FAR WEST BULLETIN
Spring 2007 www.flc-fw.org
Federal Laboratory Consortium for Technology Transfer

NASA, Virgin Galactic, to Explore Future Cooperation

NASA Ames Hosts a New Public-Private Partnership

MOFFETT FIELD, Calif. - NASA officials signed a memorandum of understanding Tuesday, February 21, 2007 with a U.S. company, Virgin Galactic, LLC, to explore the potential for collaborations on the development of space suits, heat shields for spaceships, hybrid rocket motors and hypersonic vehicles capable of traveling five or more times the speed of sound.

Under the terms of the memorandum, NASA Ames Research Center, located in California's Silicon Valley, and Virgin Galactic LLC, a U.S.-based subsidiary of Sir Richard Branson's Virgin Group, will explore possible collaborations in several technical areas employing capabilities and facilities of NASA's Ames Research Center.

"As we constantly seek to build upon the advances made by explorers who have come before us, we now embark upon an exciting time in space exploration history that realizes the unlimited opportunities presented by a commercial space economy," said Shana Dale, NASA's deputy administrator. "By encouraging such potential collaborations, NASA supports the development of greater commercial collaboration and applications that will serve to strengthen and enhance the future benefits of space exploration for all of mankind."

Dale is a longtime supporter of commercial space development. As the former staff director of the U.S. House of Representatives Subcommittee on Space and Aeronautics, she was instrumental in the passage of the Commercial Space Act of 1998. This legislation encourages commercial space development in a variety of areas, including launch vehicles, the

From left, NASA Deputy Administrator Shana Dale, Alex Tai, Chief Operating Officer for Virgin Galactic LLC, and S. Pete Worden, director of NASA Ames Research Center

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From the Regional Coordinator's Desk
Stephen Lieberman

Steve Lieberman, FW Regional Coordinator, and Ida Shum, Deputy Coordinator, showing the FW Regional Awards plaques.

The FLC is gearing up for its national meeting May 15-18, 2007 in Arlington, TX (part of the greater Dallas TX area) in conjunction with the World's Best Technologies Showcase. The Far West will have a regional break out session on Wednesday, May 16 from 3:00 - 4:30pm. We have much to discuss and I hope you will be able to join us.

Fiscal year 2007 has been, and will continue to be a very interesting year, bringing about many changes and challenges for those of us in the science & technology (S&T) community. With the exception of the DoD and DHS, federal agencies are operating under a continuing resolution that provides mostly flat funding at FY-2006 levels for the remainder of FY-2007.

The FLC is looking at ways to adapt to these tighter S&T budgets, while improving services to suit the needs of federal laboratories and their clients. The Far West Region also wants to adapt to this new environment, and I

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Laboratory Update

Idaho National Laboratory Celebrates Two Years

It has now been two years since the Department of Energy restructured the Idaho National Engineering and Environmental Laboratory (INEEL) to the Idaho National Laboratory (INL). This was much more than a simple change of names. Missions and directions were changed, creating an environment of a new laboratory.

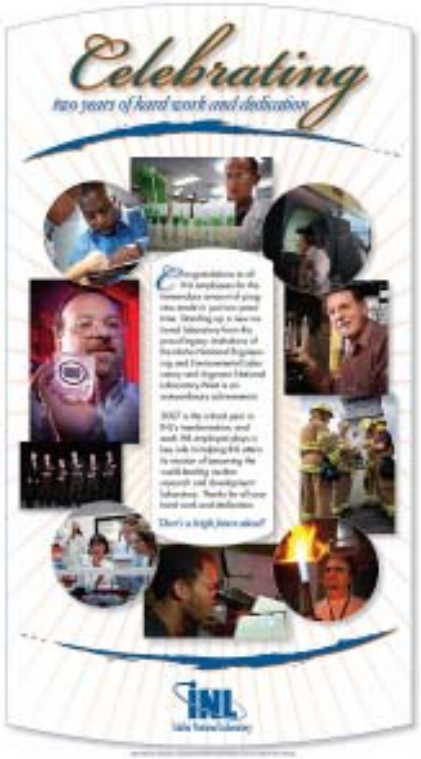
In these two years, INL has quickly gotten up to speed, and this year researchers the laboratory delivered one of their most productive years ever, earning four R&D 100 Awards, a NASA Nano-50 Award, three Federal Laboratory Consortium - Far West Region awards, two Idaho Innovation awards, and was a finalist for the 2006 Platts Global Energy Awards in the Commercial Technology category. Also, INL's 11th Annual Honors Banquet celebrated a banner year of performance with 61 patents by 117 inventors, more than $1M in fees for 51 licenses, $37M in 18 cooperative research agreements, and $271M in work for others.

