

NEWSLINK

FEDERAL LABORATORY CONSORTIUM FOR TECHNOLOGY TRANSFER

NOVEMBER/DECEMBER 2001 VOL. 17, NO. 10

Information Technology Industries "Talk to Each Other" with NIST Standards

Early last century, a devastating fire in Baltimore burned down half of the city—mainly because the nozzle fittings on the fire trucks' hoses called in did not fit the hydrants. As a result, the **National Institute of Standards and Technology (NIST)**, formerly the National Bureau of Standards, was established to conduct research in support of measurement and regulation standards for fire equipment—and later, other American industries. And the rest is...the future.

Biometrics

Today, NIST is the last word in content management and interoperability guidelines for various sophisticated projects such as electronic books, biometrics, networked appliances, and pervasive computing—and that's only a few of the electronic industries the Information Technology Laboratory (ITL) works with. One of eight NIST labs, the ITL works with industry to establish standards, for example, Smart Cards that contain the personal template of our DNA, fingerprints, iris scan, gait, signature and other individualized data that we will each have some day. In the future, the Smart Card will operate worldwide based on a common standard developed by NIST to assist with airport security and other ID needs.

Standard Equipment

"This is where software and hardware come together," said **Victor McCrary, Ph.D.** As Division Chief of ITL's Convergent Information Systems Division (CISD), McCrary oversees the standards and interoperability



Developed from the standard for the electronic book file, the Braille Reader is low in cost and is accessible in assisting visually impaired individuals to read web pages and e-book files. Pictured is the NIST rotating wheel Braille display.

guidelines of digital content, in such areas as electronic learning, healthcare, and e-government. That means getting all components in one area or industry to "talk to each other" in the creation, packaging, encapsulation, transfer and storage of all content. According to McCrary, "These IT applications will have wide deployment and low cost if we can work with industry to develop standards." With competing firms, NIST removes the interoperability barriers through research and development of standards so there's broader consumer choice and the technology can be adopted faster.

Preserving Data

CISD also deals with digital management—content packaging and formatting—in the film, video, TV and publishing communities. Common standards are necessary to allow different browsers to successfully open various files; it's also important that only authorized persons have access to certain files.

NewsLinkONLINE Debut Postponed

Paper version of NewsLink
extended

WE'RE STILL LOOKING FOR YOU!

We have been inundated by your requests for subscriptions. Many subscribers have forwarded their e-mail addresses and thus have been added to our mailing list.

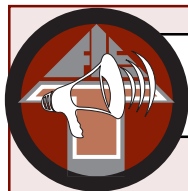
Notwithstanding the large number of e-mail addresses we have obtained, there are still many subscribers who have yet to send us their information.

So...

Simply send an e-mail to flcnews@utrsmail.com, with "Subscribe ONLINE" in the subject line. Don't delay—DO IT TODAY!

Remember, with the introduction of NewsLinkONLINE, we will be able to publish a newsletter in FULL COLOR, and expand the number of pages per issue. That means more news, more announcements, and more technologies available for transfer.

And of course, the larger online edition means more opportunities to share your own news and technologies, lab news, success stories, T2 web sites, and technologies available for transfer. Send them to flcnews@utrsmail.com.



FED LABS FLASH

Technology transfer news, notes, and events within the federal lab community

Directorate Signs Agreement To Produce Solid-State Lasers

The **Air Force Research Laboratory's Directed Energy Directorate** recently signed an agreement with a Warwick, R.I., firm to produce high-power semiconductor diode lasers for commercial applications.

Laser Fare, Advanced Technology Group, will deliver high-powered lasers to the directorate's Laser Effects Research Branch under terms of the two-year Cooperative Research and Development Agreement.

"We're taking the lasers we've developed from the prototype to the manufacturing stage," explained J. Terence Feeley, president of the 20-year old research and development firm.

"This unique partnering agreement provides a mechanism to commercialize Air Force Research Laboratory technology while supplying the Laser Effects Research Branch with diode laser sources for laser effects testing," explained **Dr. William P. Latham**, technical advisor with the directorate's Laser Effects Research Branch.

