

# NEWSLINK

FEDERAL LABORATORY CONSORTIUM FOR TECHNOLOGY TRANSFER

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## - Assistive Technology “Miracles” at VA Centers of Excellence

**A** stroke patient at the Palo Alto VA Rehabilitation R&D Center of Excellence on Mobility is learning to walk again on a treadmill with the Differential Pressure Walking Assistant (DPWA). At the Cleveland VA Medical Center of Excellence for Functional Electrical Stimulation (FES), a young man with quadriplegia uses the Freehand System—a medical electronic implant—to answer the phone for the first time since his diving accident.

Miracles like these happen every day for disabled veterans (and others as a result) at 172 VA Medical Centers—oftentimes because of the research performed at the Department of Veterans Affairs’ (VA) nine Rehabilitation R&D Centers of Excellence. Thanks in part to technology assistance from federal labs, these physically limited individuals are regaining their independence and increasing their quality of life.

### *Improve the Dialogue*

“There is *lots* of room for growth” in developing assistive technologies (AT)—and enormous opportunities for labs—says **Sal Sheredos**, Program Manager, Technology Transfer, VA Rehabilitation R&D Service. According to Sheredos, the network is there, but “we need to improve the dialogue between the researchers in the VA Centers, the researchers in the [non-AT] federal labs, and the FLC...so that we can access their technologies and translate them into future assistive technologies and procedures.”

One opportunity includes assisting the **Atlanta VA Medical Center for Geriatric Rehabilitation** in its search for telemedicine technologies and tracking projects to help monitor and find older veterans. The center is currently investigating several areas—cell phone location technologies, differential global positioning systems (GPS), and



Miracle Workers: Workers at the Palo Alto VA Medical Center help a patient walk with the Differential Pressure Walking Assistant, which was developed by researchers from the Department of Veterans Affairs and NASA.

dead-reckoning systems—to incorporate into its AT devices. They are also working with **NASA** on the technology that monitored John Glenn’s activity in space. The center’s specific need is a device that is small enough to sew into a shoe tongue but able to track the activity and whereabouts of mentally-impaired older persons. A number of companies are addressing the problem, and

*Please see VA MIRACLES, p. 2*

## Wheeled Mobility Project: Can You Contribute?

**A** current “demand pull” technology transfer project sponsored by the Rehabilitation Engineering Research Center on Technology Transfer (RERC-T2) and the FLC’s Mid-Atlantic Region is seeking technologies for the wheeled mobility industry (*e.g.*, manual wheelchairs, power wheelchairs, scooters)—especially in the areas of charging systems, battery monitors, geared hubs, tires, motors, and transmissions.

Representing the “flip” side of technology transfer, “demand pull” projects focus on identifying technology needs within an industry segment and then finding technology solutions to meet those needs. (By contrast, “push” tech transfer occurs when new applications are found for existing technologies. See the article on p. 3 for more info on pull tech transfer.) The wheeled mobility project is the first of six to be undertaken as part of a five-year program. In 1999-2000, RERC-T2 will partner with the **RERC on Hearing**

*Please see WHEELED MOBILITY, p. 3*

## INSIDE

This month’s *NewsLink* focuses on **ASSISTIVE TECHNOLOGIES (AT)**. Next month will focus on agricultural biotech and food processing.

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potentially useful technologies from the federal labs are invited too.

### *Down-to-Earth Technologies*

At Cleveland's FES Center of Excellence, projects focus on everything from restoring bladder function to helping paraplegics walk. The Freehand technology mentioned earlier (which was developed with help from NASA, **Case Western Reserve University**, and **MetroHealth Medical Center**) helps the brain control muscles below the point of injury. Acting like a pacemaker without batteries, the device generates electrical signals on lead wires implanted under the skin. Receiving command inputs from sensors, the system is powered by an external signal and controlled in real-time by external control units on the back of a wheelchair. Approved by the FDA, this new class of commercially available neural prosthetics can restore basic hand function—and grant new levels of independence to a paralyzed individual in the everyday tasks of eating, grooming, and personal care. So far, more than 100 individuals have used the technology—with many able to return to work, school, and home.

