

EPE Newsletter November 2007

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1. Call for papers EPE-PEMC 2008, Poznan, 1-3 September 2008 13th International Power Electronics and Motion Control Conference

Deadline for synopses: 25 November 2007

Contributions are invited in the following topics:

1. Semiconductor Devices and Packaging
2. Power Converters
3. Control of Power Converters
4. Electrical Machines and Actuators
5. Motion Control, Robotics, Adjustable Speed Drives
6. Application and Design of Power Electronics Systems
7. Measurements, Sensors and Observing Techniques
8. Electromagnetic Compatibility
9. Power Electronics in Transportation
10. Mechatronics Systems
11. Power Electronics in Electrical Energy Generation, Transmission and Distributions
12. Renewable Energy Sources
13. Active Filtering and Unity Power Factor Correction Circuits
14. Education
15. Related Topics

Working language is English

Paper submissions: Prospective authors are kindly invited to send synopses to the conference Secretariat. The synopses should consist of a 3 to 5 pages summary, including an abstract with no more than 50 words, key diagrams and reference list, topic number and indication of the preference for dialog or lecture presentation.

Special Session Proposals: Proposals are sought from those wishing to organize a special session. A special session consists of six papers, which should present a unifying theme from a diversity of viewpoints.

Tutorial Proposals: The conference Committee intends to arrange tutorials to be held prior to the Conference, and solicits proposals for appropriate subjects.

The submission of synopses, proposals for tutorials and special sessions will be electronically done through the EPE-PEMC 2008 web site, where you can find detailed information on submission procedures and preparation of proposals

Contacts:

Poznan University of technology
Faculty of Electrical Engineering
EPE-PEMC 2008
Conference Secretariat
60-965 Poznan, Piotrowo 3A, Poland

Phone: + 48 61 665 2627, 2737
Fax: +48 61 665 2563
e-mail: pemc@put.poznan.pl
<http://www.epe-pemc2008.put.poznan.pl>

2. PhD or Post Doc research fellowship within “Grid connection of deep sea wind farms” at NTNU, Department of Electric Power Engineering

At the Norwegian University of Science and Technology (NTNU) in Trondheim, Department of Electric Power Engineering, there is a vacant position as a research fellow (PhD or Post Doc position) within “Grid connection of deep sea wind farms”.

The project:

The project will combine wind technology know-how with offshore and energy industry experience to enhance development of wind farms at deep sea far from the shoreline.

The overall objective is to advance Norwegian development within this field, and pin-point technical solutions that ensure cost-efficiency of deep sea offshore wind farms. The potential for deep sea offshore wind is huge both in terms of energy production and industrial development.

Research topic:

Topics of research may be one or more of the following subjects:

- Assessment of technical solutions and systems for connecting big offshore wind farms with separate feeder (AC or HVDC thyristor and transistor based solutions) to shore.

Relevant issues are possibilities of wind farm control, system losses and security of operation, e.g. risk of over-voltages in long cables.

- Power system security analysis related to the impact of fault events (e.g. what is the system impacts if a 1000 MW wind farm loses connection),

- Analysis of possibilities for having offshore wind farms as hubs on sub-sea trans-national connections. This could include assessment of both technical solutions (multi-terminal

HVDC or AC) and operational implications, e.g. wind generation impact on possibilities for import/export over the cable.

The main goal of the research topic is to provide solutions for cost effective grid connection and system integration of deep sea offshore wind farms.

The candidate:

The candidate will be employed by the Faculty of Information Technology, Mathematics and Electrical Engineering, Department of Electric Power Engineering, and will be included in the “Deep sea offshore wind turbine technology” project team.

For the Post Doc engagement a PhD in Electrical Engineering and familiarity with power systems and power electronics is sought, while for the PhD scholarship a candidate with a relevant M.Sc. degree is sought. High motivation and good analytical and communication skills will be emphasized in the employment process.

NTNU's PhD-rules require a Master degree or equivalent with at least 5 years of studies and an average grade of A or B within a scale of A-E for passing grades (A best). Candidates from universities outside Norway are kindly requested to send a Diploma Supplement or a similar document, which describes in detail the study and grade system and the rights for further studies associated with the obtained degree:

http://ec.europa.eu/education/policies/rec_qual/recognition/diploma_en.html

Contact persons:

- Professor Tore Undeland, Department of Electric Power Engineering, NTNU,

tore.undeland@elkraft.ntnu.no

Senior Research Scientist Kjetil Uhlen, SINTEF Energy Research, kjetil.uhlen@sintef.no

For the Post Doc research fellowship:

The applicant for the position should have a good background in power electronics and power systems. The post.doc candidate should have a doctoral degree from a recognized university.