"The results speak for themselves. Our INL researchers have delivered a banner year of scientific inquiry, technology development and recognition. In fact, Battelle and the laboratories it manages earned a total of 17 R&D 100 Awards this year, which is most impressive," said INL Laboratory Director John Grossenbacher.

One INL R&D 100 winner also earned the Nano50 Award from the NanoTech Briefs organization. In its second year, this award recognizes technology advancements conducted at the nanotechnology level. The Nano-Composite Arsenic Sorbent (N-CAS) was selected for this award because this nano-engineered composite removes arsenic from drinking water effectively, efficiently and affordably.

"We hope that our long-lasting, high-capacity nano-composite polymer will help deliver safe drinking water to Americans and people around the world. The exceptional recognition for our team's success is very motivating," said Troy Tranter, research team leader.

Contact: Ida Schum - 208-526-0744



Continued from page 1: ***NASA***

International Space Station and the acquisition of space and Earth science data.

"This understanding with Virgin Galactic affords NASA an opportunity to work with an emerging company in the commercial human space transportation industry to support the agency's exploration, science and aeronautics mission goals," said S. Pete Worden, director of NASA Ames Research Center. "Our location in California's Silicon Valley provides a dynamic research and development platform for future potential collaborations with other such companies in support of a robust commercial space industry."

"We are excited to be working with NASA and look forward to future collaborations in exploration and space travel," said Alex Tai, vice president of operations for Virgin Galactic.

The agreement with Virgin Galactic was negotiated through NASA's Space Portal, a newly formed organization in the NASA Research Park at Ames, which seeks to engage new opportunities for NASA to promote the development of the commercial space economy.

"This new type of private-public partnership can benefit the agency while helping to foster a new industry," said Dan Coughlin, NASA's lead for the Virgin Galactic agreement.

The memorandum of understanding will be in effect for two years and stipulates that neither NASA nor Virgin Galactic will be required to pay any fees or provide funds to support the areas of possible collaboration.

For information about NASA programs, please visit:

www.nasa.gov/home/hqnews/2007/feb/in_Galactic.html

Economic Development

Far West Works to Bring SBIR and T^2 Closer Together

The fields of SBIR and federal technology transfer are worlds apart even though they are somewhat related. Both share the principle to stimulate the economy and increase American competitiveness from the utilization and commercialization of federally funded research and development.

Now the FLC Far West is working with the laboratories, agencies and state intermediaries to bring their SBIR and technology transfer divisions closer together. This includes a focus on testing and evaluation that is often the forgotten part of RDT&E. The availability of federal laboratories unique resources can also be an important contribution to both the private and public sectors involved in innovation research and development.

SBIR Award Winners in the Far West Region - 2005

State	Phase 1 Awd	Phase 1 Dollars	Phase 2 Awd	Phase 2 Dollars	Total Awards	Total Dollars
California	815	$91,062,713	372	$294,906,606	1187	$385,969,320
Washington	83	$10,058,644	44	$33,031,488	127	$43,090,132
Oregon	40	$4,374,664	30	$22,739,862	70	$27,114,526
Hawaii	17	$2,385,954	6	$3,475,365	23	$5,861,319
Idaho	12	$1,072,245	9	$4,439,835	21	$5,512,080
Nevada	13	$1,266,326	6	$3,503,914	19	$4,770,240
Alaska	3	$345,600	1	$296,000	4	$641,600
Far West Total	**983**	**$110,566,146**	**468**	**$362,393,070**	**1451**	**$472,959,217**

The SBIR's economic impact is huge and the Far West states are important participants. California is by far, the largest SBIR award winning state in the nation, but other far west states are successful as well.

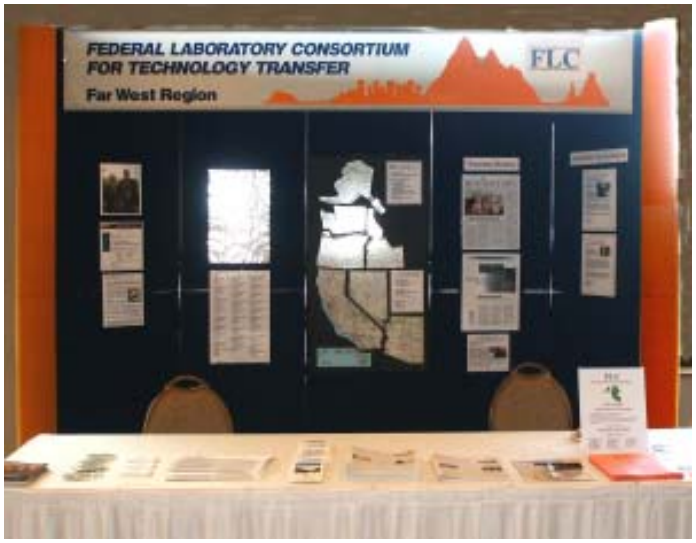
SBIR provides early stage high risk funding to small businesses performing innovative research and development in topic areas of interest to the eleven sponsoring federal agencies. Unlike SBIR, federal laboratory technology transfer provides no funding to the commercial enterprise, but it does make opportunities available for licensing federal technologies and/or providing an environment for cooperative research and development agreements (CRADAs). Under the proper circumstances, these two programs can work together to leverage each other's resources to improve the chances of successful outcomes.

