

The **B E E E T**

The Bulletin of Electrical & Electronics Engineers of Tucson

IEEE TUCSON SECTION

THE COLD WAR, NUCLEAR BOMBS, MEGAGAUSS, AND MEGAMPERES: FROM CONFRONTATION TO COLLABORATION

Date: Tuesday, April 26, 2005, 6:00 P.M.

Speaker: Dr. Irv Lindemuth, retired Los Alamos Nat'l Labs

Place: ECE512 at the U of A

The end of the Cold War has made possible some remarkable scientific adventures--joint projects involving institutions of the United States and the former Soviet Union. Perhaps the most unprecedented of the new partnerships is a formal collaboration between the Los Alamos National Laboratory (LANL) and the Russian Scientific Research Institute of Experimental Physics (VNIIEF) at Sarov. The collaboration focused on unique technology for the creation of ultra-high magnetic fields (> 10 MG) and for the generation of ultra-powerful electrical pulses (200 MA, 200 MJ), technology previously inaccessible to US researchers. On September 22, 1993 (the day after Boris Yeltsin locked out the Russian parliament), the first-ever joint scientific experiment between nuclear weapons design laboratories of the two former Cold War adversaries was performed at VNIIEF when a VNIIEF-designed combination of disk explosive magnetic generator and electrically exploding fuse fast opening switch delivered a 20 MA, 0.7 microsecond pulse to an imploding liner load. In the following years, experimental and theoretical work has been performed at Sarov and Los Alamos in areas as diverse as imploding liner physics and applications, fusion plasma formation, isentropic compression of noble gases, and explosively driven high current generation technology. This talk will review the origins of the collaboration, discuss some of the physics investigations, and address issues remaining from the Cold War.

Dr. Lindemuth retired from full-time employment in November, 2003 after more than 32 years with the University of California, first at the Lawrence Livermore National Laboratory and then at the Los Alamos National Laboratory. At Los Alamos at the time of his retirement, Dr. Lindemuth was a Special Assistant for Russian Collaboration in the Office of the Associate Director for Weapons Physics, the Team Leader for Magnetohydrodynamics and Pulsed Power in the Plasma Physics Group, and a Project Leader for Pulsed Power Science, Technology, and International Collaboration in the High Energy Density Hydrodynamics Program.

Conferences Coming to Tucson

The 31st Annual Reliability Testing Institute will be held in Tucson on May 9-12, 2005. It will show how to implement and manage the design-for-reliability process through testing. The 42nd Annual Applied Reliability Engineering and Management Institute will be held in Tucson on November 15-18, 2005. It provides engineers and

managers reliability engineering theory and practice. For course information on either, details, and registration fees, see: <http://www.u.arizona.edu/~dimitri/Seminar.htm>

Feedback and Volunteering

We need to hear from you! We want to know what we can provide to make IEEE a better organization. If you have any ideas for meetings, any activities that promote engineering and the IEEE, let us know! We'd like to hear from you. Also, remember that we run this as a set of volunteers. If you put something into this organization, you can get much more out of it! We need you to help out! Contact us! Help out! Contact us!

2005 IEEE Region 6 - Bruce Angwin Memorial Scholarship

Current high-school juniors who reside within the 12-state area encompassed by IEEE Region 6 (Western USA) are eligible for the 2005 IEEE Region 6 - Bruce Angwin Memorial Scholarship. A first prize (\$5000) and a second prize (\$3000) scholarship will be awarded to eligible high-school juniors based on a 500-600 word essay and contingent upon the recipients' entering an appropriate engineering degree program. Deadline is May 1, 2005. For details, see: <http://coe.isu.edu/ieee/wescon>

New SSC Chapter Forming

There is a new Solid State Circuits Chapter in the Tucson Section! If you are an SSC member, or are just interested in the field, consider becoming active. We're looking for participants and speakers. If you want to do more with the chapter contact Joseph Wu at joewu@ieee.org or at 519-0904.

Senior Membership

Do you want to become a senior member of the IEEE? The IEEE wants to promote qualified candidates to senior membership! If you have 10 years of professional experience of which five years is significant professional performance, you are qualified for a senior member upgrade. Educational experience such as a bachelor's degree in an IEEE-designated field counts 4 years to that number, a master's degree counts 5 years and a doctorate counts 6 years. In order to find out more, point your web browser to www.ieee.org and search for senior membership!

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**Tucson Section Meeting
Tuesday, April 26, 2005
6:00 PM, at the U of A
ECE512 (Electrical and
Computer Engineering)**

**(Southwest of Speedway and Mountain – Parking
available Northeast of Speedway and Mountain
after 5 P.M.)**

Refreshments Provided

Remember

?? We're always looking for topics for general meetings, if
you have an idea or a speaker in mind let us know!

?? Also, check out the website at:

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want email notices, you can put yourself on the list. Just find
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