



**Sigma Xi International Newsletter**  
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This monthly electronic bulletin is designed to keep subscribers updated on developments in Sigma Xi's international activities and to provide links and topics of interest to researchers around the world. To submit an item to the newsletter, send an e-mail to [international@sigmaxi.org](mailto:international@sigmaxi.org). You can also read this newsletter online at :  
<http://sigmaxi.org/programs/international/newsletter.shtml>.

### **Equipment Donation**

One way to supplement the resources of your research institution or organization is through equipment donation programs. It is possible to receive donated scientific instrumentation and supplies and computers via several different channels. Many instrument or computer manufacturers donate or loan equipment to educational and non-profit research institutions, particularly if they have a branch in your geographic area. The first step would be to contact the manufacturer's local representative. Donation of medical equipment and supplies is very common. Organizations specializing in medical donations to countries around the world include:

- the Bank of Medical Equipment for Humanitarian Aid (La Banque de Matériel Médical pour l'Aide Humanitaire); <http://www.humatem.org>
- Carelift International; <http://www.carelift.org>
- Direct Relief International; <http://www.directrelief.org>
- International Aid; <http://www.gospelcom.net/ia/>
- International Organization for Medical Physics; see "Used Equipment Program" on <http://snipurl.com/5iwc>
- Jefferson Ultrasound Research and Education Institute; <http://snipurl.com/5iwp>
- World Wide Lab Improvement; <http://www.wwlab.org>

For researchers not necessarily working in the health sciences, a few scientific organizations and institutes have equipment donation programs as well:

- Alexander von Humboldt Foundation; <http://snipurl.com/5iw6>
- International Brain Research Organization; <http://snipurl.com/5iw3>
- Sustainable Sciences Institute; <http://www.ssilink.org/materialaid.html>
- Third World Academy of Sciences; <http://snipurl.com/5iwd>

Government institute donation programs are usually only for donations within the same country. Examples of these programs in the U.S. include:

- Department of Energy's Used Energy-Related Laboratory Equipment (ERLE) Grant Program; <http://erle.osti.gov/erle/>
- Los Alamos Educational Equipment Gift Program (LEEG); <http://snipurl.com/5ix2>
- National Aeronautics and Space Administration Donations of Surplus Property; <http://snipurl.com/5ix3>

Often donation programs require the recipient to pay shipping charges, so it is necessary to take the shipping into consideration as well as to plan for training, maintenance and repair.

### **Internet Access Via Electric Power Lines**

Although the concept of sending data through electric power lines (Power Line Communications or PLC) has been known for decades, recent advances in technology mean that computer users may now receive high-speed Internet access through electrical outlets. In Broadband over Power Line (BPL) systems, an information signal is modulated onto a high-frequency carrier and transmitted via existing medium- and low-voltage power lines. The three key points in the system are: 1) the inductive coupler where the signal is originally transferred onto the medium-voltage power line, 2) the transformer between the medium- and low-voltage power lines that steps down thousands of voltages to the 220 or 110 volts delivered to the building, and 3) the equipment inside the building that receives, filters and distributes the signal throughout the building. When testing these systems in the past, BPL via above-ground power lines was found to interfere with other users of the same frequency range (1.6–80 MHz) such as amateur, commercial and short-wave radio, and government and public services. New modulation techniques such as Orthogonal Frequency Division Multiplexing or OFDM and carriers in the microwave

spectrum (GHz range) are reported to have reduced or eliminated interference. Because electric power grids are considered the most pervasive infrastructure in the world, this technology has the potential to have an even greater impact in locales not yet served by the traditional means of Internet access—cable, dial-up, Digital Subscriber Line (DSL) and satellite. Not only does it have implications for Internet access, but BPL can also provide in-building networking and intelligent electricity distribution grids. It remains to be seen whether or not BPL will be able to compete with cable and DSL as a provider of broadband Internet access. Nevertheless, work is under way in several countries, including the European Union's Open PLC European Research Alliance (OPERA) project launched in January 2004. For an excellent overview of BPL, see <http://snipurl.com/5kms>.

### Research Center Planned to Improve Relations

Last month, ground was broken to build the new Bridging the Rift Center on the border of Israel and Jordan. The Bridging the Rift Foundation, based in New York, is providing the seed money for the center. The governments of Israel and Jordan each donated 75 acres of land for the project. Both Cornell and Stanford universities will offer doctoral degrees there, and the center will be staffed by researchers from the region in addition to some Cornell and Stanford faculty. Students admitted to the doctoral program will go to the U.S. to study at either Cornell or Stanford for two years before returning to do research at the center. Plans for the center include creating the "Library of Life," a database containing the quantification and characterization of all living organisms. The initial step will be to create the "Library of the Desert," cataloging all organisms living in the Dead Sea region. It is hoped that the center will be fully operational within five years. [Source: *Chronicle of Higher Education*; [www.chronicle.com](http://www.chronicle.com)]

### American Scientist Institutional Site Licenses

Site licenses to *American Scientist Online* allow institutions to provide all of their users with continual access to full-text articles, columns and reviews not only from the current issues of *American Scientist* but also from issues dating back to 1998. The site offers content available exclusively online and is also searchable. The annual license fees are very cost-effective, and if your institution is in a country with a per capita GNP of less than US\$1,000, the site license is free. For complete details, see

<http://snipurl.com/5jdl> or send an e-mail to [klord@amsci.org](mailto:klord@amsci.org).

