EPE Newsletter – February 2019

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1. In Memoriam: Robert D. Lorenz



Robert (Bob) Lorenz, an internationally-renowned professor of mechanical engineering at the University of Wisconsin-Madison and long-time supporter of EPE, passed away on Jan. 27, 2019, after a battle with cancer. Lorenz was a pioneer in the field of physics-based controls engineering. A mechanical engineer with strong expertise in electrical engineering, Bob pursued interdisciplinary research since early in his career when crossing between disciplines wasn't the norm. A brilliant researcher, he worked to advance the practical use of modern control and estimation theory in electric machines and power electronics. Bob was born on March 31, 1946 in Sheboygan, WI. He attended the University of Wisconsin-Madison, earning a B.S. and M.S. in mechanical engineering. His MS program included a year as an NSF Fellow at RWTH Aachen University, where his research focused on measurement aspects of adaptive control. During his undergraduate studies, he also spent a formative year at

Monterrey Institute of Technology, Mexico. After completing his PhD, Bob was drafted into the US Army during the Vietnam War and worked as a control engineer at Aberdeen Proving Grounds in Maryland, USA. After returning from his military service, Lorenz worked for The Gleason Works in Rochester, New York, where he honed his engineering skills by developing high-performance motor controls for machine tools that were ahead of their time. He also earned an MBA from the University of Rochester during this time. In 1982, Bob and his young family moved to Madison, where he earned his Ph.D. and, subsequently, joined the UW-Madison faculty. After joining the UW-Madison engineering faculty in 1984, he immediately got involved with the then-new Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC) that has grown into a highly successful university-industry partnership today, with more than 85 company sponsors. In 1988 he spent a sabbatical year at KULeuven, Belgium and in 2000 at ISEA, RWTH Aachen University, Germany.

Bob, who co-directed WEMPEC for 22 years, was internationally renowned as a leading authority in the field of physics-based control of electric motors and adjustable-speed drives. Always known for his infectious enthusiasm and high energy level, he passionately pursued his unique research vision for 35 years at UW-Madison, where he supervised more than 200 graduate students, authored more than 400 technical papers with his students that resulted in 34 IEEE prize paper awards, and earned more than 40 U.S. patents. He held the Elmer and Janet Kaiser Chair and was Consolidated Papers Professor of Controls Engineering at UW-Madison. Among the many ways he is leaving a legacy at UW-Madison is through the Robert Lorenz Professorship in Mechanical Engineering, which he

established soon after he was diagnosed with cancer. Although he did not live long enough to hear the news, Bob was elected to the US National Academy of Engineering (NAE), the highest award for engineers in the United States, less than two weeks after he passed away.

Bob Lorenz has been an active supporter of EPE for much of his career. In 1998 he became a member of the EPE International Scientific Steering Committee and continued to actively participate in that role for the rest of his life. He was awarded the EPE Outstanding Achievement Award in 2014. In addition, Bob received the IEEE Richard Kaufmann Technical Field Award in 2014, and he was named an IEEE Fellow in 1998. Bob was also very active in IEEE leadership activities, including service as president of the IEEE Industry Applications Society during 2001 and an elected member of the IEEE Board of Directors from 2005 to 2006.

In addition to his impressive academic achievements, Lorenz always reserved time to be actively involved in a wide range of civic and humanitarian volunteer service activities that included the Madison Rotary Club, Habitat for Humanity of Dane County, and international medical mission work in several parts of the world extending from Africa to Guatemala. He received the UW-Madison College of Engineering Ragnar E. Onstad Service to Society Award in 2002 in recognition of his many years of dedicated public service.

Beyond his impressive academic accomplishments, Bob took pride and satisfaction in the number of lives that he influenced and changed for the better during his productive life. He was a larger-than-life personality who had an unforgettable effect on everyone who he encountered. He will be deeply missed by all who knew him.

2. EPE'19 ECCE Europe, Genova, Italy, 2-6 September 2019

http://www.epe2019.com

- Technical programme

The first Keynote speakers are confirmed:

Marco Venturini, CEO of Phase Motion Control S.p.A. New trends in electric mobility (batteries, powertrains, etc...)

Paolo Bordignon, Executive Vice President, R&D Coordination and Technology, Rongxin HUIKO Electric Technology Co.,Ltd

VSC Conversion Technology for HVDC & FACTS, State of the Art and Future Trend

Industrial Forum:

Two Industrial fora will be organized on Wide Bandgap components:

- Tuesday 3 September on GaN, starting 16h30
- Wednesday 4 September on SiC, starting 16h30

- Exhibition : Plan your participation: check for updated information at http://www.epe2019.com

Already confirmed:

Contributors:

- ABB SpA Marine & Ports
- MONT-ELE
- NIDEC INDUSTRIAL SOLUTIONS
- Plexim GmbH
- Poseico SpA
- Rohde & Schwarz

Exhibitors:

- COMER s.r.l.
- dSpace
- ECPE European Center for Power Electronics e.V.
- EGSTON Power Electronics GmbH
- HIOKI Europe GmbH
- imperix ltd
- Mathworks Speedgoat GmbH

- OMICRON Lab
- OPAL RT Europe
- PCIM Europe
- PEM (Power Electronics Measurements) Ltd
- Powersys
- Typhoon HIL
- Yokogawa
- ZES Zimmer Electronic Systems GmbH

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- Hotels : make sure to book your room on time to enjoy the best possible rate:

https://www.cbgenova.it/en/events-57/epe-2019-ecce-europe.html

3. SLED 2019, Paper Submission is Open!

SLED is the IEEE International Symposium on Sensorless Control for Electrical Drives, organized every other year by IAS and PELS. This year IES and EPE are Technical co-sponsors.