The Palo Alto VA Medical Center has collaborated with **NASA Ames Research Center** to develop technologies that increase mobility, including technologies originally used to facilitate exercise in the microgravity of space. The DPWA and other devices reduce or increase effective body weight during altered gravity locomotion simulations on earth. The device uses air pressure around the lower body (via an inflatable skirt) to comfortably support patients' weight as they walk on a treadmill, while a computer controls the pressure to adjust the lifting force. More comfortable or convenient than water immersion or the overhead lifting

harnesses often used to assist patients with mobility problems, the DPWA gives physical therapists more freedom to focus on gait training.

### *Network Use Vital*

From his Baltimore office at the VA Headquarters' Technology Transfer Section (where he oversees and assists with tech transfer activities in the 100+ field centers), Sheredos stresses the need for labs to be aware of the kinds of assistive technologies the VA—and, in particular, the nine specialized centers—develops. Dialogue is critical for optimizing the screening and matching of technologies available for potential use—whether the goal is to improve communication devices, use telehealth monitoring for veterans in a community, or make wheelchairs smarter, easier to use, and more comfortable.

The ingredients are all there—the idealistic research, the necessary technologies, the AT engineering expertise, and the business savvy. But the network “is only as good as its use,” Sheredos says. “When the labs put in their requests, call, or share their information with the centers—that's when things start to happen.” **NL**

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**Palo Alto VA:** Charles Burgar, M.D., 650-493-5000 x63614, [burgar@rrd.stanford.edu](mailto:burgar@rrd.stanford.edu)

**NASA Ames:** Robert Whalen, Ph.D., 650-604-3280, [rwhalen@mail.arc.nasa.gov](mailto:rwhalen@mail.arc.nasa.gov)

**Cleveland VA:** Jon Gray, 216-231-3257, [jfg@po.cwru.edu](mailto:jfg@po.cwru.edu)

**Atlanta VA:** David Ross, 404-321-6111, [davidross1@mindspring.com](mailto:davidross1@mindspring.com)

**For a list of the VA Centers of Excellence:** [www.vard.org/cent/centindx.htm](http://www.vard.org/cent/centindx.htm)

## Survey to Identify Assistive Technology Needs

**W**ith access to cutting-edge technologies, small technical companies in the assistive technology (AT) industry have a better chance of developing improved and less expensive products for persons with disabilities. And with thousands of unused technologies, the federal labs may already have the innovative technical devices these firms need for their AT products. Working together, these companies and labs could improve the quality of life for a number of people with physical or mental limitations.

A comprehensive nationwide assessment of the AT industry will soon help to make those partnerships available. Initiated by the **Department of Commerce's Bureau of Export Administration (BXA)**, the **Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR)**, and the **FLC**, the study was sent to approximately 1,700 AT companies to learn about their involvement in tech transfer activities, the kinds of technologies manufacturers could use, and the overall state of the AT field.

### *Needs and Framework Established*

According to **Margaret Cahill**, Trade and Industry Analyst at BXA, the long-term project objective is to make technologies from the federal labs available to these businesses and to establish a framework for a more consistent and less complex transfer of federal technologies into the AT industry.

The AT industry consists of a few large companies and many small businesses—some with only several employees. These small companies often develop customized technologies as a result of a personal or family need and are willing to develop additional AT devices if there are support and market interest for their efforts.



Please see *AT SURVEY*, p. 6

## WHEELED MOBILITY *from p. 1*

**Enhancement and Assistive Devices** to target the hearing industry.

### Project Participants

In addition to the FLC Mid-Atlantic Region and RERC-T2—which is part of the **University at Buffalo's Center for Assistive Technology** and supported by the **Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR)**—other project participants include: the **RERC on Wheeled Mobility** (located at the **University of Pittsburgh**), **Research Triangle Institute** (an independent research center that serves government and industry), **AZtech, Inc.** (a market research and consulting firm specializing in assistive technology), and the **Independent Living Center of Western New York** (a consumer-based agency that represents the consumer perspective).

