UNIVERSITY OF UDINE

Department of Electrical, Management and Mechanical Engineering (DIEG)

RECENT TRENDS IN AUTOMOTIVE POWER ELECTRONICS AND DRIVES for Electric/Hybrid Vehicles

RETAPED - FIRST EDITION

AN EDLAB-NET WORKSHOP

UDINE, 15th DECEMBER 2014

TECHNICAL CONTRIBUTIONS

UNIVERSITÀ DEGLI STUDI DI UDINE

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META SYSTEM

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IEEE VTS Vehicular Technology Society — Connecting the Mobile World

Distinguished Lecturer Program

IEEE

Vehicular Technology/Communication Society Joint Chapter Italy Section

TECHNICAL SUPPORT

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North Italy IAS-PELS-IES Joint Chapter

AGENDA

RETAPED FIRST EDITION

8.45 **Registration**

9.15 **Introduction**

prof. Roberto PETRELLA, chairman, Univ. of Udine

prof. Roberto RINALDO, head of DIEG, Univ. of Udine

prof. Silverio BOLOGNANI, Pro-Chancellor, Research, University of Padova

9:30 **Wireless Charging of Electric Vehicles with Extremely High Efficiency and Misalignment Tolerance**

prof. Chris MI, University of Michigan, Dearborn, USA

10:10 **Automotive Battery Charger for Plug-In EVs: Series-Production-Oriented Design and Testing**

dr. Cesare LASAGNI, Metasystem Group, Italy

10:30 **Finite Element Simulation of On-Board Battery Charger Magnetics**

dr. Paolo MONTANARI, Metasystem Group, Italy

10:50 **Power Electronics and EM for Electrical Scooter and Hybrid Applications**

dr. Fabio ALPIOVEZZA, Eldor Corporation, Italy

11:10 **Coffee break**

11:30 **Sensorless Integrated-Starter/Alternator with Ringed-Pole PM Synchronous Motor Drive for Automotive Applications - Design and Test**

dr. Mattia MORANDIN, University of Padova, DII

11:50 **PM Assisted Synchronous Reluctance Motor for Vehicle Traction - Design and Measurements**

dr. Emanuele FORNASIERO, University of Padova, DII

12:10 **Sensorless Control and Parameter Estimation for IPM Synchronous Motors - Recent Advances**

dr. Fabio TINAZZI, University of Padova, DTG

12:30 **Advanced and Sensorless Control of IPM and Synchronous Reluctance Motor Drives**

dr. Sandro CALLIGARO, University of Udine, DIEG

12:50 **High Efficiency Power Converters and Drives for Mild Hybrid Traction and Wireless Charging**

dr. Alessandro PEVERE, University of Udine, DIEG (formerly visiting Ph.D. at Univerity of Michigan, Dearborn)

13:10 **Discussion and closing remarks**

ADDRESS

University of Udine
«Rizzi» Campus
Lecture room M
Via delle Scienze, 206
33100 Udine, Italy

SAVE THE DATE

15th December 2014

REGISTRATION

Admittance to the workshop is free. Registration is required for organization purposes. Registration form is located at http://retaped2014.eventzilla.net/.

CONTACTS

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SUPPORT

Keynote lecture is organized within the technical events of the IEEE Vehicular Technology/Communications Society Joint Chapter Italy Section and is supported by the Distinguished Lecturer program of the IEEE Vehicular Technology Society.

KEYNOTE LECTURER

Chris MI – Professor at the University of Michigan, Dearborn, Dept. of Electrical and Computer Engineering. Director of US DOE funded GATE Center for Electric Drive Transportation. Fellow of IEEE & Distinguished Lecturer. General Co-Chair of IEEE Vehicular Technology Society. Technical Chair of IEEE Workshop on WPT and IEEE International Electrical Vehicle Conference 2014, Florence, Italy – Editor of IEEE Journal of Emerging and Selected Topics in Power Electronics (Special Issue on Wireless Power Transfer) – Research on Electric Vehicles and Hybrid EV topics, including tutorials and seminars for the Society of Automotive Engineers (SAE), the IEEE, workshops sponsored by the National Science Foundation (NSF), and the National Society of Professional Engineers.