For more info: Conrad E. Dziewulski, 505-846-1911, conrad.dziewulski@kirtland.af.mil

World's Largest Unclassified Supercomputer Goes Online

The **U.S. Department of Energy's National Energy Research Scientific Computing Center (NERSC)**, operated by **Lawrence Berkeley National Laboratory (LBNL)**, has opened

NIST *from p. 1*

Next year CISD will tackle the preservation of data on magnetic media in the U.S. Working with the Library of Congress and the High Density Storage Association, CISD will test interoperability devices. Consortia and partnerships are set up to talk about open standards for digital rights management because, with new applications on the Internet, both the creators—film makers, authors, publishers—and end users, such as librarians who provide access to the information, need to be satisfied that their content is not misused.

NIST Winners

McCrary was this year's co-recipient of the Gold Medal from the **Department of Commerce** for his leadership in catalyzing the electronic book (e-book) industry, facilitating standards for the e-book industry, and the development of CISD's Braille Reader for e-books. Developed from the standard for the electronic book file, the Braille Reader—winner of an R&D 100 Award for 2001—is inexpensive and accessible for assisting visually impaired individuals to read web pages and e-book files. NIST developed a prototype for the Braille Reader and seeks industry partners to license this technology, said McCrary.

For more info: Victor McCrary, 301-975-4321, victor.mccrary@nist.gov. To download NIST's software products for industry and business, go to www.itl.nist.gov/div895

Smart Space

In the future, we will wear or carry our computers as casually as we carry pencils and pens. Powerful little hand-held palm tops—containing, for example, 64 megabytes of RAM and gigabyte hard drives that will enable diverse dynamic networking and personalized features—will

become our "electronic briefcases." But much has to happen in the computing arena before this little personal data assistant (PDA) can interface effectively with the smart environments of the future, said **Vincent Stanford**, ITL computer specialist and project manager of the Smart Space Project.

With wireless networking capabilities, PDAs will be able to define the available services in a conference room, such as display, printing, audio services, voice identification, uploading presentations, etc. And conclusions, notes or action items can be downloaded into everybody's shirt pocket before they leave.

Biometrics Info

Although it is still experimental, a tiny computer connected to Smart Spaces via wireless links can also ably assist individuals with special needs, offering hands-free services ranging from speech recognition to gaze tracking to guide the cursor. And, it will be possible to have a pocket computer interact with other devices wirelessly. Biometric signatures in the PDA will also enhance security with authentication—for access into special databases or restricted areas, for example. Human resource offices will access sensitive information after they have been authenticated via personal biometric signature files.

Smart Flow Systems

Many companies make Smart Space components, which may be integrated effectively in 5 or 10 years. However, Stanford said, ITL is already working on aspects of standardizing the sensor-based interfaces to transport and hold multimedia data, and to develop measurements and standards to facilitate progress in the industry. With smoother interoperability, NIST Smart Flow Systems will help companies work cooperatively and with greater productivity.

its newest supercomputer — a 3,328-processor IBM RS/6000 SP system — to more than 2,000 researchers at national laboratories and universities across the country. The IBM SP, named “Seaborg” in honor of LBNL Nobel Laureate Glenn Seaborg, is capable of performing five trillion calculations per second (5 teraflop/s).

“Until now, this level of computing power simply has not been available to support research across a broad range of computational science,” said LBNL Director **Charles Shank**. “As of today, however, scientists who are researching global climate change, exploring how to cut pollution from internal combustion engines, designing power sources for the future and finding new ways to treat disease have a much more powerful tool at their disposal. We fully expect this research to help shape how we live in the future.”

The supercomputer is located in LBNL’s new Oakland Scientific Facility in downtown Oakland. The new IBM SP boasts the computing power of more than one million desktop

PCs, all able to work together to tackle some of the world’s toughest scientific problems.

For more info: www.nersc.gov, www.lbl.gov

Burkhardt named new TEC Director

Robert W. Burkhardt became the director of the U.S. Army Corps of Engineers’ (COE) Engineer Research and Development Center’s (ERDC) Topographic Engineering Center (TEC) in Alexandria, Va., on Oct. 7, 2001. Burkhardt is a member of the federal government’s Senior Executive Service.

ERDC is one of the most diverse engineering and scientific research organizations in the world, combining all COE R&D operations into one organization. TEC’s mission is to provide the war fighter with a superior knowledge of the battlefield and support the nation’s civil and environmental initiatives through research, development, and the application of expertise in topographic and related sciences.

For more info: Public Affairs Office, 703-428-6655 **NL**

Overwhelmed by the amount of data today, Stanford said, “We’re moving into an era in which each person or group will use and interact with many computers, with the interface centered on the individual rather than the machine. These multiple computers and components must be able to ‘talk’ with each other.” Currently ITL is working with a hospital group to coordinate wireless networking in its medical equipment.