There are fundamental challenges in bringing tech transfer and SBIR professionals together. They speak different languages, have different missions, offices and programs all of which keep these professionals so busy that they have little time to learn about each others activities. Also there are programmatic policy directives that produce hurdles to the partnering of federal laboratories with the small business in an SBIR project.

All of these challenges can be overcome with education and exposure to procedures for reducing these hurdles. For more than a decade, the FLC Far West region has been leading the way in presenting laboratory resources to the small businesses in the SBIR community. This has been accomplished by having display booths and being presenters and hosting one-on-one tables at the National SBIR Conferences held throughout the U.S. This effort provided an outreach mechanism to the small businesses.

The SBIR program is due to sunset in FY-2008 and there is activity on the hill to update and reauthorize it. Although it is a popular program on the hill, it faces tough competition with tight budgets and special interests. In spite of good outside organizational proponents, and support on the hill, the SBIR program barely survived in its 2000 reauthorization. It should not be taken for granted that reauthorization is assured.

In the mean time the FLC Far West Region will continue to support the SBIR program and work with state and local governments, partnership intermediaries and other organizations to help raise awareness of the federal laboratory assets available to the small business sector.



FLC Far West Display Booth at an SBIR Conference

With Help From CCAT and Techlink

NFESC Technology and XDD Offers Promising Toxic Clean-up Potential

Most people don't think of the Navy or the DoD in environmentally friendly terms. But there actually are a good deal of environmental concerns and programs within DoD, and the Naval Facilities Engineering Service Center (NFESC) in Port Hueneme, CA is the home of several of these important environmental programs.

In the early 80's, the EPA created the "Superfund" federal cleanup program that identified 114 top-priority hazardous waste sites targeted for action under Superfund. This program used public and private organizations to help remediate these sites and address other environmental concerns.

A private sector company, Xpert Design and Diagnostics (XDD) was established in 1997 in Stratham, NH with a focus on environmental solutions and EPA Superfund needs. Prior to Co-founding XDD, Mike Marley had met Andrew Drucker, an environmental engineer at the Navy NFESC at a 1996 workshop in Las Vegas, and learned of NFESC's environmental resources.

Several years later Drucker contacted Marley to discuss the Adjustable Depth Air Sparging (ADAS) system his laboratory was developing.

Air sparging is a cleanup method that injects contaminant-free air into soils and groundwater contaminated with petroleum products and/or chemical solvents. Unlike conventional air sparging system, the ADAS system can be adjusted without heavy equipment. Conventional air sparging systems typically utilize wells that are fixed at one sparge area depth (or screen length) of only two to three feet, so air is injected at a single depth and a drill rig is required when depth adjustments are needed. ADAS offers a major advantage since it can be manually raised and lowered in the well without the time and expense of using a drill rig for needed adjustments.

A New Jersey Superfund site offered some special challenges making it difficult for air to permeate the area.

Demonstration of ADAS Air Sparging Technology

Several rounds of adjustments were made to the sparging wells in order to provide complete remediation. This meant the drill rig got more than its usual workout, driving up costs - in this case, costs financed by federal taxpayer money. XDD's idea to utilize the ADAS system seemed the perfect solution to the challenges presented at the site and the site seemed a perfect place to test it.

XDD wanted to license and test the technology from the NFESC, and turned to Techlink, a DoD partnership intermediary, for assistance in the licensing process. In addition to the licensing, XDD realized that they also needed resources to fund the testing of the ADAS system and they needed them quickly, since the New Jersey Superfund site was close to total remediation.

Drucker and his boss, Kurt Buehler, suggested working with the Center for Commercialization of Advanced Technology (CCAT). Like TechLink, CCAT is supported by the DoD and administered out of a public university (in this case, San Diego State University and Cal State, San Bernardino). CCAT seeks out commercially viable technologies engineered by government laboratories, small entrepreneurs and academic researchers to award funding, business planning and commercialization services. NFESC applied for funding from CCAT to finance the ADAS testing in the summer of 2005.

