Wednesday, May 20, 2015

7:15  Registration/Breakfast

8:00  Welcome Remarks
     Ian Robertson, Dean, College of Engineering

8:10  Opening Comments
     Tom Jahns
     Bob Lorenz

8:25  WEMPEC Update, Education and Research
     Jim Sember

8:50  Welcome Remarks
     Rebecca M. Blank, Chancellor, UW-Madison

Technical Presentations

9:00  James McFarland – Flux Switching Machine Modeling

9:25  Mahima Gupta – Three Phase Voltage Source Inverters with Only Decoupling Capacitors on the DC Bus

9:50  Refreshment Break

10:20 Apoorva Athavale – Variable Flux PM Machines for Duty Cycle Applications

10:45 Andy Schroedermeier – An Integrated LC Filter with Co-Located Electric and Magnetic Fields

11:10 Jiyao Wang – Integrated Modular Motor Drives with GaN Devices

11:35 Dheeraj Bobba – A Novel 6 Slot 4 Pole Flux Switching Permanent Magnet Machine

12:00 Lunch

1:15  WEMPEC Emeritus Group (WEG)
     Don Novotny

1:20  Distance Learning Graduate Program and Short Course Program, Wayne Pferdehirt, Dir. EPD

1:30  Technology Licensing
     Michael Falk, General Counsel, WARF

1:40  Wanjun Zhang – Losses in High Speed Machines using Form Wound Windings

2:05  Parikshith Channegowda – Capacitor-Coupled Transformerless DC-DC Converters for Large Conversion Ratios

2:30 – 5:00 Poster Presentations/Laboratory Demos

- Novel electric machines
- Multilevel & matrix converters
- Surface & interior PM machines
- Plug-in hybrid & battery electric vehicle technologies
- Battery monitoring & management
- High voltage power converters
- Novel drive control techniques
- Power conversion for renewable energy
- Wisconsin Energy Institute
- Integrated power modules
- Distributed generation and microgrids
- Active control of power devices for reliability
- Self-sensing motion control
- Modular motor drive
- Sensor integration in power electronics
- Wireless power transfer
- Wide bandgap devices
- And more...

5:00-6:30 Social Hour
     Sponsored by WARF
     Mechanical Engineering Lobby

Thursday, May 21, 2015

7:15  Registration/Breakfast

Technical Presentations

8:00  Zhentao Du – Improved Use of Magnets in a PM Machine

8:25  He Niu – Non-Invasive Junction Temperature Sensing in Power Electronics

Faculty Presentations

8:50  Prof. Tom Jahns – The Future of the Electric Grid and Its Dependence on Power Electronics

9:30  Prof. Dan Ludois – From Magnetic to Electric: Are Aluminum or Plastic Motors Possible?

10:10 Refreshment Break

10:30 Prof. Bulent Sarlioglu – Flux Switching PM Machines: Present and Future Opportunities

11:10 Prof. Yehui Han – Switched Capacitor Converter Overview and Design

11:50 Prof. Bob Lorenz – Sensor Integration and Multi-Physics Design: Where are we?

12:30 Lunch

2:00 – 4:30 Poster Presentations/Laboratory Demos

See Wednesday afternoon list above for details.