For more info: Vincent Stanford, 301-975-5399, vincent.stanford@nist.gov; <http://www.nist.gov/smartospace>

Networked Appliances

NIST also assists with networking “intelligent” appliances for the home and small business offices. Building prototypes and working with industry to develop interoperable and consumer-friendly middleware standards for networked appliances and multimedia is NIST’s goal.

This convergence of intelligent appliances, networking, and biometrics will have a large impact on future services for the home. But the package must first be cost-effective, easy to use, and interesting to the customer before these products are mainstreamed, explained **Alan Mink, Ph.D.**, project leader of CISD’s Networked Appliances effort. With commands from the inside or outside—e.g., a living room or an office across town—an entire house of toasters, lights, furnaces, TVs, CD players, computers, etc., will work together and report their status. A refrigerator, for example, will be able to read bar codes and set up a shopping list of items almost empty or no longer in the fridge. To safeguard privacy, biometrics will be able to authenticate family members and filter out unauthorized access via voice recognition of a command or request. Similarly, biometrics could be used to allow workmen access to the house.

Networked appliances could monitor the workmen, record their movements, or provide feedback via multiple cameras tracking someone in the house. In addition, pictures or video could be sent over the Internet.

Mink is chair of the upcoming Institute for Electrical & Electronics Engineers (IEEE) Fourth International Workshop on Networked Appliances, which will be held Jan. 15-16 at NIST headquarters in Gaithersburg, MD (<http://www.cmr.nist.gov/iwna4>).

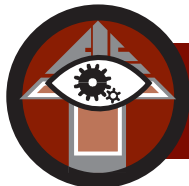
Digital TVs to Come

Mink’s project also includes middleware environments for the next-generation interactive digital TV, as well as the transfer/handling of multimedia content (e.g., music, pictures, video, etc.) between networked appliances (next-generation digital TV, VCR, stereo and Internet). By 2007 (or soon after), all TVs are expected to be digital. Interactive digital TV is the convergence of TVs, computers and communication networks.

NIST works with the Advance Television System Committee, a standards consortium of more than 200 TV manufacturers, broadcasters, and content providers in the entertainment industry. This digital TV middleware will provide an interoperable environment that allows application programs to co-exist with TV programs. For example, you may see a product of interest on digital TV. A connected software program can provide product information and a close purchase location, and send a discount coupon to your printer. As you watch Tiger Woods on TV, you can point at his shirt or golf shoes and this application program does the rest.

The NIST prototype can be downloaded at www.dase.nist.gov.

For more info: Alan Mink, 301-975-5681, amink@nist.gov **NL**



TECHNOLOGY WATCH

Federal laboratory technologies available for technology transfer



AGRICULTURE

New Method to Measure Water and Chemical Movement in Soil

Many computer models are available for predicting the fate and transport of agrochemicals applied to soil. However, the parameters required for input must be measured or estimated for the soil of interest.

Soil scientist **Dan B. Jaynes**, of the **Agricultural Research Service's National Soil Tilth Research Laboratory**, and researchers at **Iowa State University-Ames** and **Iwate University** (Japan), have developed and validated a new quick and easy method to measure water and chemical movement in soil. Adaptable for field use, it will increase the accuracy of mathematical models that estimate potential groundwater contamination by agrochemicals.

They use time domain reflectometry (TDR) to characterize solute transport in undisturbed, structured soils with distinctive flow properties. TDR works like radar, measuring the time and distance of reflected electrical signals in metal rods that are inserted into 8-inch-long by 5-inch-diameter columns of undisturbed, structured soil.

In their study, the scientists tested a TDR method under controlled laboratory experiments and found that the reflected signals were directly related to important soil properties.

The TDR method is simple and minimally disruptive. It provides estimates of field soil properties that enable scientists to predict how water and chemicals will move through the soil.

Scientists using the new method will be able to obtain model parameter estimates as reliable as the more traditional but time-consuming measurement methods.

