

The International Flow Battery Forum 2014

PROGRAMME (Subject to change)

Tuesday 1 July 2014

	Speaker	Affiliation	Title
0900	Anthony Price	IFBF Secretary	The development of energy storage and the development of flow batteries
0900 Session 1: Commercialisation of flow batteries			
	Ronald Mosso	EnerVault Corporation, California, USA	EnerVault 250 kW – 1 MWh System: Development and Commissioning of the World's Largest Iron-Chromium RFB
	Rick Winter	Uni Energy Technoloiges, Washington, USA,	Flow Batteries for Duck Curves
	Yoshiyuki Nagaoka	Sumitomo Electric Industries, Osaka, Japan	The Development of VFB Systems for Renewable Energy Applications
	Lee Barker	Van Spar Mining, Toronto, Canada	Long Term Supply Potential of Redox Battery Electrolyte from Black Shale Hosted Vanadium Mineralization in Xiushui County, Jiangxi Province, South Eastern China
	REFRESHMENTS		
Session 2: New flow battery developments			
	Huamin Zhang	Dalian Institute of Chemical Physics, China	The Development of Flow Battery Technology
	Michael Tucker	Lawrence Berkeley National Laboratory, California, USA	Performance and Durability of the Br ₂ – H ₂ Redox Flow Cell
	Ben-Zion Magnes	ICL-IP R&D, Beer-Sheva, Israel	Bromine Based Rechargeable batteries: The Chemistry and the Electrochemistry
	Michael Marshak	Harvard University, Massachusetts, USA	A Metal-Free Organic-Inorganic Aqueous Flow Battery
	PANEL DISCUSSION: Policy and Development	Hubert Girault, EPFL, Switzerland Beatriz Ruiz de Castello, Jofemar, Spain Yoshiyuki Nagaoka, SEI, Japan Ron Mosso, Enervault, USA	Who makes the investments in flow battery R&D? Are flow batteries a special case for R&D investment?
1300	LUNCH		
1430 Session 3: Safety, regulation and technical developments			
	Adam Whitehead	Cellstrom GmbH, Austria	Regulation of the Vanadium Redox Flow Battery in Europe
	Paul Sibleud	ViZn Energy Systems, Inc., Montana, USA	Advances in Safety and Environmentally Responsible Microgrid Storage using Zn/Fe Flow Battery
	Steven Reece	Sun Catalytix, Massachusetts, USA	Coordination Chemistry Flow Battery
	Jan grosse Austing	Next Energy, Oldenburg, Germany	Performance of a Vanadium/air redox flow battery (VARFB) comprising a two-layered cathode
Session 4: Poster Papers			
	Poster commercials	Selected poster authors present their work	
	REFRESHMENTS & Poster Session		
1730	End of Day 1		
1900	Reception – Sponsored by SGL Carbon		
1945	Conference Dinner – Sponsored by UET		
			Rickmer Rickmers Tall Ship

