



**IEEE Region 8 IA IE PEL PE Inter-Society
Chapters Workshop**

and

**Joint Chapter Meetings
of the
IEEE IAS/PELS/IES German Chapter
and
IEEE PES German Chapter**

May 12-14th 2004, Berlin, Germany

HOSTS



**Region 8
Sections
and Chapters**



**VDE Association for Electrical, Electronics &
Information Technologies, Germany, Frankfurt**
VDE Headquarters, Berlin-Charlottenburg

IEEE Technical Societies



ALSTOM Power Conversion GmbH
General Drives, Berlin



Berlin University of Technology
Faculty IV, Electrical Engineering and Computer Science, Berlin



SIEMENS AG
Power Transmission and Distribution, Berlin

VENUE OVERVIEW

12th May, Morning	P	IEEE Region 8 IA PEL IE PE Inter Society Chapters Workshop Introductory Session VDE Verband der Elektrotechnik Elektronik Informationstechnik e.V. VDE-Haus Berlin-Charlottenburg (Berlin Headquarters) Bismarckstraße 33, D-10625 Berlin
12th May, Afternoon	O	<i>1st Meeting</i> Joint Chapter Meeting of the IEEE PES German Chapter and IEEE IAS/PELS/IES German Chapter SIEMENS AG Power Transmission and Distribution Nonnendammallee 104, D-13629 Berlin
13th May	S	<i>2nd Meeting</i> Joint Chapter Meeting of the IEEE IAS/PELS/IES German Chapter and IEEE PES German Chapter ALSTOM Power Conversion Ltd, General Drives Culemeyerstr 1, D-12277 Berlin
14th May Morning	R	<i>3rd Meeting</i> Joint Chapter Meeting of the IEEE IAS/PELS/IES German Chapter and IEEE PES German Chapter Berlin University of Technology Einsteinufer 19, D-10587 Berlin
14th May, Afternoon	W	IEEE Region 8 IA-PEL-IE-PE Inter Society Chapters Workshop Closing Session Berlin University of Technology Einsteinufer 19, D-10587 Berlin

LOCAL CHAIRS

- Dr.-Ing. Andreas Luxa**, *Member IEEE*
 Vice President R&D
 SIEMENS AG, Power Transmission and Distribution
 High Voltage Technology
www.ptd.siemens.de
 Chairman, IEEE PES German Chapter
<http://evserv02.e-technik.uni-dortmund.de/IEEE/ieee.html>
- Dr.-Ing. Georg Möhlenkamp**, *Senior Member IEEE*
 General Manager Engineering & Development
 ALSTOM Power Conversion GmbH, Berlin
www.powerconv.alstom.com
- Prof. Dr.-Ing. Steffen Bernet**, *Member IEEE*
 Power Electronics Group
- Prof. em. Dr.-Ing. Manfred Stiebler**, *Senior Member IEEE*
 Electrical Machines, Drives and Renewable Energies Group
 Institute of Energy and Automation Technology,
 Dept. of Electrical Engineering and Computer Science,
 Berlin University of Technology, Berlin
www.iea.tu-berlin.de/leist.html
www.iee.tu-berlin.de

GENERAL CHAIRS

- Dr.-Ing. Andreas Luxa**, *Member IEEE*
 Chairman
 IEEE PES German Chapter
<http://evserv02.e-technik.uni-dortmund.de/IEEE/ieee.html>
- Dr.-Ing. Peter Magyar**, *Senior Member IEEE*
 Chairman, IEEE IAS/PELS/IES German Chapter
www.ewh.ieee.org/r8/germany/ias-pels

LOCAL MEETING ORGANIZERS

- Dr.-Ing. Andreas Luxa**
andreas.luxa@siemens.com
 Tel.: +49 (0)30 386-22405
- Frau Melanie Spiegel**
melanie.spiegel@powerconv.alstom.com
 Tel.: +49 (0) 30 76 22 - 2333
- Dipl.-Ing. Thomas Brückner**
thomas.brueckner@tu-berlin.de
 Tel.: +49 (0)30 314 25513
- Dipl.-Ing. Helmuth Grötzebauch**
design@ee.tu-berlin.de
 Tel.: +49 (0)30 314-23574

GENERAL CONTACT

- Dr.-Ing. Peter Magyar**
peter.magyar@ieee.org
 Tel.: +49 (0)5205 9828-30

AGENDA**IEEE Region 8 IA IE PEL PE
Inter-Society Chapters Workshop**

Host VDE
IEEE IAS/PELS/IES German Chapter

Chairman **Dr.-Ing. Peter Magyar**, *Chairman, IEEE IAS/PELS/IES German Chapter*

Co-Chairs **Mr. Mark Harris**, *Chapters and Membership Department Chair, IEEE Industry Applications Society*
Sundstrand Aerospace, Rockford, IL, U.S.A.
m.harris@ieee.org