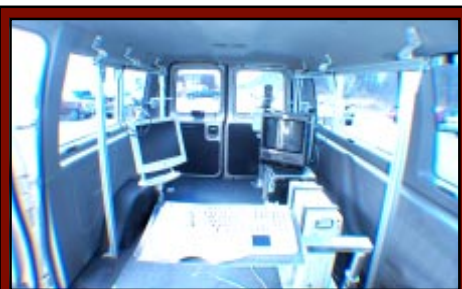
For more info: Jennifer Arnold, 301-504-1624, jaarnold@nps.ars.usda.gov



AUTOMOTIVE

Imaging System to Nab Aggressive Drivers

The **U.S. Army Aberdeen Test Center (ATC)** and the **Maryland State Police (MSP)** have targeted aggressive drivers with a prototype system that combines RADAR or LIDAR (i.e., a



ADIS includes "a suite of video cameras to capture digital images and movie clips of aggressive drivers."

laser-based speed measurement device) with video cameras to assist Maryland state troopers. This mobile system is easy to set up and tear down, has low production costs, can capture digital images of tractor trailer ICC numbers and automobile license plates, and captures digital images of drivers who are demonstrating aggressive driving.

Known as the Aggressive Driver Imaging System (ADIS), it uses lasers to measure the range and speed of vehicles on Maryland's highways. The system then uses a computer and a suite of videocameras to capture digital images and movie clips of aggressive drivers. In particular, ADIS automatically captures images of the front, side, and rear of vehicles that are travelling in excess of a predetermined speed threshold. These images are then compiled by the computer into a violation report that is subsequently mailed to the perpetrator. The system can also manually capture images and movie clips of motorists who may be following too close and making erratic lane changes.

For more info: Mike Shellem, 410-278-9489, mshellem@atc.army.mil



ENVIRONMENT

Field Method for the Determination of Hexavalent Chromium Devised

Hexavalent chromium has many uses in paints, inks, plastics, protective coatings, and chrome plating. Also a known carcinogen in humans, it was the toxic substance key to the plot of the hit movie "Erin Brockovich."

The **Centers for Disease Control** have developed and evaluated a simple, fast, sensitive, and economical field method to measure hexavalent chromium.

The portable invention rapidly measures the toxic substance at work or job sites. It is designed for fast, economical environmental testing of a wide variety of samples from air, soil, paint chips, or coal fly ash.

Hexavalent chromium is an industrial health hazard in both commercial and military settings. A new **Environmental Protection Agency (EPA)** rule—affecting 1500 hard chromium electroplating facilities, 2800 decorative chromium electroplating facilities, and 700 chromium anodizing facilities—requires monitoring for chromium. A considerable number of welding facilities and welders nationwide also might benefit from the measuring device.

The applications with the highest known chromium exposures include:

- **Spraying**—Creates a mist that can be inhaled.
- **Plating**—Creates inhalable gases that carry liquid particles of chromic acid solution into the air.
- **Welding**—Fumes are created by welding or cutting on stainless steel or metals that are coated with a chromium material.

For more info: Russ Metler, 404-639-6268, rpm1@cdc.gov



BIOTECHNOLOGY

New Risk Factor in Heart Disease Identified

Heart disease remains the leading cause of death in the United States. The majority of these deaths are the result of atherosclerosis—the hardening of arteries, which is caused by the rate at which plaque accumulates. This rate is accelerated when an individual has high cholesterol and triglyceride levels, the two major blood fats that are important risk factors in the development of heart disease.

Scientists using information from the Human Genome Project have identified a new apolipoprotein that appears to play a significant role in controlling triglyceride levels in the blood.

Dr. Edward Rubin, head of the Genome Sciences Department in the Life Sciences Division of **Lawrence Berkeley National Laboratory (LBNL)** led a study in which the new gene—named apoAV—was identified by comparing the DNA sequences of humans and mice. ApoAV's function was tested first in genetically engineered mice, then in human clinical studies, and shown to significantly influence triglyceride levels in both mammals.

“By comparing the sequence of the genomes of humans and mice we have found a genetic jewel that had been missed when the sequence of the human genome alone was analyzed,” said Rubin. “ApoAV appears to have a major role in lipid metabolism in both humans and mice.”

Rubin and his staff concluded that apoAV modulation could be a potential strategy to reducing cardiovascular disease risk factors. The next step, they say, will be to look into the mechanism by which apoAV polymorphisms influence triglyceride levels and try to identify the specific DNA sequence changes that lead to lower apoAV protein concentrations in the blood.

