



Power Systems Engineering Research Center

Recent Advances in Energy Conversion and Storage

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PSERC Public Tele-Seminar

September 1, 2009

2:00-3:00 p.m. Eastern Time (11:00-12:00 p.m. Pacific)

Description:

Power electronics is an innovative and expanding area in electrical engineering. Recent advances in high power devices permit the control and flow of electric energy efficiently. The digital nature of power switching devices makes the control of electric power switching circuits convenient with the use of digital signal processors. Power electronics has widespread applications in today's industry such as in power supplies, variable speed drives, automotives, marine, etc. In this lecture, I will describe progress in design of various electric machines and power electronics converters for a variety of applications such as wind turbines, high speed flywheel energy storage systems, hybrid electric vehicles, ship propulsion, washing machines, etc.

Biography: **Hamid A. Toliyat** is the Raytheon endowed professor of electrical engineering in the Department of Electrical and Computer Engineering at Texas A&M University. His main research interests and experience include analysis and design of electrical machines, variable speed drives for traction and propulsion applications, fault diagnosis of electric machinery, and sensorless variable speed drives.

Dr. Toliyat is an Editor of IEEE Transactions on Energy Conversion. He is also Chair of the IEEE-IAS Industrial Power Conversion Systems Department of IEEE-IAS, and is a member of Sigma Xi. He is a fellow of the IEEE. Prof. Toliyat has supervised more than 35 graduate students, published over 340 technical papers where over 100 papers are in IEEE Transactions, presented more than 50 invited lectures all over the world, and has 10 issued and pending US patents. He is the author of *DSP-Based Electromechanical Motion Control*, CRC Press, 2003, and the Co-Editor of *Handbook of Electric Motors - 2nd Edition*, Marcel Dekker, 2004.

Dr. Toliyat has received the prestigious Cyrill Veinott Award in Electromechanical Energy Conversion from the IEEE Power Engineering Society in 2004, Patent and Innovation Award from Texas A&M University System Office of Technology Commercialization's in 2007, TEES Faculty Fellow Award in 2006, distinguished Teaching Award in 2003, E.D. Brockett Professorship Award in 2002, Eugene Webb Faculty Fellow Award in 2000, and Texas A&M Select Young Investigator Award in 1999 from Texas A&M University. He has also received the Space Act Award from NASA in 1999, and the Schlumberger Foundation Technical Awards in 2001 and 2000. He is a Professional Engineer in the State of Texas.

Speaker Contact Information

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Registration for Webcast Participation: None required. There is no charge for participating!

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Assistance

If you have any questions, please contact Theresa Herr, PSERC's administrative assistant, at 480-965-1643 or Theresa.Herr@asu.edu. You can also contact Dennis Ray, PSERC Executive Director, at 608-265-3808 or djray@engr.wisc.edu.

PSERC's Tele-Seminar Coordinator

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Shmuel welcomes feedback on the tele-seminars and suggestions for future ones.