CCAT, would be able to provide money to the Center and XDD quickly. This was critical since the site was deemed "ideal" and by the start of 2006, the remediation was nearly done. The ADAS had to be installed quickly in order to produce any usable data and CCAT reacted quickly: At the same time the license agreement concluded in September 2005, the NFESC and XDD learned that CCAT had approved a request for $10,000 to be used for the test process.

In February 2006, XDD set up one well using the ADAS system for one month of testing to gather field-verified data and performance. The report for the test results was completed in the summer of that year. The report noted that the equipment outperformed

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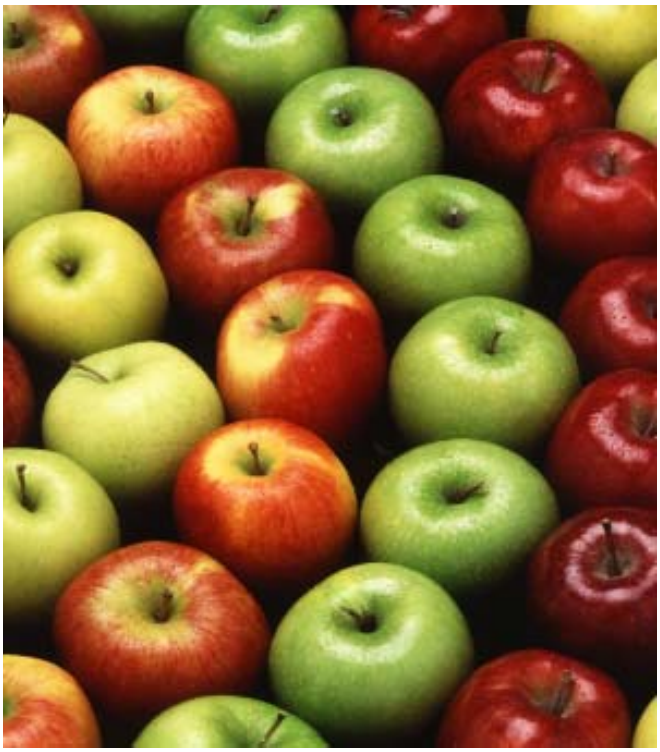
Technology Transfer Awards

ARS Honors Technology Transfer Winners Both Awardees are from Pacific West Area

The USDA's Agricultural Research Service (ARS), presented top technology transfer honors to two Pacific West Area researchers. Horticulturist Dr. David W. Ramming of the ARS San Joaquin Valley Agricultural Sciences Center near Parlier, CA and plant physiologist Dr. James P. Mattheis of the ARS Tree Fruit Research Laboratory at Wenatchee, WA, each won ARS' highest technology-transfer award. Ramming and Mattheis were honored at the ARS annual awards ceremony held on March 6, 2007 at USDA headquarters in Washington, DC.

"The award acknowledges the scientists' outstanding efforts to move their research out of the laboratory and into the marketplace," said ARS Administrator Edward B. Knipling.

Dr. Ramming pioneered the use of a sophisticated laboratory technique known as embryo rescue to nurture the vulnerable, undersized embryos of experimental seedless grapes into strong, new plants. Ramming and his team are based at the ARS San Joaquin Valley Agricultural Sciences Center near Parlier, Calif.



Dr. Mattheis' work helped to develop a new approach to safeguarding the flavor and texture of stored apples.

Horticulturist David Ramming examines clusters of one of the many luscious grape varieties developed by the grape-breeding team he heads at the San Joaquin Valley Agricultural Sciences Center in Parlier, CA.

"Dr. Ramming's expertise has resulted in popular new varieties of delicious red, white and black seedless grapes for fresh-market sale," Knipling said. "Many of the grapes ripen at times of the year when other, U.S.-grown seedless grapes aren't available."

Dr. Mattheis work helped to develop a new approach to safeguarding the flavor and texture of stored apples. Mattheis directs investigations at the ARS Tree Fruit Research Laboratory at Wenatchee, WA.

"Dr. Mattheis spearheaded studies that have reduced the use of fungicides previously needed to protect stored apples from rots and other problems," said Knipling. "At the same time, Dr. Mattheis' research has enabled growers to better protect the flavor and texture of stored apples-including those that, with typical storage treatments, could lose their appeal all too soon."

The Pacific West Area (PWA) is one of eight ARS Areas located in the major farm and rangeland ecosystems throughout the United States and overseas.

The PWA consists of 26 research locations and work sites distributed among eight states, Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, and Washington.