Mr. Moshe Harpaz, *IEEE IAS Chapters Area Chair - Region 8*
Moshe Harpaz Electrical Engineering Ltd.
Kibbutz Ein-Carmel, Israel
mharpaz@ieee.org

First Part
Introductory Session

Wednesday,
12th May, 2004
(1st Day, Morning)

Venue:
VDE-Haus Berlin-Charlottenburg, Bismarckstraße 33, D-10625 Berlin
Conference Room, 1st Floor
Tel.: +49 (0)30 38 38 68 21
From Station „ZoologischerGarten“ by underground U2, Direction „Ruhleben“
Station „Deutsche Oper“ (2nd stop). Duration: about 10 minutes

8:00 **Breakfast Buffet**

8:29 **Welcome Address**
Peter Magyar, *Chairman, IEEE IAS/PELS/IES German Chapter*

8:30 **Introduction IEEE Germany Section**
Univ.-Prof. Dr.-Ing. A. Schwab, *Chairman, IEEE Germany Section*

8:45 **Introduction VDE**
Dr.-Ing. V. Schanz, *General Manager, The Information Technology Society (ITG) within VDE*
Secretary, IEEE Germany Section

9:00 **Overview: Programs, Resources, Duties and Responsibilities**
Chapters Area Chair Overview
Mr. Moshe Harpaz, *IAS Chapters Area Chair – Region 8*
IAS Chapters and Membership Overview
Mr. Mark Harris, *IAS Chapters and Membership Department Chair*
TBD

10:30 **Chapter Forum, Part 1**
Chapter Presentations: Accomplishments, Challenges, and New Proposals. Discussion

12:00 **End of the First Session**
Transfer to the First Meeting, Siemens PTD

Second Part
Closing Session

Friday,
14th May, 2004
(3rd Day, Afternoon)

Venue:
Berlin University of Technology

16:45 **Chapter Forum, Part 2**
Chapter Presentations
Discussion

18:30 **Closing Address**
Mr. Mark Harris, *IAS Chapters and Membership Department Chair*

18:45 **End of the Workshop**

19:00 **Reception of the Berlin University of Technology**

AGENDA

Wednesday,
12th May, 2004
(1 st Day, Afternoon)

IEEE PES German Chapter IEEE IAS/PELS/IES German Chapter First Joint Meeting



Host	SIEMENS AG, Power Transmission and Distribution, High Voltage Division
Chairman	Dr.-Ing. Andreas Luxa , <i>Siemens PTD, High Voltage Division, Vice President R&D, Technology and Innovation Dept.</i>
Co-Chairs	Mr. Caio A Ferreira , <i>IAS President 2000 Founder & C.E.O. Mechatronic Systems</i> Univ.-Prof. Dr.-Ing. E. Handschin , <i>IEEE PES German Chapter, University of Dortmund, Institute for Electrical Power Systems</i>
Time:	Venue: Siemens AG, Switchgear Factory, Information Center, Nonnendammallee 104, D-13629 Berlin Secretary Ms. Ljiljana Voss, +49 30 386 22405
	From <i>VDE-Haus</i> : by underground U2 direction " <i>Ruhleben</i> " 1 stop. At Station " <i>Bismarckstr</i> " change to underground U7 direction " <i>Rathaus Spandau</i> ". Siemens PTD is at the 7th stop, Station " <i>Rohrdamm</i> " Duration: about 10-15 minutes
12:45	Welcome Address and Introduction Siemens PTD Dr.-Ing. Andreas Luxa, <i>Chairman, IEEE PES German Chapter</i>
13:00	Business Lunch
13:30 – 14:30	Factory Tour Dipl.-Ing. Allard von Wiarda et.al., <i>Information Center</i>
14:45	Dr.-Ing. Andreas Luxa, <i>Vice President R&D, Technology and Innovation Dept.</i> Benefits of Power Electronics for High Voltage Transmission Systems
15:15	Dipl.-Ing. Hans-Peter Lips, <i>Technical Director, Valve Technologies, Fellow IEEE</i> High-Power Direct-Light-Triggered Thyristor Valve Technology - the Basis for Advanced Power Electronic Solutions in Transmission Systems
15:45	Coffee Break
16:00	Prof. Dr.-Ing. Dietmar Retzmann, <i>Technical Director, HVDC and FACTS, Senior Member IEEE</i> Use of High-Power Thyristor Technology for Short-Circuit Current Limitation in High Voltage Systems
16:30	Dipl.-Ing. Uwe Krebs, <i>Product Manager SIPLINK, Siemens AG</i> Optimized Energy Exchange in Distribution Supply Systems with DC-Links based on Conversion Technologies
17:00 – 17:05	Closing Address Dr.-Ing. Andreas Luxa, <i>Chairman, IEEE PES German Chapter</i>
19:00 – 22:00	Dinner Reception <i>Siemens AG, Power Transmission & Distribution, High Voltage Division</i>

