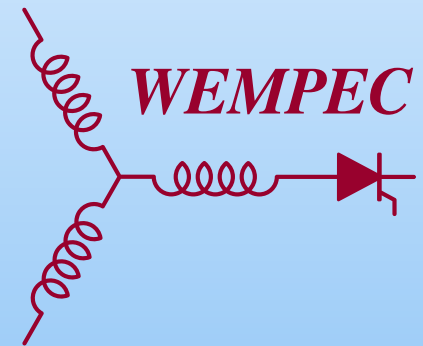


Robert D. Lorenz



1946 - 2019

Robert D. Lorenz

Born March 31, 1946, in Sheboygan, WI

1965 – 1969 BS, Mech. Engr., University of Wisconsin – Madison

Junior spent at Monterrey Institute of Technology, Mexico

1969 – 1970 MS, Mech. Engr., University of Wisconsin – Madison

Spent year as NSF Fellow at Technical Univ. in Aachen, Germany

1970 – 1972 US Army Material Command, Aberdeen Proving Ground, MD

1972 – 1982 Gleason Works, Rochester, NY

1982 – 1984 PhD, Mech. Engr., University of Wisconsin – Madison

1984 – 2019 Faculty Member, ME Department, Univ. of Wisconsin – Madison

Asst. Professor, 1984 – 1988

Assoc. Professor, 1989 – 1993

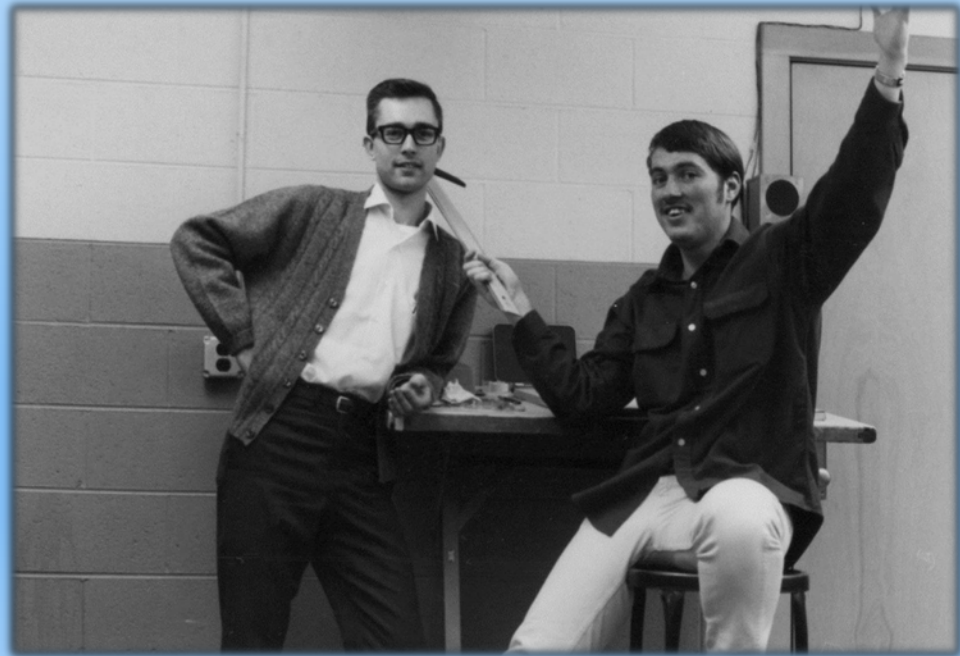
Full Professor, 1993 – 2019 *Held 2 named Professorship Chairs*