The appointment is made for up to 2 years.

This position is remunerated according to wage level 54 or above on Norwegian State salary scale, with gross salary from NOK 389.400 a year.

The successful applicant must agree to the conditions laid down for public employees.

For the PhD research fellowship:

See the information about doctoral studies at NTNU at

www.ime.ntnu.no/Dr.gradsstudier/

The position is remunerated according to wage level 43 or above on the Norwegian State salary Scale, with gross salary from NOK 325.600 a year.

For both positions:

It is a major political objective to achieve a balance of gender and to recruit persons with an immigrant background. Immigrants are encouraged to apply for this post. NTNU wants to increase the proportion of women in its scientific posts. Women are encouraged to apply.

The application must contain information about education, examinations and previous experience. Certified copies of testimonies and documents must be attached.

Copies of publications and any other work which the applicant wishes to be taken into account should also be enclosed.

Applications are to be sent to the Norwegian University of Science and Technology, Faculty of Information Technology, Mathematics and Electrical Engineering,

Gamle Fysikk, Sem Salands vei 5, NO-7491 Trondheim, Norway. The application deadline is 2 November 2007. The file number for the position, Jnr. IME-064-2007, is to be clearly stated on the application.

http://nettopp.ntnu.no/nettopp_lesmer.php?kategori=nyheter&dokid=4709d823c31b63.86201348

3. Industrial/Ph.D. Course in Power Electronics for Renewable Energy Systems – in theory and practice - November 21-23, 2007, Aalborg University

Background of the course There is a rapid development in the area of Distributed Power Generation Systems (DPGS) based on Renewable Energy Sources (RES) like Photovoltaics (PV) and Wind Turbines (WT). Especially for grid-connected DPGS an exponential growth in terms of installation power can be observed, mainly due to the subventions given by governmental policies around the world for clean “green” electricity production. Countries like Germany, Denmark, Japan, Spain, Italy, UK and USA have the highest penetration of RES. The objectives of this course are to learn about the design and control, both basic (linear) and advanced (non-linear, robust, adaptive controllers) of the power electronics converters used in single-phase and three-phase renewable energy systems mainly for photovoltaics and wind turbine systems connected to the utility grid. Practical issues related to the design of the control of the converter, grid filter and grid interaction are addressed with industrial examples. There will be increased focus on the compliance with the new grid codes standards for DGPS that impose stringent requirements in terms of power quality, ride-through, fast P-Q control, grid monitoring and islanding detection. Control design experience will be gained by using advanced simulation models in Simulink for both single-phase and three-phase grid converters Hands-on experience will be implemented in the state-of-the-art Green Power Laboratory where all the students will do experiments including control implementation for single-phase and three-phase grid converters including current control, harmonic compensation, grid synchronization, sag detection on setups controlled by dSPACE (DS1103) Keep yourselves updated at our web pages

http://www.iet.aau.dk/Research/research_prog/Green_Power_Converters/index.php

Place Aalborg University, Institute of Energy Technology Pontoppidanstraede 101, Room 23 DK-9220 Aalborg East, Denmark

Language: English

Prerequisites: A degree in electrical engineering or control engineering and Matlab/Simulink knowledge is strongly recommended.

Literature: A number of related articles and copy of slides are included in the course documentation (included in the fee).

Programme

November 21, 2007, 08.30-16.30

L1 Introduction to Renewable Energy Sources. Development in energy technology

L2 PV systems configurations. PV inverters topologies.

L3 Grid requirements for PV system. International review of grid codes.. Anti-islanding

L4 Control structures for PV inverters.

L5 Grid synchronization and monitoring for single-phase grid converters. PLL Basics.

Lab I Introduction to Green Power Lab. Design and simulation of PLL

Lab II Experimental validation of PLL for single-phase systems.

Lab III Grid monitoring. Sag detection.. Experimentation.

November 22, 2007, 08.30-16.30

L6 Current control of single-phase inverters. Linear controllers. LCL filter design and current control.

L7 Proportional Resonant (PR) current control of single-phase inverters. Harmonics compensation. Modulation.

Lab IV Current control design for single-phase inverter. Simulation.

Lab V Experimental testing of current control for single-phase grid inverter

Lab VI Experimental testing of harmonic compensation for single-phase grid inverter

L8 Overview of electrical system for wind energy conversion. Power configurations. Converter topologies.

L9 Grid requirements for wind turbines. International review of grid codes.

L10 Grid converter control. Topologies. Modulation techniques. Current control.