### Project Goals

The project has three specific goals:

- ◆ identify important technology needs within the wheeled mobility industry
- ◆ establish parameters and specifications for technology solutions to meet those needs
- ◆ facilitate the transfer of these solutions to manufacturers within the wheeled mobility industry.

The first two project goals were accomplished at a Stakeholder Forum, which was held in May in Pittsburgh, PA. At the forum, various stakeholders—including more than 100 manufacturers, researchers, clinicians, consumers, government officials, and advanced technology developers—worked to identify customer needs, business opportunities, specifications for new technologies, and barriers that might impede the transfer or development of new technologies.



Stakeholder Forum: More than 100 manufacturers, researchers, clinicians, consumers, and government officials gathered at the Wheeled Mobility Stakeholder Forum in May to identify technology needs and possible solutions.

### Problem Statements

The information gathered during the forum served as the foundation for the project's problem statements, which will help scientists and engineers in federal labs, research organizations, and advanced technology manufacturers assess their ability to meet the stated technology needs, either through the application or development of advanced technology. Each problem statement includes information on:

- ◆ why the technology is needed (e.g., customer needs, market, business opportunity)
- ◆ the "state-of-the-practice" for the technology in the wheeled mobility industry
- ◆ parameters and specs for the technology being sought.

As mentioned earlier, the problem statements focus on six specific areas—charging systems, battery monitors, geared hubs, tires, motors, and transmissions—and are posted on the web ([www.rti.org/technology/wheelchairs/problemStmts.cfm](http://www.rti.org/technology/wheelchairs/problemStmts.cfm)). After reviewing the statements, researchers with applicable technologies can submit non-confidential technology responses using an online form ([www.rti.org/technology/wheelchairs/submit.cfm](http://www.rti.org/technology/wheelchairs/submit.cfm)). All submissions are then evaluated for applicability based on:

- ◆ state of development and cost/time to complete
- ◆ potential impact on the need area
- ◆ limitations of the technology
- ◆ possible barriers to implementation and commercialization.

If more detailed information is required, a non-disclosure agreement can be executed. If the technology looks promising, a project team member will contact the submitter to discuss the technology and possible linkages with the wheeled mobility industry. **NL**

For more info: [www.rti.org/technology/wheelchairs](http://www.rti.org/technology/wheelchairs)

## Six Steps for Demand Pull Technology Transfer Projects

*The RERC-T2 Wheeled Mobility Project is an excellent example of "demand pull" technology transfer, which identifies technology needs within an industry segment and then finds technology solutions for those needs. Here are some basic steps for implementing such projects.*

- 1. Industry Selection**—identify an industry segment with the potential for applying advanced technologies
- 2. Expert Interviews**—define the state-of-the-practice and related technology limitations via interviews with recognized industry experts
- 3. Validation Forum**—convene representatives from all stakeholder groups to validate limitations of existing technologies and to establish parameters for desired improvements expected from breakthrough technologies
- 4. Problem Statements**—translate technology parameters into problem statements (i.e., technical requirements/specifications)
- 5. Technology Search**—disseminate the problem statements to a wide range of public and private technology producers to identify potential solutions to problems
- 6. Technology Transfer**—screen candidate technologies and implement a process for transferring breakthrough technologies to manufacturers **NL**





## TECHNOLOGY WATCH

*Federal laboratory technologies available for technology transfer*

### *New NIST Device Turns E-Books into Braille*

Electronic books (e-books) soon may find a new audience. Engineers at the **National Institute of Standards and Technology (NIST)** have developed a Braille reader that can transform the text of e-books into Braille. NIST researchers developed the Braille prototype as a possible low-cost alternative to conventional electronic Braille readers. NIST spent about \$200 on materials for the machine. (Braille readers typically carry price tags ranging from \$10,000 to \$15,000.) Much of the cost savings is the result of a new design approach—the NIST reader uses only 12 actuators (the mechanical devices that form Braille letters); commercial Braille readers usually have hundreds. The NIST reader uses software to translate text into Braille and features variable speeds to allow people to read faster or slower. NIST is now seeking to transfer the technology to the private sector to bring the benefits of e-books to the blind and visually impaired.

