



## Director's Corner

There will be no Director's Corner this month.

## Editor's Note:

This is a brief, end-of-year issue of the News. In January we will bring you a special issue focusing on the ISG meetings held at KEK and a detailed update on work at the ATF.

## The ISG Site Evaluation Group

*T. Tauchi (KEK) and Andrei Seryi (SLAC)*

Last summer at ISG-8, a new working group was established to consider the site evaluation process. A number of sites in the US and Japan are under consideration and some common criteria are needed in order to compare them.

The discussion of these criteria started with preliminary meetings at ISG-8 and continued with lively discussion at ISG-9. Key criteria, common to all sites, are good geology and stable ground, and proximity to adequate power and water sources. SLAC colleagues place more importance on the proximity to a high-energy physics laboratory, but a number of the KEK sites are also near high-energy or atomic physics laboratories.

Slow ground motion is an area where more work is needed to establish common evaluation criteria. SLAC has taken a conservative approach of requiring low ground motion. KEK is attempting to tolerate larger motion by using a scheme in which all the quads in the linac are realigned every 10 seconds. It was agreed that the recently developed modeling tools for integrated simulations of the collider would be used to evaluate both approaches using realistic site motion assumptions.

Both ISG meetings at SLAC and at KEK included field trips to visit sites now under study. Sites 135 and 127 were visited in California. In Japan, two sites were also visited, a 22-km site at KEK and the Kita-Ibaraki site, about 100 km north of KEK and 20 km from JAERI (the Japan Atomic Energy Research Institute). The latter site is about 30 km in length in a region of granite substrate. The group also visited a dam that is

being constructed nearby and discussed geology and its relevance to linear collider construction. For the KEK site, the challenge would be geological issues on construction of a large experimental hall situated under KEK at about 80-m depth, and potentially larger ground motion under the soft ground in comparison with a hard rock site. The KEK team, in collaboration with SLAC, has plans to study the impact of both these issues.

## Corrigendum

The Editor apologizes that, in the November News, the last lines in Cherrill Spencer's article on the MAC/U.S. Collaboration Magnet Working Group meetings were cut off. The article is reprinted in its entirety below:

## Magnet Working Group

*Cherrill Spencer*

An ever-increasing number of people working on NLC magnet R&D held discussions during the November 2002 MAC and Collaboration meetings. Physicists and engineers from Brookhaven National Lab, FERMILAB, LBNL, SLAC, UC Davis and UCLA are working on various aspects of NLC magnets. The 4 major topics we covered were (1) experimental tests of radiation damage to permanent magnet (pm) bricks in small, crude quads, using the thermal and fast neutron field of the McClellan nuclear reactor run by UCD; (2) to respond to the continuing concern about hidden changes in the strength of any fixed pm bricks in an adjustable pm, and how that could affect the efficiency of the Beam Based Alignment process (BBA), we will work with some accelerator physicists to develop tolerances on the properties of the pm bricks and the whole magnet; (3) planning sensitivity analyses of a proposed rotating ring adjustable pm quad and (4) planning measurements of vibrations in existing superconducting magnets at the MAGCOOL facility at Brookhaven and at SLAC.

*All of us at the  
NLC wish you a  
Happy Holiday  
Season and a  
New Year of  
Peace, Prosperity  
and Happiness*



## Recent Linear Collider Publications

If you would like to have an NLC-related paper listed, please send information to [amlarsen@slac.stanford.edu](mailto:amlarsen@slac.stanford.edu).

## 1. Linear Collider Collaboration Notes

[http://www-project.slac.stanford.edu/lc/lc/TechNotes/LCCNotes/lcc\\_notes\\_index.htm](http://www-project.slac.stanford.edu/lc/lc/TechNotes/LCCNotes/lcc_notes_index.htm)

LCC-0094, "Turbulence-Induced Vibration: Theory and Application to the Next Linear Collider," Srihari Adiga, July 2002

LCC-0104, "Beamstrahlung Photon Load on the TESLA Extraction Septum Blade," Andrei Seryi, October 2002.

LCC-0110, "Post-target beamline design for proposed FFTB experiment with polarized positrons," Y.K. Batygin and J.C. Sheppard, December 2002.

## II. Other Publications

### Calendar of Upcoming Events Conferences and Workshops of Interest

US Particle Accelerator School, 6-17 January 2003, Baton Rouge, LA, <http://uspas.fnal.gov/>

American Linear Collider Workshop, 9-11 January 2003, University of Texas at Arlington, <http://alcworkshop.uta.edu/>.

ICFA Meeting, 13-14 February 2003, KEK, Tsukuba, Japan

15<sup>th</sup> Workshop on Beyond the Standard Model, 9-13 March 2003, Bad Honnef, Germany, <http://www.physik.uni-halle.de/Fachgruppen/Theorie/gft/Bad-Honnef/>

CHEP2003, the International Conference on Computing in High Energy and Nuclear Physics, 24-28 March 2003, Mandeville Center, UCSD, La Jolla, CA, <http://www.chep2003.org>.

APS April Meeting, 5-8 April 2003, Philadelphia, PA, <http://www.aps.org/meet/APR03/>.

US NLC Collaboration and MAC Meetings, May 2003, dates and venue TBD. .

Particle Accelerator Conference (PAC 2003), Portland, OR 12-16 May 2003, <http://www-conf.slac.stanford.edu/pac03/> or contact [Siemann@slac.stanford.edu](mailto:Siemann@slac.stanford.edu).

IEEE/NPSS Real Time Conference, 18-23 May 2003, Montreal, Quebec, Canada, <http://www-dapnia.cea.fr/rt2003/conf/comit.php>  
UCLC and American Linear Collider Workshop, Cornell University, Ithaca, NY.

**29th ICFA Advanced Beam Dynamics Workshop On Beam-Halo Dynamics, Diagnostics & Collimation (HALO'03)**, 19-23 May 2003, Montauk, NY, <http://www.c-ad.bnl.gov/halo03/>.

ICALEPS2003, 13-17 October 2003, Geongju, Korea, Axel Daneels co-chair, [isc-chair@icalepcs.org](mailto:isc-chair@icalepcs.org), <http://www.icalepcs.org>.

IEEE NPSS Nuclear Science Symposium, 19-24 October 2003, Portland, OR. <http://www.nss-mic.org/>

IEEE Sensors Meeting, 20-23 October, Toronto, Ontario, Canada,



Tonee Smith at the NLCTA