrolyte for flow batteries	Ruiyong Chen	KIST Probably needs to be a poster / reserve list
	Soluble lead (OR POSTER) Harnessing natural convection in redox flow batteries: proof of concept Discussion:	Aslam Ansari	Bangalore
	Session 8 – Operation and performance		Chairman: Veronique
	Power drop effect	Arjun Bhattarai	Nanyang, Singapore & SGL
	Electrode design for redox flow batteries by using a three-dimensional lattice Boltzmann model	Duo Zhang	University of Surrey, Guildford
	1D electrode model for half-cell characterization of a redox flow battery (SOC)	Mathilde Cazot	Kemwatt
	Quantitative analysis method of vanadium for the SOC monitoring of the VRB	<u>Fanwu Zeng</u> ,	Dalian Bolong New Materials. Co., Ltd., Dalian, China

Monitoring the state of charge in a VFB with a novel amperometric sensor

Isabelle Kroner,
Maik Becker,
Thomas Turek

TU Clausthal, Clausthal-Zellerfeld, Germany

Improving the long-term VFB operation by modelling crossover processes and capacity balancing methods

Katharina Schafner, Thomas Turek

TU Clausthal, Clausthal-Zellerfeld, Germany.

Discussion

Session 9 – Updates on progress and development work

Chairman:

Brine4 power

Alrik Hervieu

EWE

Recent progress in vanadium flow battery manufacture, scale-up and demonstration

Ao Tang

Institute of Metal Research, Chinese Academy of Sciences,

3D-printed conductive static mixers enable all-vanadium redox flow battery using slurry electrodes

Korcan Percin¹

¹DWI Leibniz-Institute for Interactive Materials, Aachen, Germany

Hydrogen/Manganese hybrid redox flow battery

Javier Rubio Garcia,

Imperial College London, London, United Kingdom

Closing discussions

Time Friday 13th July

Session 11

Visit to EPFL's Flow Battery Martigny

Details to be confirmed

Posters