For more info: Philip Bulman, 301-975-5661, [philip.bulman@nist.gov](mailto:philip.bulman@nist.gov)

### *American and Russian Nuclear Labs Develop Artificial Knee*

A new prosthetics project among the **Department of Energy's (DOE) Sandia National Laboratories**, a Russian nuclear lab known as **Chelyabinsk 70**, and the **Ohio Willow Wood Company** (a prosthetics company in Mount Sterling, OH) will focus on developing an artificial knee. The Russians will design a titanium housing; Sandia robotics researchers will design the knee's internal workings and electronics; and Ohio Willow Wood will define the parts requirements and perform final lab and clinical tests.

The project helps out the prosthetics industry, which is dominated by small companies with relatively little technical support. Although prosthetic companies certainly have worked to improve their devices, says Sandia project leader Mort Lieberman, they lack the resources to perform the type of testing possible at both nuclear labs.

Other prosthetics proposals have been submitted to various organizations by Sandia and Chelyabinsk 70 researchers. The proposals deal with the creation of sockets that can adjust to the swelling and shrinkage of an amputee's stump, knees that help prevent falling when a wearer stumbles, and micro-processor-controlled prosthetics to obtain a more natural gait.



Ultrasound Lifesaver: Oak Ridge National Lab researchers Tuan Vo-Dinh (left) and Joel Mobley are developing a system that uses a focused beam of ultrasound waves to determine the extent of a head injury.

The project is supported in part by a \$1.4 million Cooperative Research and Development Agreement (CRADA) from the **DOE's Initiatives for Proliferation Prevention Program**.

For more info: Mort Lieberman, 505-844-5458, [mlliebe@sandia.gov](mailto:mlliebe@sandia.gov)

### *ORNL Focuses on Method to Detect Brain Injuries*

People with head injuries may one day be screened at the accident scene for brain damage using a portable instrument and a technique being developed at the **DOE's Oak Ridge National Laboratory (ORNL)**. Using a focused beam of ultrasound waves, doctors can quickly and accurately evaluate the extent of a head injury and later monitor the patient's condition, said **Tuan Vo-Dinh**, a group leader and corporate fellow in ORNL's Life Sciences Division. The technique should save time and lives by giving rescue teams vital information to make effective early treatment decisions in those vital hours following an accident.

"After the initial injury, bleeding and swelling can cause dangerous pressures to build up in the brain, blocking blood flow through the brain," Vo-Dinh said. "With conventional technology, doctors take CAT scans and monitor the patient's injury using surgically implanted sensors. The ORNL proprietary method uses a non-invasive, portable, easy-to-use, and relatively inexpensive device to accomplish the same task. If a

hemorrhage, clot, or tumor is present, the symmetry of ultrasound echo patterns in the brain may be distorted, indicating an abnormality."

The key to the success of the system, being developed for the **U.S. Army Medical Research and Materiel Command**, is in the proprietary method for penetrating the skull using different types of ultrasound to obtain a more complete picture of what is occurring inside the head. Vo-Dinh expects a prototype system to be ready for patient testing later this year.