November 23, 2007, 08.30-16.30

L11 Grid synchronization for three-phase systems. Detection of sequence components under unbalanced grid conditions
L12 Ride-through capability in wind turbines. Reference currents computation under grid faults.
Lab VII Design of control strategy for three-phase grid inverter. Dq control.
Lab VIII Design of control strategy for three-phase grid inverter. Harmonic compensation
Lab IX Experimental testing of current control for three-phase grid inverter.
Lab X Experimental testing of harmonic compensation for three-phase grid inverter.
L13 Advanced current control. Stability issues. Non-linear controllers. Future functions
Eval Evaluation of lab results. Course evaluation. Closing discussion

Lecturers

Associate Professor, Ph.D. Remus Teodorescu, Aalborg University, Denmark
Assistant Professor, Ph.D. Marco Liserre Bari Polytechnic, Italy
Associate Professor, Ph.D. Pedro Rodriguez, Technical University of Catalonia, Spain.

Fee The fee is 9000,- DKK for industrial people and 6000 DKK for PhD students from outside Denmark (free for Danish PhD students). The fee includes coffee, lunch for all three days and copy of slides and articles.

Credits 3.0 ECTS

Registration Preferably now and no later than November 2, 2007 by email to: Susanne Hansen: skh@iet.aau.dk

Accommodation For hotel information and booking please contact Susanne Hansen: skh@iet.aau.dk before November 2

Further information

Aalborg University, Institute of Energy Technology
Assoc. Prof. Remus Teodorescu
Pontoppidanstraede 101,
DK-9220 Aalborg, Denmark

Phone +45 9635 9254,
Fax +45 9815 1411
Email: ret@iet.aau.dk

4. Open Position for Design Engineer Power Electronics

Function Description

You are part of the avionics display development lab. You perform power electronics design such as DC/DC, AC/DC, PFC and heater control circuits. You are fully responsible to design, develop, test and debug your design. Starting from specification you define concept, select parts and verify performance of your designs.

You strive for optimal operation of your design in extreme cold to extreme hot conditions.

Challenges are selecting the right power supply topology for your application and the perfect parts for optimum power supply efficiency. State-of-the-art tools will be at your disposal.

You closely follow evolutions in your domain of expertise through internal & external training courses.

You work in a team and share experiences with co-developers.

Reports To

As Electronics Development Engineer you will work out of the BarcoView Kortrijk site. You report to the R&D Manager.

Profile

Education: Master degree in Electronics

Experience: power electronics has no secrets to you: in depth knowledge of topologies, thermal aspects, EMI/EMC restrictions. Knowledge of the applicable aviation standards is an asset: MIL-STD-704, MIL-STD-461/462, DO-160.

Languages: excellent English; notions of Dutch and French

Skills: communicative skills, analytical & creative thinking power, problem solving attitude

Personality: a highly motivated & creative professional seeking an innovative design challenge, an independent worker as well as a team player.

Contact person:

Name: Teerlinck Evert

Title: HR Assistant

Address: Pres. Kennedypark 35

Phone: +32 56/23 32 19

Fax: + 32 56/23 34 31

Email: hmr2.knd@barco.com

5. Politecnico di Torino has issued a "Call for Expressions of Interest" for Visiting Professor positions and Post-Doc positions

Politecnico di Torino has issued a "Call for Expressions of Interest" for Visiting Professor positions and Post-Doc positions. I should like to ask you to distribute this information through your mailing list. Interested people can obtain details by registering at <http://www.polito.it/visiting>

The same page can also be reached from the Politecnico home page www.polito.it by clicking on the red words "Opening for Post-Doc and Visiting Professors"

6. Call for papers for EPE journal, included in ISI and Compendex

EPE Journal is included in the Science Citation Index as well as in the Compendex. Send your best technical papers for publication to bsnevers@vub.ac.be (pdf file, without any mention of authors, full coordinates in the mail message)

<http://www.epe-association.org>

7. Technically sponsored conferences

March 11-13, 2008, Nuremberg, Germany

CIPS 2008, 5th International Conference on Integrated Electronics Systems

Contact:

VDE Conference Services

Stresemannallee 15

D-60596 Frankfurt, Germany

Phone: +49 69 6308 275

Fax: +49 69 9631 5213

e-mail: conference-papers@vde.com

URL: <http://www.cips-conference.de>

March 11-13, 2008, Geneva, Switzerland

EET-2008

3rd European Ele-Drive Transportation Conference

On the Way to Sustainable Development and Market Opening

In cooperation with the International Advanced Mobility Forum

in conjunction with the Geneva International Motor Show

Contact:

European Association for Battery, Hybrid and Fuel Cell Electric Vehicles aisbl/ivzw

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B-1050 Brussels

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