1984 – 1997 Assoc. Director, WEMPEC

1997 – 2019 Co-Director, WEMPEC

Died January 28, 2019, in Madison, WI

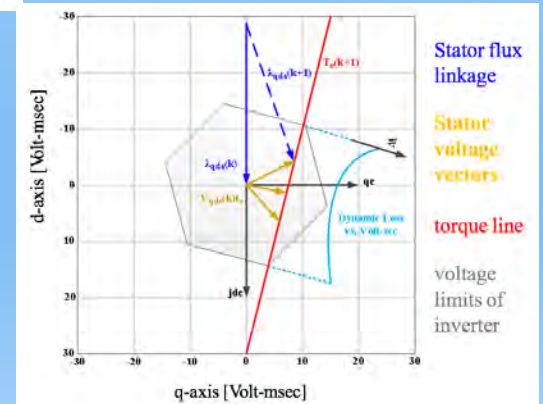
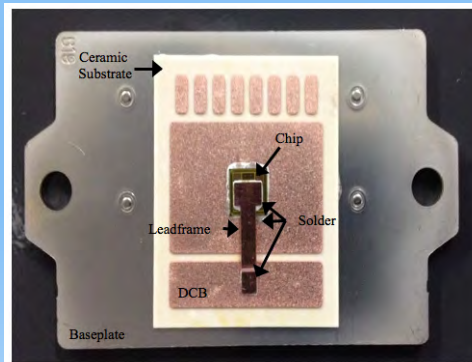
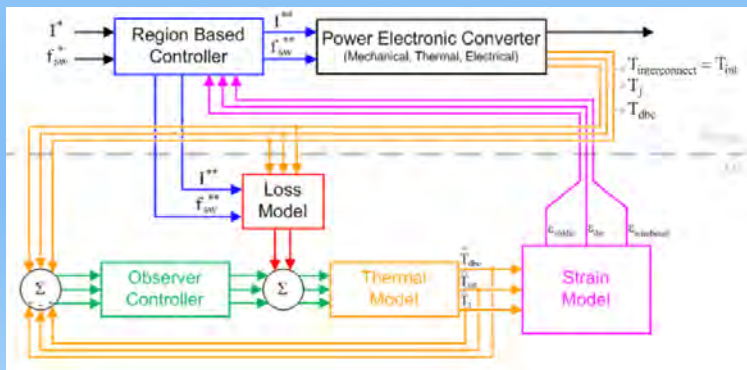
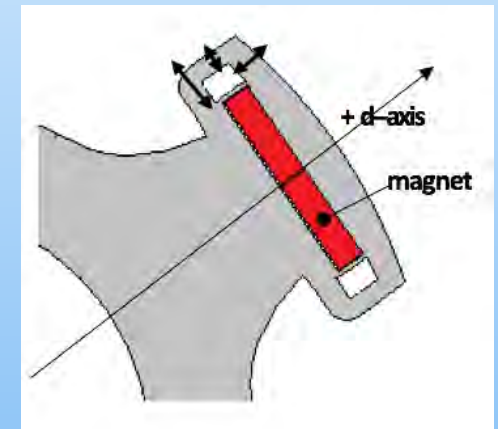