Wednesday 2 July 2014

0900 Session 5: Manufacturing and scale up			
	Rüdiger Schweiss	SGL Carbon GmbH, Meitingen, Germany	What does it take to Manufacture an Efficient Carbon Felt Electrode?
	Vincent Sprenkle	Pacific Northwest National Laboratory, Washington, USA	Design and Component Development for advanced VRB's
	Niels Bredemeyer	ThyssenKrupp Industrial Solutions AG, Dortmund, Germany	A New concept for large scale Redox-Flow-Systems
	Stephan Rudolph	Bozankaya BC& C, Salzgitter-Watenstedt, Germany	Online controlled operation of corrosion resistant vanadium flow battery with constant capacity
	Ahmad Mousavifar	Iran Renewable Energy Organization (SUNA), Tehran, Iran	Thermodynamic analysis of the effects of current density and electrolyte flow rate on vanadium redox flow battery performance
	REFRESHMENTS		
Session 6: Design and testing			
	Matthew Mench	University of Tennessee, USA	Elucidating Modes of Degradation in Vanadium Redox Flow Batteries
	Baoguo Wang	Tsinghua University, Beijing, China	Investigation of Energy Loss by Shunt Current and Membrane Permeation for Improving VFB Stack Performance
	Antonio Rodolfo dos Santos	Clausthal University of Technology, Clausthal-Zellerfeld, Germany	Development of improved bipolar plates for vanadium redox-flow batteries with functionality integration
	Noel Buckley	University of Limerick, Ireland	Efficiency of Negative and Positive Half-Cells in a Vanadium Redox Flow Cell
	PANEL DISCUSSION Critical commercial issues	John Samuel , REDT, UK Vincent Sprenkle. PNNL, USA Adam Whitehead, Cellstrom, Austria Rick Winter, UET, USA Huamin Zhang, DICP, China	What are the critical commercial issues for the flow battery industry? What are the next steps for the industry?
1300	LUNCH		
1430 Session 7: Flow battery raw materials & components			
	Bernd Bauer	FuMA-Tech GmbH, Bietigheim-Bissingen, Germany	Guidance for Membrane Selection in Vanadium Flow Batteries: micro-porous separators versus thin-film anion-or cation-exchange membranes
	Keizo Iseki	Showa Denko K.K., Japan	The electrode composed of carbon nanotube for vanadium redox flow batteries
	Ivan Vakulko	Laboratory of Physical Chemistry and Microbiology for the Environment, Villers-lès-Nancy, France.	Nanomaterials for Redox Flow Batteries
	REFRESHMENTS		
Session 8: The future for flow batteries			
	Kathryn Toghill	École Polytechnique Fédérale de Lausanne	Developments in design, fabrication and implementation of a dual-circuit redox flow battery
	Harini Hewa Dewage	Imperial College, London, UK	Study of loss mechanisms in a Regenerative Hydrogen Vanadium Fuel Cell
		Gildemeister and UET	Review of IFBF Industry Visit to Pellworm and UET
	Panel Session invited speakers		The latest developments in flow batteries: Technical issues, commercial implications, practical applications and market development.
	Anthony Price	IFBF Secretary	Closing Remarks
1700	Close of IFBF 2014		

Poster Presentations

Jiyun Zhao	Nanyang Technological University	Temperature Effect on Vanadium Redox Battery Capacity Decay Due to Ion Diffusion and Side Reaction
Yu Wang	RWTH Aachen University	Optimization of the All-Vanadium Redox-Flow Battery system regulation based on spatial modeling
Minjoon Park	UNIST	Optimization of Stable and Conductive Graphite-based Composite Bipolar Plate for an All-Vanadium Redox Flow Battery
Minjoon Park	UNIST	Wrapping carbon black in N-doped graphene by corn protein for high performance VRFB
Ilmir Bayanov	Bozankaya BC& C	Electrolyte flow configuration in vanadium flow battery, optimized in accordance with operation efficiency
Carole Laine	Amer-Sil S.A	A unique PVC-silica microporous membrane (commercial poster)
Igor Derr	Freie Universität Berlin	Degradation of carbon felt electrodes in all-Vanadium Redox Flow Batteries
Andreas Laskos	Centre of Electrochemical Surface Technology (CEST)	Highly Efficient, Dendrite-Free Zinc Deposition in the Alkaline Zinc-Air Flow Battery
Petra Dotzauer	ZAE Bayern	Flexible multiscale testing bench for vanadium flow batteries
Yen-Ting Liu	National United University	Electrochemical Impedance Spectra of Vanadium Redox Flow Battery at Different Operating Conditions
Sabine Schimpf	Martin-Luther-Universität	Modified carbon materials as electrocatalysts in all-vanadium-redox-flow batteries
Dennis Düerkop	Ostfalia University of Applied Sciences	Polyimide mixed matrix membrane for vanadium redox-flow batteries
Christina Roth	Freie Universität Berlin	Redox-flow batteries with robust 3D-structured carbon based electrodes
Joachim Langner	Karlsruher Institut für Technologie (KIT)	3D-structuring of carbon based electrodes for all-Vanadium redox-flow batteries
Maik Becker	Clausthal University of Technology	Model validation for a VRFB using potential probes during polarization curve measurements
Claudia Weidlich	DECHEMA-Forschungsinstitut	Tubular Redox-flow Battery: tubulAir
Andrea Casalegno	Department of Energy	A 2D model of vanadium flow batteries: analysis of self-discharge due to vanadium ions crossover
Liyu Li	UniEnergy Technologies	Commercializing the Chloride-containing all Vanadium Redox Flow Battery
Maximilian Bruch	Fraunhofer Institute of Solar Energy Systems ISE	Searching for the suitable and best operation mode
Carolina Nunes Kirchner	NEXT Energy	Electrochemical deposition of Ir on graphite felt electrode for Vanadium Air Redox Flow Battery cathodes
Sreenivas Jayanti	IIT Madras	Designing Flow Fields for All-liquid Redox Flow Battery Systems
Rebecca Potash	Cornell University	Organic Electrolytes for Symmetric Redox Flow Batteries