

IEEE *p/EEEdmont Potential*

A publication of the IEEE Piedmont Section

September 2003

Section Web page: <http://ewh.ieee.org/r3/piedmont/>

Council Web page: http://www.ieee.org/sc_council

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Next Meeting

September 18, 2003

High Temperature Superconducting Motors: Past, Present and Future

Dr. Rich Schiferl
Rockwell Automation

The 1986 discovery of superconducting materials that operate at temperatures above the boiling point of liquid nitrogen (high temperature superconductors) prompted the investigation of the use of these materials in electric motors. The lower cost of superconducting wire cooling with high temperature superconductors compared to conventional superconducting materials that operate at liquid helium

temperatures, results in the potential of high temperature superconducting (HTS) motors being cost and performance competitive with non-superconducting motors in sizes above 1000 hp. Over the last 15 years, advances in superconducting motor technology have paralleled the development of HTS wire. This presentation reviews the advantages of superconducting motors and describes the technical challenges associated with developing commercially viable HTS motors. The history of high temperature superconducting motor development, from the first DC motor demonstration in 1990 through the recent full spectrum of tests performed on a 1000 hp motor, will also be presented.

Critical technologies associated with commercially viable, large horsepower, HTS motors will be discussed and progress reported. Finally, the future of HTS motor development will be postulated.

Date: September 18, 2003

Place: Rockwell Automation
6040 Ponders Court, Greenville
Main Lobby (straight ahead from
Parking lot)

Time: 6:30 PM

Please email or call Mark Stokes with any questions or to RSVP. For directions call 864-281-2353. I will provide a carpool at the Ramada Inn in Clemson (please contact me {m.stokes@ieee.org} if you want to ride)

The IEEE Foundation Adds More VIPs to IEEE Region 3!

By Karen Nowicki

VIP Coordinator, IEEE Foundation

The *Volunteers In Philanthropy (VIP)* Program has trained twelve more VIPs. On 27 July, Karen Nowicki, VIP Coordinator and Kristina Collmann, Director of Development for the IEEE Foundation were invited to conduct a VIP Training for the IEEE Eastern North Carolina volunteers. The IEEE Eastern North Carolina training was the fourth VIP Training in IEEE Region 3 to date in 2003. Prior VIP Trainings also included a session at the Florida Council meeting in Tampa, FL and two sessions held at SoutheastCon 2003 in Jamaica.

Initially the IEEE Foundation team was invited to Raleigh/Durham, NC to assist volunteers from the IEEE Eastern North Carolina Section in their pursuit of philanthropic dollars for the DARPA (Defense Advanced Projects Agency) Challenge project. The DARPA Grand Challenge is a race of autonomous ground vehicles between Los Angeles and Las Vegas that will be held on March 13, 2004. However, they were happy to also have in attendance, IEEE Section volunteers who had a strong interest in education and wanted to learn more about philanthropy at the IEEE.

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Founded in 1973, the IEEE Foundation is the principal philanthropic instrument of the IEEE. It is a grant-making non-profit 501(c)(3) organization responding to the need of supporting education at all levels, preserving, researching and promoting the history of electrical and information technology, as well as recognizing engineering achievements. The goal of the IEEE Foundation is to be an advocate for programs that reflect the breadth and range of IEEE's fields of interest and to make a significant, positive, global impact on the profession.

To keep engineering and technology programs exciting and engaging, the IEEE Foundation supports philanthropic programs that:

- ◆ Encourage young people to discover science and technology;
- ◆ Foster technological innovation;
- ◆ Preserve the history of electrical and information technology;
- ◆ Promote the public's awareness of engineer accomplishments; and
- ◆ Provide support to programs that will significantly advance the profession and help the IEEE Foundation meet its broader societal responsibilities.

In response to meeting the challenging needs of expanding and increasing IEEE charitable support, the IEEE Foundation created the *VIP* Program to create a greater awareness of philanthropy. The *VIP* Program is designed to encourage growth of the philanthropic culture based on the mission of the IEEE Foundation.

If your local IEEE Section or Chapter is interested in seeking or increasing funds to support a worthwhile program, *VIP* Training is for you! If you sign up for a *VIP* Training, we can help:

- ◆ Spread the word about your charitable goals while also assisting the IEEE Foundation in its efforts to remain in touch with local current donors;
- ◆ Train your IEEE Volunteers so that they can develop the skills to approach current donors and garner support for local and international efforts; and
- ◆ Provide a philanthropic support network with other VIPs and staff throughout the Region and eventually throughout the world.

The next *VIP* Training in IEEE Region 3 is scheduled on 18 October in Tampa, FL. All Sections are invited to attend *VIP* Training. *VIP* Training can also be customized to fit your Section's current philanthropic objectives. If your IEEE Section is interested in learning more about *VIP*, or if you would like to attend the 18 October *VIP* Training in Tampa, FL, please contact Karen Nowicki at k.nowicki@ieee.org or by phone at +1 732-562-3939.

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