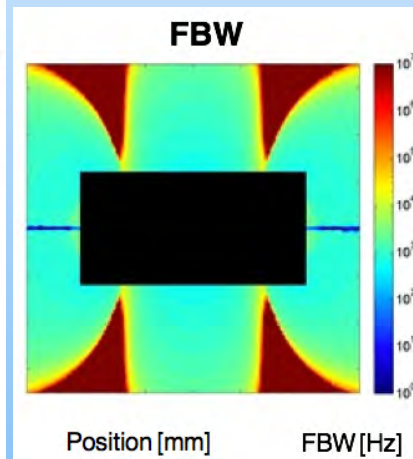
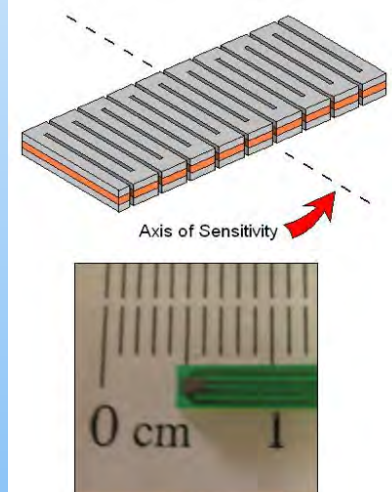
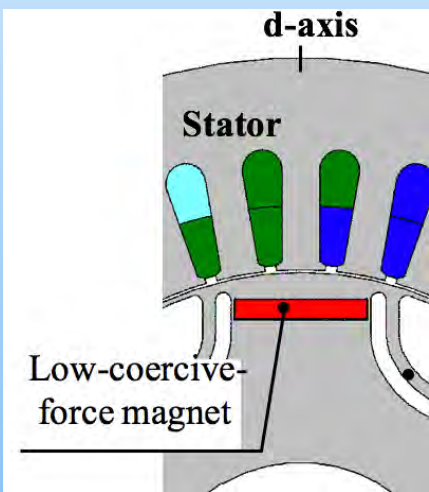
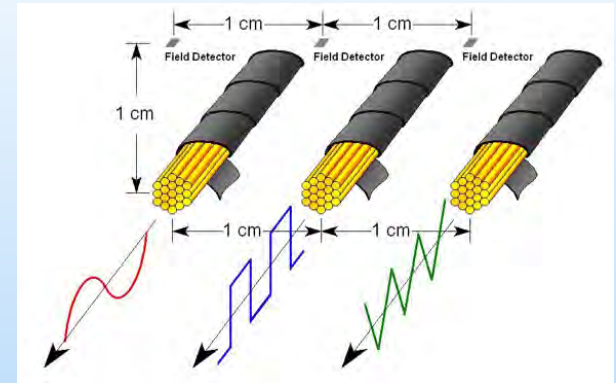
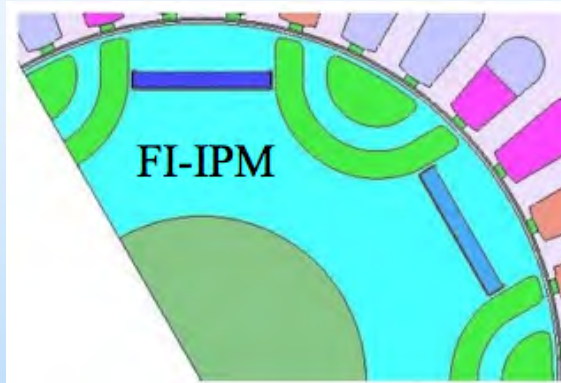
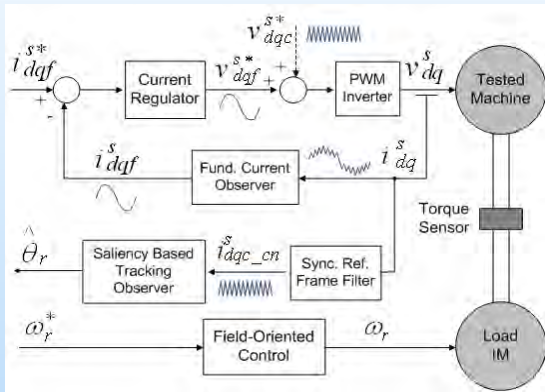
Early Years



