

9.00 – 9.15 Official Opening of the PCIM 2003 Conference

9.15 – 10.00 **Key-Note Paper for all Participants**

**Variable Speed Motion: A Key to Global Energy Savings -  
From the State of the Art to Future Trends**

Ph. D. Alexander Lidow, CEO International Rectifier, USA  
(see introduction page 30)

10.10 – 12.30 **Session PQ 1 – Parallel running to Session PQ 2-Part I**

### UPS Technology

Chairman: Johann Walter Kolar, ETH Zürich, SWITZERLAND

PQ 1-1 **The Perspectives of UPS and Fuel Cells on the Base of a New Flexible Modular  
UPS Technology**

N. Blacha, AEG SVS Power Supply Systems, GERMANY

PQ 1-2 **Relying in UPS Battery thanks to Intermittent Battery Charging in New UPS**

G. Raybaut, J.-F. Christin, F. Rusteberg, MGE UPS Systems, FRANCE

11.10 – 11.30 Coffee Break

PQ 1-3 **Integration of a Watercooled UPS System into the Environment**

H. Darrelmann, RWE Piller, GERMANY

PQ1-4 **Bidirectional UPS with Converter Coupling**

K. F. Hoffmann, Philips Medical Systems, GERMANY

10.10 – 12.30 **Session PQ 2 - Part I – Parallel running to Session PQ 1**

### Power Disturbances

Chairman: Jean-Marie Peter, Consultant, FRANCE

PQ 2-1 **Future Trends in PQ-Regulation and Consequences for Monitoring**

G. Brauner, Technical University Vienna, AUSTRIA

PQ 2-2 **Living well with your Background Disturbances**

J. Du Parc, Alstrom, FRANCE

11.10 – 11.30 Coffee Break

PQ 2-3 **Effect of the Stray Currents on Metallic Structures located near a DC Traction  
System Railways**

W. Seiler, RATP, FRANCE

PQ 2-4 **Energy Management and Quality for Traction Application**

G. Coquery, INRETS, FRANCE

12.30 – 1.30 Lunch, Restaurant CCN West 1<sup>st</sup> floor

1.30 – 2.30 **Poster/Dialogue Sessions PQ D-1, CCN West 2<sup>nd</sup> floor**

Chairman: Gero Papst, American Superconductor Europe, GERMANY

PQ D1-1 **A New Method for Evaluation and Locating Power Quality Indices**

M. Berger, G. Brauner, Technical University Vienna, AUSTRIA

PQ D1-2 **Monitoring of Incorrect Connections of an Electrical System**

P. Taskinen, A. Kokkonen, T. Liusvaara, J. Taskinen, Muuntosähkö Oy Trafox, FINLAND

- PQ D1-3 **Impedance Characterization of VRLA Batteries**  
T. Suntio, University of Oulu, A. Tenno, R. Tenno, Helsinki University of Technology, FINLAND
- PQ D1-4 **High Speed Toothless Permanent Magnet Generator for Flywheel Applications**  
C. Huynh, L. Hawkins, Calnetix, J. Denk, Honeywell, R. Hayes, University of Texas, USA
- PQ D1-5 **A Universal Approach to Optimal Power Flow Problems in FACTS based on Real-Valued Genetic Algorithm**  
T. T. Ma, National Lien-Ho Institute of Technology, TAIWAN
- PQ D1-6 **Analysis of the Non-Sinusoidal Steady State in an Electrical Network with the Help of a Specialized Software Package**  
V. Varvara, Technical University Iasi, ROMANIA
- PQ D1-7 **Sensibility of Digital Flickermeter Readings to Changes in its Design Procedure**  
M. Hartman, M. Hashad, The Electrotechnical Institute, Z. Hanzelka, A. Bien, University of Mining and Metallurgy, POLAND
- 2.30 – 4.30 **Session PQ 2 - Part II – Parallel running to Session PQ 4**
- PQ 2-5 **Practical Aspects of the Flicker Evaluation in the Networks with Arc-Furnaces**  
A. Kuznietsov, ZES Zimmer Electronic Systems, GERMANY
- PQ 2-6 **Low Flicker Effect Supply for DC Arc Furnace**  
P. Ladoux, C. Bas, H. Foch, Laboratoire d'Electrotechnique et d'Electronique Industrielle, J. Nuns, EDF, FRANCE
- PQ 2-7 **Voltage Dips and Short Supply Interruptions in Contacts for the Electric Power Supply for High Voltage Systems**  
Z. Hanzelka, W. Loziak, T. Máj, G. Matusz, J. Strzalka, M. Rogoz, University of Mining and Metallurgy, POLAND
- PQ 2-8 **Modelling and Simulation of the Fault Management in Medium Voltage Networks for Electricity Distribution**  
T. Hiller, EnBW Regional, L. Zacharias, ANSOFT, GERMANY

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4.30 – 4.50 Coffee Break

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4.50 – 6.10 **Session PQ 3 – Parallel running to Session PQ 4**

**Active Filtering**

Chairman: Martin Finkelmann, RWE Net, GERMANY

- PQ 3-1 **Active Filter Control in the Stationary Reference Frame using Lowpass to Bandpass Transformation**  
U. Grossmann, T. Ellinger, G. Berger, J. Petzoldt, Technische University Ilmenau, H. G. Mall, Frako, GERMANY
- PQ 3-2 **Application of a PWM Inverter as Active Filter**  
G. Ofner, Graz University of Technology, AUSTRIA
- PQ 3-3 **A Control Delay Compensation Method for Voltage Source Active Power Filter**  
M. Routimo, M. Salo, H. Tuusa, Tampere University of Technology, FINLAND

2.30 – 6.10

**Session PQ 4 – Parallel running to Session PQ 2-Part II, PQ 3****Energy Storage and New Applications**

Chairman: Jean-Paul Beaudet, MGE UPS, FRANCE

PQ 4-1

**Supercapacitors, a Relevant Energy Storage Solution for Short Back up Power**  
E. Planchais, BATSCAP, FRANCE

PQ 4-2

**Active Voltage Stabilization with a Supercapacitor-Based Energy-Storage Substation**

A. Rufer, P. Barrade, D. Hotellier, EPFL, SWITZERLAND

PQ 4-3

**Ultracapacitor Application in the Power Electronic World**

A. Schneuwly, G. Sartorelli, B. Maher, Maxwell Technologies, SWITZERLAND

4.00 – 4.20

Coffee Break

PQ 4-4

**Flywheel Energy Storage System for Hybrid and Distributed Electricity Generation**

N. Bernard, H. Ben Ahmed, B. Multon, Ecole Normale Supérieure de Cachan, C. Kerzreho, INSA de Rouen, FRANCE

PQ 4-5

**Stabilisation of the Overhead Line Voltage of a DC Railway System with a Flywheel Storage**

D. Habel, RWE Piller, GERMANY

PQ 4-6

**Use of Supercapacitor as Energy Storage Device for UPS: Review of this New Technology and Results of Tests with a 40 kVA UPS**

S. Bernard, P. Bois, J.-F. Christin, MGE UPS Systems, FRANCE

PQ 4-7

**Design and Development of a 100 KW Energy Storage Flywheel for UPS and Power Conditioning Applications**

P. McMullen, D. Dang, L. Hawkins, C. Huynh, Calnetix, USA