

**You are invited to an IEEE Meeting on Thursday, May 21, 2009**

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Title:           **" Shaft Grounding - Sustainable Motors in VFD Applications "**

Speaker:       **Adam Willwerth, Electro Static Technology**

Date:            May 21, 2009

Time:    No-host social at 5:30 pm; Presentation at 6:15pm; Dinner at 7:15 pm;  
          Presentation continues at 8:00 pm; Adjourn by 9:00 pm.

Place:   Marie Callender's Restaurant - The Garden Room; 2090 Diamond Blvd in Concord  
          (near the Concord Hilton Hotel). Call 925-827-4930 if you need directions.

RSVP:   Please make reservations by May 20, by contacting Gregg Boltz at  
          email: [gboltz@brwncald.com](mailto:gboltz@brwncald.com) or telephone: (925) 210-2571

Cost:    The cost of dinner is \$20 for IEEE members; \$25 for non-members.

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**Meeting Description:**

The May 21st meeting of the Industry Applications Society for Oakland East Bay Section will feature a talk entitled "Shaft Grounding - Sustainable Motors in VFD Applications". The speaker will be Adam Willwerth, Electro Static Technology.

With the rising cost of energy, the use of variable frequency drives (VFDs) is growing at an increasing rate, especially in "Green" building design and manufacturing. While VFDs provide the energy savings required in green buildings, the system can not be truly considered "green" unless it is designed for sustainability. Shaft grounding in VFD driven motors adds the critical sustainability component in system design.

By optimizing the frequency of a three-phase alternating-current (AC) induction motor's voltage supply, a VFD controls the motor's speed and torque while providing substantial energy savings. But the currents induced on motor shafts by VFDs can wreak havoc with motor bearings, dramatically shortening motor life and severely diminishing the reliability of systems. To mitigate these currents and realize the full potential of VFDs, a cost-effective method of shaft grounding is essential.

Already common in heating, ventilation, air conditioning, pumping, and industrial automation systems, VFDs are catching on in many other applications as they become smaller and more powerful, more reliable, easier to program, and less expensive. But to prevent these energy savings from being wiped out in a single system failure, VFD/motor systems must be designed for reliability and trouble-free operation.

While VFDs are not without certain drawbacks, these can now be easily overcome. Whether used to save energy or increase the accuracy of process control, VFDs only achieve their full potential when carefully matched to the application and installed with appropriate safeguards such as motor-shaft grounding rings that protect bearings from VFD-induced damaging shaft currents.

**About the Speaker:**

Our speaker is Adam Willwerth with Electro Static Technology. Adam Willwerth has extensive experience in industrial product development and commercialization. He is named on four patent applications pertaining to the conductive micro-fiber shaft grounding ring technology and has presented seminars on the subject of bearing current mitigation at professional conferences in the US and Europe. He holds an MBA from Southern New Hampshire University and a B.S. in Management from University of Maryland. He is a member of ASHRAE, AWEA, and EASA.

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