For more info: David Gilbert, 510-486-6096, DEGilbert@lbl.gov; Lynn Yarris, 510-486-5375, lyarris@lbl.gov



CHEMICAL ENGINEERING

Extraction Unit Like Teaching an Old Dog New Tricks

Scientists at **Argonne National Laboratory's (ANL) Chemical Technology Division** have successfully tested a new solvent extraction process that could help decontaminate the many millions of gallons of high-level waste now stored in underground tanks at the Savannah River site in South Carolina.

This process, called CSSX (caustic-side solvent extraction), separates the radioactive isotope cesium-137 from the extremely saline liquid present in the tanks. Once removed, the cesium is incorporated into a glass waste form for disposal in a geologic repository.

The key technology in the CSSX process is a multistage centrifugal contactor, a materials separation device. Over the last three decades, ANL researchers have applied various designs of this device to many different problems concerning the disposal of liquid radioactive waste.

During the past year, scientists at **Oak Ridge National Laboratory** and the **Savannah River Technology Center** modified an ANL-designed centrifugal contactor to perform successful solvent extraction.

When operated with an appropriate solvent, the contactor is able to quickly and efficiently recover transuranic elements and fission products such as cesium from radioactive waste. The ANL centrifugal contactor, unlike others, can be easily modified to handle different solvent compositions, is easy to scale up, can be remotely operated and maintained, has low construction and operating costs and, most importantly, requires relatively little solvent.

For more info: Catherine Foster, 630-252-5580, cfoster@anl.gov



A CSSX unit used to test solvent extraction processes.



COMPUTERS

Security Simulator Assists Systems Administrators

Just as flight simulators provide real-world experience to pilots without jeopardizing lives, a new cyber security training capability under development at the **Department of Energy's Pacific Northwest National Laboratory (PNNL)** will give computer system administrators experience defending against cyber attacks without compromising their networks.

PNNL scientists have created a prototype systems administrator simulation trainer (SAST) to rapidly develop the cyber security experience of system administrators in any type of organization to identify, circumvent or recover from hacker activity. The program consists of a network of training tools that simulate the cyber environment and are launched through an automated system.

Once the program is fully developed, students with broadband Internet access could use these tools remotely, reducing training costs and allowing continual access.

SAST was developed for the **Department of Defense's Technical Support Working Group (TSWG)** at the PNNL-based Critical Infrastructure Protection and Analysis Laboratory, a dedicated cyber research and development lab created specifically to counter cyber threats. TSWG's mission is to conduct the national interagency research and development program for combating terrorism through rapid research, development and prototyping.

For more info: PNL media relations office, 509-375-3776, pnl.media.relations@pnl.gov

FLC Web Site

We continually update our web site with new technologies categorized into 15 industry topic areas—Simply go to www.federallabs.org and click on TECHNOLOGIES. New entries are added weekly!



SPOTLIGHT ON SUCCESS

Success stories from the federal lab community

NASA Computer Tool Smooths Air Traffic Flow

Air traffic controllers will be able to make more accurate decisions thanks to a new NASA software tool.

Researchers at NASA's **Ames Research Center** recently monitored more than 1,000 takeoffs, landings, and overhead flights near Denver to test the enroute data exchange (EDX) tool. This tool provides real-time delivery of flight data to automated air traffic management software, giving controllers the ability to predict aircraft position and avoid potential conflicts.

The ability to accurately predict aircraft trajectories more than 20 minutes in advance is crucial to the success of air traffic management. EDX allows the automation used for air traffic control decisions to be more accurate, thereby increasing fuel efficiency and system capacity, and reducing controller workload. EDX delivers 32 types of data from the plane to air traffic controllers, who are using NASA's Center-TRACON (terminal radar approach control) Automation System, or CTAS. Some data, including aircraft speed, weight, flight plans and weather conditions, are processed immediately, and the rest are stored for later analysis.

"Field experience has shown that controllers must have confidence in the accuracy of underlying trajectory predictions in order to utilize our automation effectively.

EDX provides that level of trust by providing a wealth of accurate and timely data," said **Rich Coppenger**, the EDX technical lead.

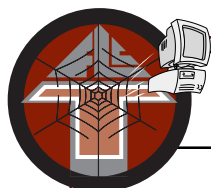
With cooperation from United Airlines, 48 Boeing 777 aircraft received EDX software upgrades. The 777 was chosen because of its state-of-the-art avionics and advanced handling of "datalink" information.

The six-month test of EDX was conducted at the Denver Air-Route Traffic Control Center with the assistance of the **Federal Aviation Administration (FAA)**, Honeywell, and United Airlines.