For more info: Ron Walli, 423-576-0226, [9rw@ornl.gov](mailto:9rw@ornl.gov)

### *Method of Detecting and Treating Inflammatory Disease*

A new diagnostic tool for screening resistance or susceptibility to certain forms of inflammatory disease (including Alzheimer's, systemic lupus erythematosus, sarcoidosis, scleroderma, and arthritis) has been identified by

## TECH WATCH *continued*

the **National Institutes of Health (NIH)** using a mutation of the Angiotensin Converting Enzyme (ACE) gene. The mutation in the ACE cDNA was associated with a high level of ACE activity and resistance to exudative inflammation. Related mutations could confer or predict susceptibility to these diseases. Drugs designed to interact with the enzyme, or at the active site near the mutation, could be used to treat such illnesses. This could have important implications in the study of human populations with related inflammatory diseases and may be linked to a variety of autoimmune and inflammatory diseases. It is available for immediate licensing, and research collaborations via CRADAs will be considered.

For more info: Kai Chen, 301-496-7735 x247, kc169a@nih.gov

### **Carbon-Based Prosthetic Devices**

Anyone who has ever had a finger joint replaced with a prosthesis due to serious injury or disease such as rheumatoid arthritis knows about the trade-off involved: The implant may eliminate the pain, but the recipient invariably loses strength and agility in that finger. These small prostheses, typically made of silicone rubber, also pose wear problems and may require replacement. Now, however, researchers at the **DOE's Los Alamos National Laboratory (LANL)** have

demonstrated that it is feasible to make endoprosthetic devices from carbon or carbon-reinforced composites—greatly improving joint mobility and reducing the risk of joint failure. The researchers have also developed processes for increasing the strength, density, and wear of carbon-based prosthetics.

The researchers are currently testing half-size, all-carbon prosthetic hip joints for strength and fatigue. These prosthetics may one day replace hip joints currently made of various metals and alloys. Approximately 250,000 hip replacement surgeries are performed each year in the U.S.

In addition, **Ascension Orthopedic, Inc.** of Austin, TX has signed a CRADA with LANL to develop all-carbon hips. **NI**

For more info: David Devlin, 505-667-9914, ddevlin@lanl.gov

### **Don't see what you're looking for?**

Are you looking for a specific technology or solution to a technical problem? Submit a Technical Request to the **FLC Laboratory Locator**, who will find the federal resource, technology, or facility you need—at no cost! Go to the FLC web site at [www.federallabs.org](http://www.federallabs.org) and click on LOCATOR or call 888-388-5227.

## Quick Takes: Other Federal Programs Related to Assistive Technology

### **Interagency Committee on Disability Research**

The Interagency Committee on Disability Research (ICDR), which is composed of members from various federal agencies, has a number of important goals, including:

- ◆ promoting cooperation among all federal program activities, projects, and plans with respect to research related to rehabilitation of individuals with disabilities
- ◆ facilitating the compilation of information about the status of rehabilitation research funded by federal agencies
- ◆ establishing mechanisms for interdepartmental consultation, cost-sharing of research projects, and personnel/data/equipment related to rehabilitation research.

For more info: [www.ncddr.org/icdr](http://www.ncddr.org/icdr)

### **Computer/Electronic Accommodations (CAP) Program**

This **Department of Defense (DOD)** program provides assistive technology and accommodations to ensure that people with disabilities have equal access to the information environment and opportunities in the DOD. With a primary focus on computer and communications devices, the program also includes the **CAP Technology Evaluation Center (CAPTEC)**, which showcases a wide variety of currently available computer and communication assistive technology devices.

For more info: [www.tricare.osd.mil/cap](http://www.tricare.osd.mil/cap)

### **Wayfinding Technology Workshop**

Organized by the ICDR and the **National Science Foundation (NSF)**, this recent seminar focused on wayfinding technologies (which help people who have impaired vision with orientation and mobility). With a goal of reviewing the current state-of-the-art and identifying needed technologies, the workshop brought together public and private researchers and consumers. Technologies discussed included: electronic travel aids and talking signs, detectable warnings and accessible pedestrian signals, audio/tactile kiosks for transportation terminals, tactile maps, and using GPS systems in wayfinding.