Robert D. Lorenz

Major Technical Contributions

- Observer-based machine control – 1988
- Adaptive tuning of field oriented drives – 1988
- Loss minimizing control of IM drives – 1989
- DSP field-oriented control – 1990
- Accurate flux observers - 1992
- Self-sensing field-oriented control – 1993
- Estimation of flux, position, and velocity in AC machines – 1997
- Self-sensing control of switched reluctance machines – 1998
- Self-sensing control of AC machines – 1993-2019
- Deadbeat-Direct Torque and Flux Control – 2001-2019
- Flux intensifying (FI) IPM machines – 2008
- Wireless power transfer – 2010
- Variable leakage flux PM machines – 2012
- Variable magnetization state PM machines - 2013



Robert D. Lorenz

Academic Metrics

>160 Archival Transactions and Journal Papers

>240 Conference Papers

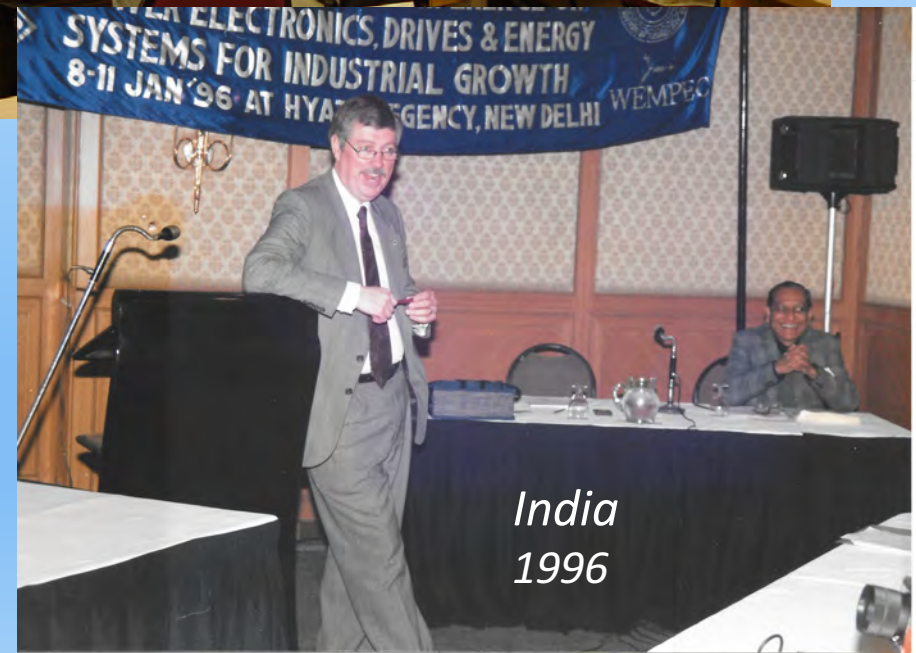
32 Prize Paper Awards

>45 Patent Awards and Applications

1 Book and 6 Book Chapter/Section Contributions

29 Conference Keynote Presentations

International Scholar



Robert D. Lorenz

Major Awards

Elected, US National Academy of Engineering, 2019

Honorary Doctorate, Riga Tech. University, Riga, Latvia, 2017

IEEE Richard H. Kaufmann Technical Field Award, 2014

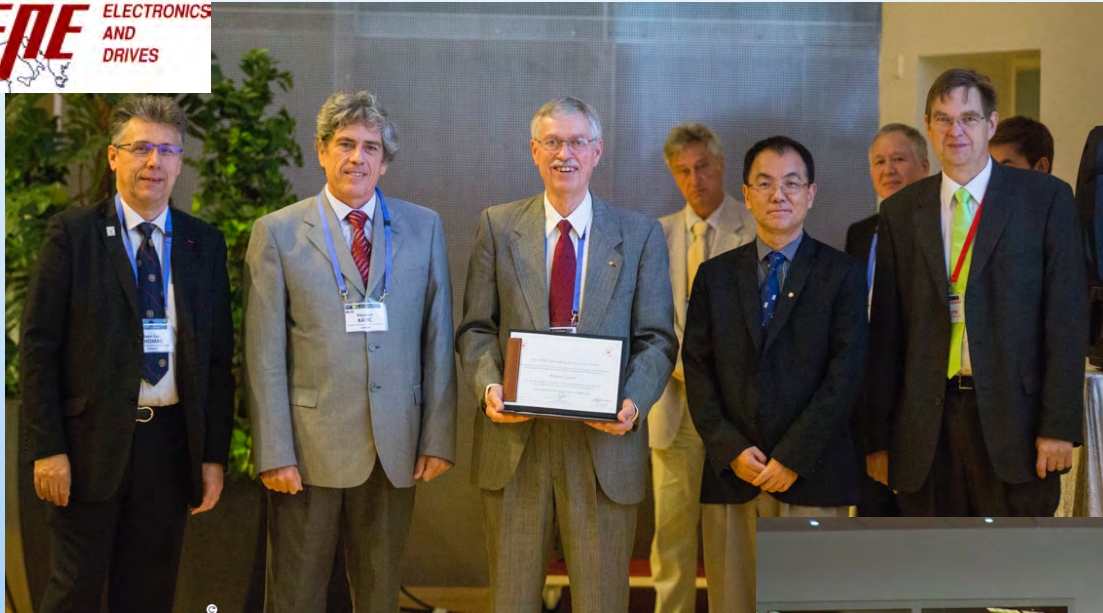
Outstanding Achievement Award, European Power Electronics (EPE), 2014