### Free Software for Distance Education

The Massachusetts Institute of Technology-based Learning International Networks Consortium is distributing free software for managing distance education programs and courses. Collaborative Architectures for a Distributed Instructional Environment (Caddie.NET) was "designed to take advantage of the wide range of collaboration technology available on today's highly scalable Web Platforms, including messenger, voice over IP and real time and streaming video." The internationalization process built into Caddie.NET makes it possible to translate, store, retrieve, and present application content for any locale without having to re-write the code each time. Caddie.NET is highly customizable and can support an unlimited number of courses and students. The software and its documentation are available online: <http://iesl.mit.edu>. [Source: *Chronicle of Higher Education*; [www.chronicle.com](http://www.chronicle.com)]

### Did You Know?

The U.S. Department of Agriculture just announced the **Norman Borlaug International Science and Technology Fellows Program** to build developing countries' capacity in agricultural science and technology. The program will establish exchange programs to provide short-term scientific training, and approximately 100 researchers, policymakers and university faculty from developing countries will be selected to participate. The application procedure and deadline have not yet been announced, so for further information, contact the Foreign Agricultural Service International Cooperation and Development at [info@fas.usda.gov](mailto:info@fas.usda.gov). [Source: *SciDev.Net*; [www.scidev.net](http://www.scidev.net)]

The U.S. Office of Postsecondary Education Fund for the Improvement of Postsecondary Education (FIPSE) International Programs is currently accepting applications for several collaborative grants, including the **U.S.-Brazil Higher Education Consortia Program**, the **Program for North American Mobility in Higher Education**, and the **European Community-United States of America Cooperation Program in Higher Education and Vocational Education and Training**. Deadlines range from April 16 to 23, 2004, and information for each of the programs may be found at <http://snipurl.com/5jk1>.

Current Ph.D. students at internationally recognized universities have until May 31, 2004 to submit entries to the **Wellcome Trust and New Scientist 2004 Essay Competition**. They should write a "lively, entertaining and informative essay about their research and its possible implications for society" in 700 words or less. The winning entry will be published in the September 2004 issue of *New Scientist*, and top entries will receive monetary prizes. For the contest details and applications, see the Web site (<http://snipurl.com/5jr7>).

The Islamic Academy of Sciences is accepting nominations for the **2004 Ibrahim Memorial Award** until June 15, 2004. Public and private sector institutions in countries belonging to the Organization of the Islamic Conference are invited to nominate young researchers working in the medical field. For complete information, write to [IAS@go.com.jo](mailto:IAS@go.com.jo). [Source: *SciDev.Net*; [www.scidev.net](http://www.scidev.net)]

In 2004, the Third World Academy of Sciences (TWAS) will award as many as five grants of up to US\$30,000 to different research units in conjunction with the **TWAS Research Units in Least Developed Countries Program**. See the Web site (<http://snipurl.com/5jja>) for the list of eligible countries and the application, or e-mail Mrs. M.H.T. Mahdavi ([mahdavi@twas.org](mailto:mahdavi@twas.org)). Applications and proposals must be received by May 31, 2004.

The **Women in Technology Cisco Networking Academy Scholarship** program, sponsored by the United States Agency for International Development (USAID) and administered by the Institute of International Education, provides scholarship awards to women from target countries to attend the Cisco Networking Academy Program, where they can earn a Cisco Certified Network Associate certificate. The deadline for women in Algeria, Morocco

and Tunisia to apply is May 31, 2004. The program's Web site is: <http://www.iie.org/wcoast/wit.html>. [Source: *Digital Dividend Digest*; <http://snipurl.com/3taw>]

Nominations for the **American Association for the Advancement of Science (AAAS) Scientific Freedom and Responsibility Award** are due June 1, 2004. The award recognizes researchers who have either: acted to protect public health, safety, or welfare; publicized important potential impacts of science and technology on society; found new ways to address the social responsibilities of researchers; or set new precedents in defending the professional freedom of scientists and engineers. A shortcut to the program's Web site is: <http://snipurl.com/5jrr>.

#### Upcoming Meetings

*6th Annual Symposium on Issues in Scholarly Communication, "The Transition to Open Access Scholarship: Can the Reward Structure for Faculty Publishing Change Fast Enough?"*; Albany, New York, U.S.; April 19, 2004  
<http://library.albany.edu/symposium/>

*International Conference on Primary and Secondary Schools Science and Mathematics, "Creativity in Science and Mathematics Education: Gateway to the Future"*; Kuala Lumpur, Malaysia; June 14–16, 2004  
<http://snipurl.com/5jjq>

*ED-MEDIA 2004 World Conference on Educational Multimedia, Hypermedia & Telecommunications*; Lugano, Switzerland; June 21–26, 2004  
<http://snipurl.com/5jnm>

*EISTA '04 International Conference on Education and Information Systems: Technologies and Applications*; Orlando, Florida, U.S.; July 21–25, 2004  
<http://www.confinf.org/eista04>



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