For more info: Larry Scadden, 703-306-1636 x6885, lscadden@nsf.gov

### **Augmentative and Alternate Communications (AAC) Project**

The **FLC's Southeast Region** is working with **Duke University** and the **AAC RERC** to identify technologies to assist people who need augmentative and alternate communication devices. At the region's recent meeting, **Dr. Howard Shane** of **Boston Children's Hospital** presented an overview of AAC needs, and **Dr. Frank DeRuyter** of the AAC RERC provided info on the national RERC structure and Duke's AAC focus. Attendees then began identifying ways to maximize cooperative efforts and achieve commercialization of new AAC technologies. **NI**

For more info: Andy Campbell, 352-294-7836, campbell@eng.ufl.edu



## DC DISPATCHES

By Sally Rood, Ph.D., FLC Washington, DC Representative

### FLC Issue Paper Presents Solution for Senior Disabilities

With increasing numbers of senior citizens living longer—and aging baby boomers adding to those numbers exponentially—public resources at all levels of government will be drained addressing their challenges. For individuals in their later years, quality of life and independence will be at risk.

To help cope with these inevitable changes, the FLC and the National Institute on Disability and Rehabilitation Research (NIDRR) have proposed a strategic partnership to help meet the technological needs of our growing elderly population through assistive technologies.

Responding to a request by the Office of Science and Technology Policy (OSTP) and the National Science and Technology Council (NSTC) for input on federal policy that will enhance our national innovation system, the issue paper outlines an opportunity to bridge the gap between federal labs and the marketplace by combining the expertise and activities of the FLC and its member labs with NIDRR's network of 15 specialized Rehabilitation Engineering Research Centers (RERCs) in order to develop assistive technologies for commercialization.

#### Collaboration of Expertise

NIDRR has identified areas of need for assistive technologies to help the elderly avoid nursing homes, stay in their homes, and be more mobile. These needs include technologies for use in homes, buildings, offices, transportation, information technologies, and consumer products. An FLC-NIDRR partnership would be able to exploit technologies in the federal lab system to address identified AT needs, and the RERCs can adapt and design the technologies for use by older people. In addition, the



Sally Rood

Department of Commerce is completing a survey of AT manufacturers (see article on p. 2) that will offer valuable input for implementing the proposed partnership.

Although the know-how and expertise are in place, there is not yet the authority or the budget to allow federal labs and RERCs to work together. And although NIDRR programs serve the disabled community as a result of the Assistive Technology Act of 1988, the U.S. is not fully equipped to serve the technology needs of its growing elderly population.

In addition, the small niche markets of the AT industry offer little drive for new product development because of limited returns and little capital to invest in research. This lack of incentive and support may result in an “orphan technology” market similar to the orphan drug market (defined as 300,000 users or smaller).

#### Awareness/Strategy/Outcomes

Outlining targeted areas, the issue paper helps to increase the awareness of government policymakers—and the general public—about the growing technological needs of older individuals and the ramifications if targeted assistance is not provided. It also proposes a partnership structure and highlights the broader institutional benefits of leveraging existing specialized expertise. In addition, the paper explains the required steps in the technology transfer process and the potential outcomes and levels of successes expected from such a collaboration. Suggestions for established public policy and support funding to enable this innovative and worthwhile cause are also included.

OSTP and NSTC plan to hold a summit on November 30 and December 1 to discuss federal innovation and the invited issue papers from the FLC and others. **NL**

To read the FLC paper, go to: [www.whitehouse.gov/WH/EOP/OSTP/html/rand/summit/IndexPage.html](http://www.whitehouse.gov/WH/EOP/OSTP/html/rand/summit/IndexPage.html)

### AT SURVEY *from p. 2*

Therefore, a major project goal is to ease the search process.