The 10th edition of SLED will take place in Torino, Italy, on September 9 - 10, 2019.

Paper Submission is Open: 5- to 6-page full **paper submission is expected by March 3**, as reported in the event website <u>https://attend.ieee.org/sled-2019/</u>

Please, visit our website and follow the submission instructions at https://attend.ieee.org/sled-2019/papers/

Authors and accompanying persons can take advantage of the late summer in Italy and of the synergy with EPE'19 ECCE EUROPE, taking place one week earlier in Genova (<u>http://www.epe2019.com/</u>).

We hope to see you in Torino!

Gianmario Pellegrino and Radu Bojoi, SLED 2019 General Co-Chairs

4. PhD Summer School Mont-Soleil 12 – 16/17 August 2019

Field-Based Insights into the Implementation of Renewable Energies

Conference program 12th – 16th August 2019

- Climate change and the 1.5°C goal of the Paris agreement
- Climate and environmental physics labs at University of Bern
- Mont-Soleil PV plant layout, long-term measurements, LCA
- PlanetSolar, the first around the world tour with a solar boat
- Design of high efficiency solar cells
- Strategies for hydropower deployment
- Excursion to hydropower plant La Goule at the Doubs river
- JUVENT wind power plant, landscape challenges, plant visit
- Balancing of multi-country wind energy assets
- Assessing wind resources in complex terrain
- Multiscale modeling framework for wind power forecasting
- Full-scale wind turbine research
- Planning and control of active power networks
- Classical and advanced power electronic solutions for the network integration
- Power quality in distribution grids related to RES and power electronics
- Energy storage with batteries, classical solutions and modern components
- Energy autonomous concept for cheese making
- Energy storage and efficiency theory of Ragone representation
- Battery modeling with application to high energy density systems
- Aging phenomena of Li-Ion batteries and life cycle modeling
- Visit to BFH-CSEM Energy Storage Research Centre at Biel/Bienne

Post-conference program 16th/17th August 2019

- Glacier retreat, visit to district heating plant in Grindelwald
- Visit to High Altitude Research Station at Jungfraujoch

For the detailed program and registration process see: (from 25 February on) https://www.bfh.ch/en/research/bfh centres/energy storage research.html

5. ECPE: Calendar of Events 2019

Date	Location	Event	Торіс
26 - 27 February 2019	Graz, Austria	ECPE Tutorial	Wide Bandgap User Training Chairmen: Prof. E. Hoene (Fraunhofer IZM), Prof. N. Kaminski (Univ. of Bremen)
26 - 27 March 2019	Erding / Munich, Germany	ECPE User Forum	ECPE SiC & GaN User Forum 'Potential of Wide Bandgap Semiconductors in Power Electronics Applications' Chairmen: Prof. A. Lindemann (Univ. of Magdeburg), Prof. L. Lorenz (ECPE), Dr. P. Friedrichs (Infineon) in conjunction with the ECPE Annual Event
4 – 5 April 2019	Berlin, Germany	ECPE Lab Course	EMC Optimised Design (Parasitics in Power Electronics) Course Instructor: Prof. E. Hoene (Fraunhofer IZM)
5 – 6 June 2019	Bremen, Germany	ECPE Workshop	Humidity and Condensation in PE Systems - Degradation Mechanisms and Lifetime Modelling Chairmen: Prof. N. Kaminski (University of Bremen), M. Piton (Alstom)
3 – 4 July 2019	Leinfelden- Echterdingen (near Stuttgart Airport), Germany	ECPE Workshop	Availability of Power Electronics by Fault-Tolerant Designs for Automotive and Aircraft Chairmen: Prof. E. Wolfgang (ECPE), Prof. V. Pickert (Newcastle University), Dr. W. Wondrak (Daimler)
9 – 10 July 2019	Nuremberg, Germany	ECPE Tutorial	Thermal Engineering of Power Electronic Systems - Part I: Thermal Design and Verification Chairman: Prof. U. Scheuermann (Semikron)

For the information about ECPE Workshops and Tutorials, please visit the ECPE website <u>www.ecpe.org</u>

6. Future EPE ECCE Europe and Technically Sponsored Conferences

<u>2019:</u>

> ICPE 2019 – ECCE Asia, 27-31 May 2019 Busan, Korea (South)

http://www.icpe2019.org/

> CIGRE Aalborg 2019 - International Symposium, 4th - 7th June

https://cigreaalborg2019.dk/

> LDIA 2019, 1-3 July 2019 at MICROCITY EPFL Neuchatel, Switzerland

https://ldia2019.epfl.ch/

PhD Summer School Mont-Soleil, 12 – 16/17 August 2019 https://www.bfh.ch/en/research/bfh centres/energy storage research.html

SLED 2019, Torino, 9 – 10 September 2019 <u>https://attend.ieee.org/sled-2019/</u>

> EPE 2019 ECCE EUROPE, 2 - 6 September 2019, Genova, Italy

http://www.epe2019.com/

2020: EPE 2020 ECCE EUROPE, 7-11 September 2020, Lyon, France

2021: EPE 2021 ECCE EUROPE, 6-10 September 2021, Ghent, Belgium

2022: EPE 2022 ECCE EUROPE, 5-9 September 2022, Hanover, Germany

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