The next step is evaluation of the tool's capabilities for future application to real-time flight plan development and modification. This capability can be viewed as an important step toward attaining Free Flight, an FAA program that will give pilots the freedom to choose their own flight paths in real-time.

The tools in the CTAS suite are designed to help air traffic controllers manage the increasingly complex air traffic flows at and enroute to large airports, and to benefit air travelers by reducing delays while maintaining safety.

For more info: Michael Braukus - NASA Headquarters, 202-358-1979; Jonas Dino - Ames Research Center, 650-604-5612 **NL**



T2 on the Web

Technology Transfer Program:
Marshall Space Flight Center
www.nasasolutions.com

The primary goal of the technology transfer program at NASA Marshall Space Flight Center (MSFC) is to encourage broad use of MSFC-developed technologies by American private enterprise.

"Working with Marshall Space Flight Center Technology Transfer Department" is designed to expedite the process of doing business with MSFC. The various processes of technology transfer are discussed in detail.



With its theme of "Moving Forward with the FLC," the 2002 annual meeting should be the biggest and best yet! Highlights of the meeting include the popular basic and advanced training on new ways to successfully transfer technologies and the 2002 FLC Awards for Excellence in Technology Transfer.

FOR MORE INFO: Sherry Nacci, 856-667-7727,
www.federallabs.org; snacci@utrsmail.com

**MATERIALS**

Suspended in Space: New NASA Materials Discovery

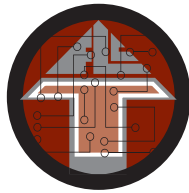
A NASA-funded study in materials science has yielded a discovery that may significantly change the way electronics, paint, cosmetics and pharmaceutical industries develop products.

This new approach—nanoparticle haloing—suspends and stabilizes fine particles in fluids to prevent them from otherwise organizing themselves or coagulating into a disordered gel-like structure. Such collections of particles, called colloids or colloidal suspensions, may help researchers better understand how to manipulate small particle assemblies found in fluids such as water or organic solvents (e.g., ethanol).

Paint, for example, contains suspended colloidal particles. If such particles become unstable, they clump and cause the paint to thicken substantially, limiting the product's shelf life. By using the nanoparticle haloing approach, the behavior and structure of materials in fluids can be controlled.

Conducted under a grant from NASA's Office of Biological and Physical Research, Washington, DC, the research provides a microgravity or low-gravity environment that enables greater understanding of the fundamental physical and chemical processes associated with materials science as a material is produced. By tailoring the interactions between particles, the researchers can engineer the desired degree of colloidal stability into the mixture—and create designer colloidal fluids, gels, and even crystals. This process will assist in the development of improved materials, such as photonics (materials that control the flow of light).

For more info: <http://colloids.mse.uiuc.edu>;
NASA's Biological and Physical Research Program: <http://spaceresearch.nasa.gov>

**ELECTRONICS**

Power Sought for a New Generation of Mini-Devices

Air Force Research Laboratory (AFRL) Propulsion Directorate scientists are leading the development of microscopic batteries to power micromachines, microelectromechanical, and micro-systems (M³ devices). These



AFRL scientists hope to integrate microbatteries with a micro-recharger to power the smallest of items.

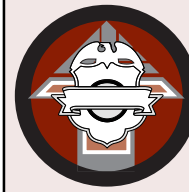
systems are miniature, sometimes microscopic, and can stand alone or be combined to form functional devices.

AFRL scientists are currently working to develop autonomous power supplies by integrating microbatteries and micro-rechargers to provide power or energy storage for future micro devices.

They discovered early in their research that the microbatteries produced the same potential as the macrobatteries; however, the charge capacity (amount of time the battery is useful) is very small. Fearing that users may prefer larger batteries because of the increased charge capacity and dismiss the advantages of M³ batteries, the scientists determined that the solution was to integrate microbatteries with a micro-recharger that could produce power from the environment.

If scientists can integrate microbatteries and micro-rechargers, they could possibly build very small sensors, or micro-rechargers such as photocells, that could convert light energy both indoors and outdoors. Another device could convert energy from motion, such as self-winding watches.

For more info: Kristen Schario, 937-255-3428, kristen.schario@wpafb.af.mil

**LAW ENFORCEMENT**

Lightweight Device Assists in Print Detection

Westinghouse Savannah River Company (WSRC) researchers have developed a small, lightweight, and inexpensive device that enables rapid onsite detection and analysis of fingerprints, footprints, or other latent markings. This hands-free device is designed to allow freedom of movement during use.