#### AT Categories Surveyed

The survey, which was developed by Cahill and her BXA colleague Steve Baker, lists broad product categories for AT devices—including architectural elements (e.g., elevators, ramps, devices for doors), communication devices and computers, mobility, recreation/leisure/sports, and aids to daily living. Once the surveys are completed, FLC representatives will help match interested

companies with federal labs that have potentially useful technologies.

With approximately 300 surveys received thus far, BXA is continuing to gather data for the study, and any interested AT company is invited to participate. A final report that summarizes the industry and provides a breakdown of identified technology needs will be issued early next year. **NL**

To participate in the survey or for more info: Margaret Cahill, 202-482-8226, [mcahill@bxa.doc.gov](mailto:mcahill@bxa.doc.gov); Steve Baker, 202-482-2017, [sbaker@bxa.doc.gov](mailto:sbaker@bxa.doc.gov)



## Technology Transfer on the World Wide Web

### [www.resna.org](http://www.resna.org)

Visit this site to learn more about the **Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)**—an interdisciplinary association of people with a common interest in technology and disability. RESNA's goal is to improve the potential of people with disabilities to achieve their goals through the use of technology. This is done by promoting research, development, education, advocacy, the provision of technology, and supporting the people engaged in these activities. The web site provides information on RESNA's meetings, publications, and special interest groups—and includes a comprehensive set of links to other web sites with similar goals.

### [www.itpolicy.gsa.gov/cita/wpa.htm](http://www.itpolicy.gsa.gov/cita/wpa.htm)

Learn how to make your web site more accessible for individuals with disabilities by visiting this site sponsored by the **Center for Information Technology Accommodation**. The site provides background on accessible web site design, guidance on redesigning your web site, and links to related sites. As part of amended Section 508 of the Rehabilitation Act, all federal agencies and departments must conduct self-evaluations and report to the Attorney General by February 7 regarding the extent to which their electronic and information technology is accessible to and usable by persons with disabilities, including federal employees and members of the public seeking information or services from those agencies.

### <http://wings.buffalo.edu/ot/cat>

Go here to access info about the **Center for Assistive Technology** at the **University at Buffalo**. The Center conducts research and provides education and services to increase knowledge about assistive devices for persons with disabilities. The site contains sections on current projects, educational efforts, research, information dissemination, products catalog, assistive devices, assistive technology for different age groups, and links to other AT sites.

**Have a suggestion for a tech transfer web site? Send an e-mail with the URL to [jbegley@utrsmail.com](mailto:jbegley@utrsmail.com)**

### [www.dacs.dtic.mil](http://www.dacs.dtic.mil)

This **Department of Defense (DOD)** site is the home page for the **Data & Analysis Center for Software (DACS)**, which serves as the DOD's software information clearinghouse and authoritative source for state-of-the-art software information. DACS provides technical support to the software community and information on a wide variety of software-related topics, including: cleanroom software engineering, client/server architecture, collaborative software engineering, data mining and warehousing, e-business practices, rapid prototyping, software reliability and testing, and Y2K. If you work with software or have a software-related question, be sure to visit this comprehensive site.

### [www.thelicensestore.com](http://www.thelicensestore.com)

This new site, which is just being established by the **Cool License Corporation**, is working to establish itself as an online clearinghouse for intellectual property. The goal is to offer a wide range of information about intellectual property, and the site promises to bring together the holders of patent, trademark, and copyright properties with those who want to license those properties.

### [www.dtic.mil/techtransit](http://www.dtic.mil/techtransit)

The DOD's technology transfer web site has recently posted new information of interest to the tech transfer community. New features include information on:

- ◆ Foreign Participation in CRADAs—features the executive summary of a report analyzing the processes used by U.S. government agencies in determining whether to include foreign partners in CRADAs
- ◆ Laboratory Reimbursement Fund—provides updated information on how this fund is used and how to apply
- ◆ DOD CRADAs—features a report evaluating the outcomes and benefits of DOD CRADAs.