AGENDA

Thursday,
13th May, 2004
(2nd Day)

IEEE IAS/PELS/IES German Chapter IEEE PES German Chapter *Second Joint Meeting*



Host ALSTOM Power Conversion GmbH, General Drives

Chairman **Dr.-Ing. Georg Möhlenkamp,**
ALSTOM Power Conversion GmbH

Co-Chair **Mr. Mark Harris,** *Chapters and Membership Department Chair,*
IEEE Industry Applications Society

Time:

Venue:

ALSTOM Power Conversion GmbH, Culemeyerstr. 1, D-12277 Berlin
Secretary Tel. +49 (0)30 76 22 - 23 33

From Station "Zoologischer Garten" underground U2 direction „Pankow“. At Station „Potsdamer Platz“ change to S-Bahn S2 – direction “Blankenfelde” or “Lichtenrade”. From S-Bahn Station “Buckower Chaussee” 15 minutes on foot or by bus 111 direction “U-Bahn Alt-Mariendorf” to Culemeyerstr. (3rd stop).
Duration: about 45-60 minutes

- 10.30-11:00 **Introduction to ALSTOM Power Conversion GmbH Berlin**
Dr. Möhlenkamp, Manager Development and Engineering, ALSTOM,
- 11:00-11:45 *Mrs. Bocquel, Development High Power Converter Control, ALSTOM*
300 MW Variable Speed Drives for Pump Storage Plant Application
Goldisthal
- 11:45-12:30 *Dr. Jakob, Power Electronics Development Group, ALSTOM*
Application of Multi-Level Medium Voltage Converters for a Traction Test Bench
- 12:30-13:15 *Dr. Janning, Senior Engineer Engineering and Development, ALSTOM*
Active Earth Fault Compensation and Railway Application of Medium Voltage Converters
- 13:30-14:30 **Lunch**
- 14:30-15:30 **Company Tour,**
Power Electronics Manufacturing Facility - in small groups
- 15:30-16:00 **Coffee Break**
- 16:00-16:45 *Dr. Carstens, Renewable Energies Business Division, ALSTOM*
5 MW Permanent Magnet Offshore Wind Mill Prototype
- 16:45-17:30 *Dr. Janßen, Development High Power Converter Control, ALSTOM*
Comparison of the Behavior of Wind Energy Farms and Conventional Large Power Station during Grid Failure Conditions
- 17:30-18:15 *Prof. Dr.-Ing. W. Leonhard, IEEE Life Fellow, TU Braunschweig*
Sustainable Electrical Energy Supply With Wind, Biomass and Pumped Storage – A Realistic Long-Term Strategy or Utopia?
Guest Lecture
- 18:15 **End of technical part**
- 18:30-21:00 **Dinner and Get-Together Party**
Buffet at the ALSTOM Employee's Restaurant

AGENDA

Friday,
14th May, 2004
(3rd Day)

IEEE IAS/PELS/IES German Chapter IEEE PES German Chapter Third Joint Meeting



Host Berlin University of Technology

Chairmen **Prof. Dr.-Ing. Steffen Bernet**
Power Electronics Group
Prof. em. Dr.-Ing. Manfred Stiebler
Electrical Machines, Drives and Renewable Energies Group
Berlin University of Technology, Berlin

Co-Chair **Mr. Moshe Harpaz**, *IEEE IAS Chapters Area Chair - Region 8*

Time:

Venue:

TU Berlin, Einsteinufer 19, D-10587 Berlin
Bldg. No 3 „Hochfrequenztechnik (HFT)“, Secretary Tel. +49 (0)30 314 21444
From Station „Zoologischer Garten“ a 15-minute walk or by underground U2 –
direction „Ruhleben“ to „Ernst-Reuter-Platz“ (1st stop).
Duration: about 10-15 minutes

9.00 – 10.30

Prof. Kutzler, *President, TU Berlin*
Introduction to Berlin University of Technology
Prof. Hommel, *Dean of Dept. of Electrical Engineering and Computer Science,*
TU Berlin