The BritePrint™ device comprises an array of light emitting diodes (LEDs), a power source, and a personal attachment device. It is anticipated that most users will prefer to attach the device to a headband, although the device may be attached elsewhere by conventional means such as belt pouches, pockets, or backpacks. The power source (a 6-volt battery or a 4 D-cell battery pack) also may be worn on any part of the body.

In addition to facilitating fingerprint detection in lighted indoor settings, the portable BritePrint device enables latent prints in any remote or outdoor environment to be detected without the benefit of sunlight or other light sources. The high intensity, wavelength-specific light source provided by the BritePrint Device causes a dye to fluoresce and allows fingerprints to be detected by the human eye when light-filtering goggles are worn. Illuminated prints also may be captured by a video camera or other optical scanning device with a colored lens.

The LED illumination device allows the user to direct radiated light onto a particular surface area with latent fingerprints at the same time as applying dye to the surface area, steps that previously had to be performed separately. The lightweight light source may be detached and easily held at arm's length to radiate light onto hard-to-reach surfaces, shortening the detection process and allowing a more thorough investigation.

For more info: Dale K. Haas, 803-725-4185 or 800-228-3843 **NL**

950 North Kings Highway
Suite 208
Cherry Hill, NJ 08034

NEWSLINK is published eight times per year by the Federal Laboratory Consortium for Technology Transfer (FLC) and the FLC Marketing and Public Relations Committee. Opinions or views expressed in NEWSLINK are those of the contributors and do not necessarily reflect those of the FLC, its officers, or its representatives.

Send articles or address changes to:

NEWSLINK
FLC Management Support Office
950 North Kings Highway
Suite 208
Cherry Hill, NJ 08034
Phone: 856-667-7727 Fax: 856-667-8009
E-mail: flcnews@utrsmail.com
FLC web site: www.federallabs.org

**Upcoming focus issues include:
Environmental and Information
Technologies.**

*** UPDATE YOUR BOOKMARKS ***
www.federallabs.org

PRSRT STD
U.S. POSTAGE
PAID
PERMIT #117
SOUTHEASTERN PA
19399

Address change? Want to be deleted from our mailing list?
Send an e-mail to flcmso@utrsmail.com.



COMING ATTRACTIONS

December 2-5, 2001

National Commercialization Conference
Mobile, AL

This conference brings together law enforcement, technology innovators, and manufacturers to understand the needs and requirements of the law enforcement and corrections communities. Includes networking opportunities, interaction with developers, and the chance to further refine technologies.

Everett Smith, 888-306-5382,
www.oletc.org

February 3-5, 2002

CyberCrime2002
Mashantucket, CT

For geoscience professionals, this show has an anticipated attendance of over 7,000 geology professionals dedicated to the earth, education, and environment. Meet face-to-face with influential and key decisionmakers.

Brenda Martinez, 800-472-1988,
bmartinez@geosociety.org

March 4-7, 2002

Society of Automotive Engineers Congress
Detroit, MI

The largest OE service, parts and components exhibition in the world, this meeting offers an in-depth technical program containing more than 1,200 presentations in five specialty conferences: Safety; Emissions/Environmental Control; Electronics/Intelligent Vehicles; Materials; and Powertrain. Each specialty conference is the largest technical event of its kind in the world.

www.sae.org/congress/

March 12-15, 2002

BIOITWORLD Conference & Expo
Boston, MA

This event is the first to exclusively showcase how information technologies are transforming the life sciences throughout the discovery and development processes.

www.bioitworld.com

March 18-21, 2002

National Design & Engineering Show
Chicago, IL

This show addresses the needs of the \$770 billion design engineering market. One thousand exhibitors feature all the latest tools, components and materials used in mechanical and electromechanical design and product development.

www.manufacturingweek.com

May 6-10, 2002

FLC 2002 National Meeting
Little Rock, AR

With a theme of "Moving Forward with the FLC," this meeting should be the biggest and best yet! Basic and advanced training is offered, focusing on tech transfer processes and offering new ways to conduct tech transfer. Includes the 2002 FLC Awards for Excellence in Technology Transfer.

Sherry Nacci, 856-667-7727,
www.federallabs.org; snacci@utrsmail.com