## 2000 NewsLink Editorial Calendar

The 2000 NewsLink editorial calendar can be found below. If you are interested in submitting articles, submission guidelines can be found on the FLC web site ([www.federallabs.org](http://www.federallabs.org)). Simply click on NEWS, then on NEWSLINK, and then on SUBMITTING ARTICLES. The calendar can also be found on the FLC web site.

<b>January</b>	<b>Transportation/Auto</b> Articles due by December 1	<b>July/August</b>	<b>Materials/Composites</b> Articles due by June 1
<b>February</b>	<b>Manufacturing</b> Articles due by January 3	<b>September</b>	<b>Energy/Oil and Gas</b> Articles due by August 1
<b>March</b>	<b>Biotechnology</b> Articles due by February 1	<b>October</b>	<b>Environmental Technologies</b> Articles due by September 1
<b>April/May</b>	<b>Assistive Technology/Law Enforcement</b> Articles due by March 1	<b>November/December</b>	<b>Information Technology</b> Articles due by October 1
<b>June</b>	<b>Electronics/Sensors/Photonics</b> Articles due by April 15	<b>January 2001</b>	<b>Transportation/Auto</b> Articles due by December 1



## COMING ATTRACTIONS

January 9-13, 2000

### **Transportation Research Board** Washington, DC

The 79th annual meeting of the Transportation Research Board (TRB) will once again bring together more than 8,000 transportation professionals from around the globe to discuss transportation policy, practice, and research. The meeting will also feature exhibits (including the FLC) showcasing the latest in transportation research.

[www.national-academies.org/trb/meetings](http://www.national-academies.org/trb/meetings)

February 18-21, 2000

### **AAAS Meeting & Science Innovation Expo** Washington, DC

Join more than 5,000 participants—representing all disciplines of the science community, including biological, technological, medical, physical, chemical, environmental, and social sciences—as they gather at the most comprehensive scientific meeting of the year sponsored by the American Association for the Advancement of Science (AAAS).

[www.aas.org/meetings/2000](http://www.aas.org/meetings/2000)

April 2-6, 2000

### **Future Car Congress** Arlington, VA

The Future Car Congress will bring together experts from industry, government, and academia to showcase accomplishments in advanced auto technologies; highlight achievements of government-industry partnerships; and exchange ideas for educating, recruiting, and training an advanced transportation technologies workforce for the 21st century.

[www.futurecarcongress.org](http://www.futurecarcongress.org)

April 9-12, 2000

### **Human Genome Meeting 2000** Vancouver, Canada

The Human Genome Project—a global initiative to map and sequence the human genome—is ahead of schedule and about to make medical research history. Due to advances in technology, it is expected that a working draft of the human genome will be announced at this meeting, which is expected to attract scientific, medical, and business delegates from around the world.

[www.cmmmt.ubc.ca/hgm2000](http://www.cmmmt.ubc.ca/hgm2000)

April 11-13, 2000

### **2000 AAAS S&T Policy Colloquium** Washington, DC

This annual event provides a forum for discussion and debate about budget and other policy issues facing the science and technology (S&T) community. Since its inception in 1976, this meeting has grown into an annual institution that draws nearly 500 of the nation's top S&T experts and has established itself as the major public meeting on U.S. S&T issues.

[www.aas.org/spp/dspp/rd/colloqu.htm](http://www.aas.org/spp/dspp/rd/colloqu.htm)

May 8-12, 2000

### **FLC National Meeting** Charleston, SC

Mark your calendars and plan to attend the FLC's 2000 National Meeting. With a theme of "Show Me the Way," the meeting will feature tech transfer training (beginner and advanced), sessions on how to use the FLC to advance your lab's tech transfer efforts, and many networking opportunities. Don't miss the first FLC meeting of the millennium!

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FLC web site: [www.federalilabs.org](http://www.federalilabs.org)  
Upcoming focus issues include: food processing/agricultural biotechnology, transportation/auto, and manufacturing.

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