Introduction to the ECE Department

Prof. Bernet, *Power Electronics Group, TU Berlin*

Power Electronics Research and Education at TU Berlin

Prof. Hanitsch, *Electrical Machines, Drives and Renewable Energies Group,*
TU Berlin

Electrical Machines, Drives and Renewable Energies at TU Berlin

10.30-10.45

Coffee break

10.45-12.15

Prof. Bernet, *Power Electronics Group, TU Berlin*

Recent Developments of Medium Voltage Semiconductor and Converter Technology

Prof. Stiebler, *Electrical Machines, Drives and Renewable Energies Group, TU Berlin*

Synchronous Generators for Wind Energy Systems

Prof. Hanitsch, *Electrical Machines, Drives and Renewable Energies Group,*
TU Berlin

Ferrites and NdFeB-Magnets in Electronically Controlled Small Motors

12.15-13.30

Lunch

13.30-15.00

Dr.-Ing. Schulz, *Electrical Machines, Drives and Renewable Energies Group,*
TU Berlin

Power Quality of Wind Farms

Dipl.-Ing. Brückner, *Power Electronics Group, TU Berlin*

Modulation and Loss Considerations of 3L-NPC Voltage Source Converters

Dipl.-Ing. Krug, *Power Electronics Group, TU Berlin*

Comparison of Multi-Level Converters for Medium Voltage Drives

15.00-15.15

Coffee break

15.15-16.30

Laboratory tour

- 15kV,5kA Semiconductor Test Bench
- Test Bench 3L-NPC Voltage Source Converter
- 40kW Drive Test Bench

16.30

End of technical part of the meeting

19.00-22.00

Dinner and Get-Together Party

Reception of the University of Technology Berlin

POST WORKSHOP PROGRAM

“Saturday Excursion” Saturday, May 15th, 2004

Super Berlin Guided Tour with exclusive stop at the German Parliament “Reichstag” and visit of the “Reichstag Dome”. The voucher will be distributed during the 2nd part of the Workshop for participants who are already registered for the “Saturday Excursion”.

Meeting point/time: *Kurfürstendamm / Corner Rankestraße* (about 200 m from the Station „Zoologischer Garten”) **from 9:45 a.m.**

Start: **10:00 a.m. (the motor coach does not wait for latecomers)**

Finish: **13:30** at *Kurfürstendamm / Corner Rankestraße*

MEETINGS´ SITE INFORMATION

Meetings´ Site Maps are available on the website of the Host Chapters:

www.ewh.ieee.org/r8/germany/ias-pels >>Upcoming Events >>R8 Inter-Society Workshop
<http://evserv02.e-technik.uni-dortmund.de/IEEE/ieee.html>

For further information please visit

www.berlin.de

www.netzspinnen-berlin.de

www.s-bahn-berlin.de/pdf/s_bahn_netz.pdf

www.s-bahn-berlin.de/pdf/s_bahn_netz_innen.pdf

City travel to.....

.....VDE

From Station „ZoologischerGarten“ by underground U2, Direction „Ruhleben“
 Station „Deutsche Oper“ (2nd stop)
 Duration: about 10 minutes

.....SIEMENS PTD

From *VDE-Haus*: by underground U2 direction “Ruhleben” 1 stop. At Station “Bismarckstr”
 change to underground U7 direction “Rathaus Spandau”. Siemens PTD is at the 7th stop,
 Station “Rohrdamm”
 Duration: about 10-15 minutes

.....ALSTOM

From Station “Zoologischer Garten” underground U2 direction „Pankow“. At Station
 „Potsdamer Platz“ change to S-Bahn S2 – direction “Blankenfelde” or “Lichtenrade”. From S-
 Bahn Station “Buckower Chaussee” 15 minutes on foot or by bus 111 direction “U-Bahn Alt-
 Mariendorf” to *Culemeyerstr.* (3rd stop).
 Duration: about 45-60 minutes

.....Berlin University of Technology

From Station „Zoologischer Garten“ a 15-minute walk or by underground U2 – direction
 „Ruhleben“ to „Ernst-Reuter-Platz“ (1st stop).
 Duration: about 10-15 minutes

The straight tips of the day

-buy a daily ticket “Tageskarte A+B”. This is valid for 1 day for all means of public transport (bus, tram, underground (U-Bahn), city train (S-Bahn)). Price: EUR 5,60
 Price of one ticket (“Einzelkarte A+B”) is EUR 2,00
-and take a city map
-or at least make a hard-copy of the website http://www.ewh.ieee.org/r8/germany/ias-pels/m_berlin/u-bahn_s-bahn_berlin.pdf for your convenience.