IFBF Papers 2010:

Recent Advances with Vanadium-Based Redox Flow Batteries
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Progress & Challenges in the Development of Flow Battery Technology
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The Redox Flow Battery for Energy Storage and its Future Development
Professor Huamin Zhang
Dalian Institute of Chemical Physics, China Materials, components, design and manufacturing

Polymer-Filled Expanded Graphite: An Advanced Bipolar Plate Material for Redox Flow Batteries
Rainer Schmitt1, Alfred Hirschvogel1,
Oswin Ottinger1, Mike Römmler2
1 SGL Carbon GmbH, Germany
2 SGL TECHNIC Inc., USA

The Vanadium Supply Chain
Terrance T Perles
TTP Squared, Inc., USA

Carbon Materials for the Negative Electrode of the Zn-Ce Redox Flow Cell
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D Hodgson2
1 WestCHEM, Department of Pure and Applied Chemistry, University of Strathclyde, UK
2 Plurion Limited, UK

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Matthias Vetter1
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The Metamorphosis of Flow Batteries
Rick Winter
Primus Power, USA

Scale-Up, Operation and Manufacture of Redox Flow Batteries
Dr Ian Whyte
Potential Reactions Ltd, UK
Zinc-Bromine Batteries: Reducing the Cost of Electrical Infrastructure
Christopher Winter
Redflow Technologies Ltd, Australia

Practical and Commercial Issues in the Design and Manufacture of Vanadium Flow Batteries
Dr Martha Schreiber¹, Martin Harrer¹,
Herbert Bucsich¹, Matthias Dragschitz¹,
Ernst Steifert¹, Peter Tymciw¹, Adam Whitehead²
Cellstrom GmbH, Austria
CEST Kompetenzzentrum fuer elektrochemische Oberflaechentechnologie GmbH

Flow Battery Developments:

Research Effort on Flow Batteries at Pacific Northwest National Laboratory
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Wei Wang¹, Birgit Schwenzer¹, Baowei Chen¹, Zimin Nie¹, Vijayakumar Murugesan¹, Jun Liu¹,
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Novel Design and Non-Conventional Applications for Vanadium Redox Technology
Dr Placido M. Spaziante
Cellennium (Thailand) Co. Ltd., Thailand

The Development of Redox Couples for Non-Aqueous Redox Flow Batteries
Dr Doo-Yeon Lee, Hee-Young Sun, Seung-Sik Hwang, Joung-Won Park, Seok-Gwang Doo
Battery Group, Emerging Technology Center, Samsung Advanced Institute of Technology, Samsung Electronics Co., Ltd., Korea

Vanadium/Air Redox Flow Batteries
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²MAGNETO B.V., The Netherlands

Zinc Bromine Flow Batteries
Bjorn Jonshagen and Touma B. Issa
ZBB, Australia

Flow Batteries and other Mobile Applications

Electric Vehicle Applications of Flow Batteries: Rapid Recharging of EV’s by Electrolyte Exchange
Sir John Samuel
RE-Fuel Technology Ltd., UK

Non-Aqueous Vanadium Redox Flow Batteries
Dr Christian Doetsch ², Charles Monroe¹,
Levi Thompson¹, Aaron Shinkle¹, Alice Sleightholme¹, Jens Tubke³
¹University of Michigan, USA
Commercialisation:

Standards for Flow Battery Operation
Guido De Jongh
CEN-CENELEC, Belgium

Techno-Economic Modelling of a Utility Scale Redox Flow Battery System
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Economic Aspects of Grid Connected VRB-PV Systems in Domestic Applications
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The Design and Application of a Flow Cell System
Eric A. Lewis
Converteam UK Ltd, UK

Modelling, Simulation and Validation of PV-VRB Systems
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Redox Flow Batteries for Next Generation Grid Design and Operation Paradigms
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Legislation and the Commercialisation of Flow Battery Systems in Europe
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