Distinguished Service Award, IEEE Industry Applications Soc., 2011

William Portnoy Award, IEEE-IAS Power Electronics and Components Committee, 2011

Honorary Doctorate, Univ. of Stefan the Great, Suceava, Romania, 2010

Outstanding Achievement Award, IEEE Ind. Applications Soc., 2003



2014 EPE Outstanding Achievement Award

**2010 Honorary Doctorate
Univ. of Stefan the Great
Suceava, Romania**



Robert D. Lorenz Number of Supervised Students

Total No. of Graduate Students who
earned degrees: >200

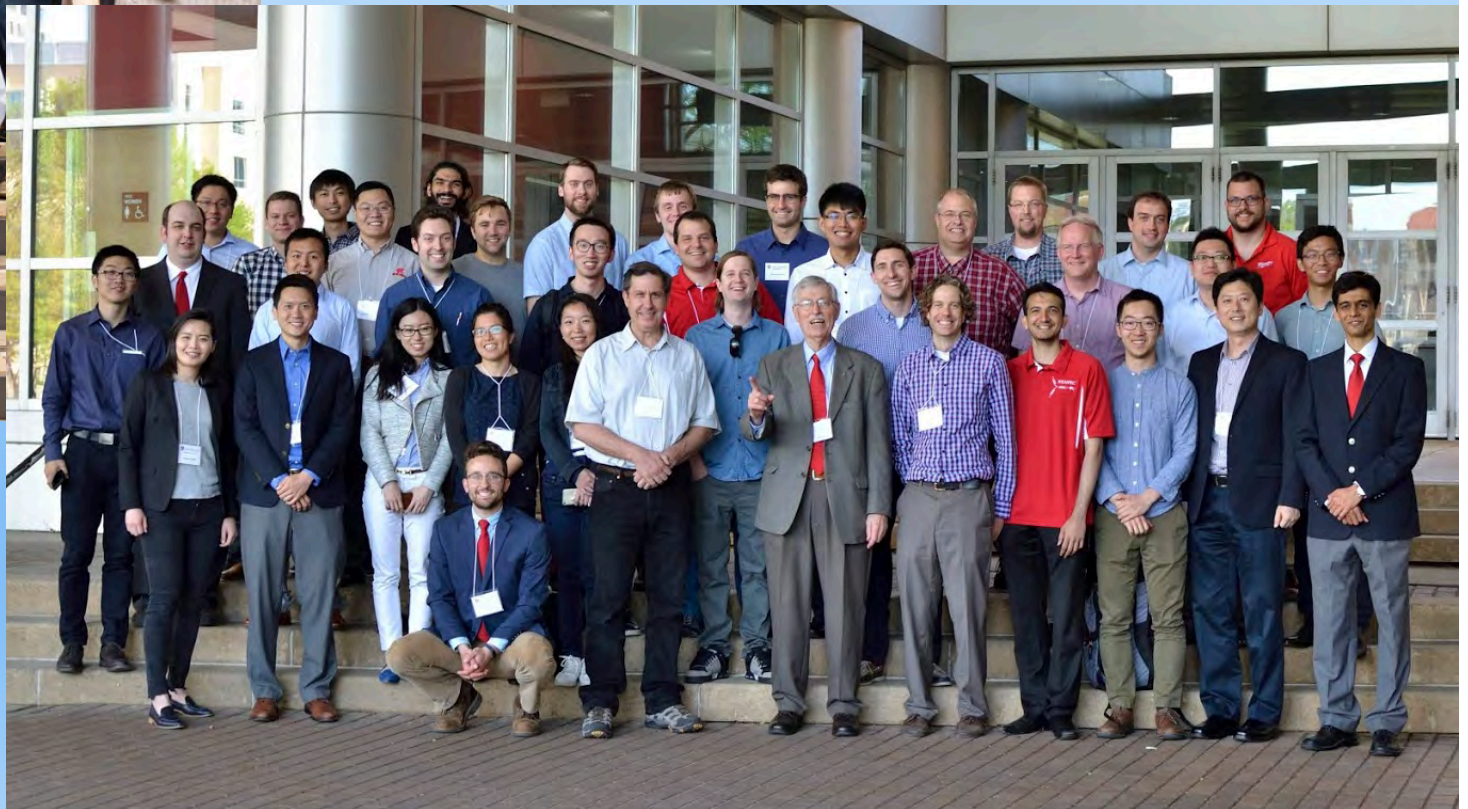
Number of MS degrees earned: >185

Number of PhD degrees earned: >40



Lorenz CAST
Group - 2016

Lorenz CAST
Group Students
and Alumni



December 2018
Commencement



May 2018
Commencement



2005



WEMPEC Seminar and Symposium



WEMPEC Picnic



Profs. Lorenz & Novotny at 2008 WEMPEC Picnic

1998



Guatemala Mission Trips



Habitat for Humanity





Sally and Bob

3 Children
6 Grandchildren

The Lorenz Family





Robert D. Lorenz



Bob's Spirit Lives On in WEMPEC!