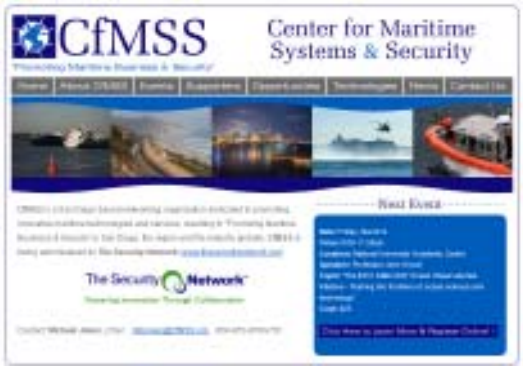
Visit the ARS Pacific West web site at:

www.ars.usda.gov/main/site_main.htm?modecode=53-00-00-00

Federal Technologies Wanted

Center for Maritime Systems and Security Seeks Partnerships with Federal Laboratories

The Center for Maritime Systems and Security (CfMSS) [http://www.cfmss.org] is looking for technologies from Federal Laboratories that are applicable to the maritime industry and available for licensing. CfMSS is a San Diego-based networking organization dedicated to promoting innovative maritime technologies and services, resulting in "Promoting Maritime Business & Security" in San Diego, the region and the industry globally.



Visit the CfMSS web site at: www.cfmss.org

CfMSS offers two vehicles for communicating the licensing opportunities for government developed technologies to its membership: 1) in person presentations by the developer or Technology Transfer officer at monthly meetings and/or 2) posting of Commercialization Opportunities on the CfMSS web site "Technology to License" page.

CfMSS is a public-private partnership composed of academia, government, universities and industry whose missions are to develop and enhance capabilities to secure the maritime domain in support of the strategic objectives of the National Strategy for Maritime Security, and to identify and promote innovative maritime technologies, services and educational programs to further the responsible and sustainable use of oceans. Two significant goals of CfMSS are: 1) to promote strong economic growth of the maritime industry in San Diego, the region and the industry globally; and 2) to promote the creation of innovative maritime technologies for security and non-security applications above and below the waterline.

Dr. Stephen Lieberman, ORTA from the Navy's Space and Naval Warfare Systems Center, San Diego (SPAWAR SSC San Diego) is assisting the CfMSS in their mission.

If you are interested in presenting one or more of your licensing opportunities at an upcoming meeting of the CfMSS or would like to post information on your maritime technologies on the CfMSS web site please contact Dr. Lieberman at submissions@cfmss.org.

If you have general questions about CfMSS, please contact:

Mr. Michael Jones
CfMSS Chair
858-455-8760x761
mbjones@CfMSS.org

Continued from page 1: ***From the Regional Coordinator's Desk***

hope you will help us in this effort by offering your thoughts and ideas on how we can serve you and the federal technology better.

The Far West region continues to lead the way in bringing the small business community (1 to 500 employee entities) closer to the federal technology world. A major part of our effort is by continuing to support the National SBIR / STTR conferences, and providing assistance and guidance to small businesses wanting to partner with federal laboratories on SBIR and STTR opportunities.

To give you an idea of the economic magnitude on the S&T economy, consider the following: In FY-2005, small businesses in the state of California alone received 1187 SBIR and STTR awards for a total of $386 million in grants and contracts. The entire Far West region has garnered more than $500 million in SBIR/STTR awards in FY-05.

One of my goals is to enhance our relationships with state and local economic development organizations. This includes better utilization of partnership intermediaries, and academia in marketing our laboratory opportunities.

I have been working with our regional support contractor to build a web based Far West Federal Technology Mall and Resource Center to help in our marketing efforts. We will work closely with the labs and their marketing departments, not just for patents and licensing, but also unique facilities, technical assistance, work for others, and CRADA opportunities. We want to include our state and local partners in this process, and this will be a work in progress for several months.

The FLC will be holding elections this spring for the positions of national chair and vice chair. Mr. Ed Linsenmeyer will be stepping down from his role of FLC Chair after many years of dedicated service to the FLC. He will continue to be the laboratory representative for the Naval Surface Warfare Center in Panama City, Florida.

I'll look forward to hearing from you.

Steve Lieberman - 619-553-2778

Technology Mall

Lawrence Livermore Seeks Partners for Commercialization of Technologies

Real-Time Gamma-Ray Signature Identifier:

Description - Identification of nuclides measured by gamma-ray spectrometry is traditionally done by identifying the peaks in the unknown spectrum. This identification usually starts with some sort of peak curve fitting. Compton scattering of some gamma-rays causes count data to spread beyond the peak locations to the continuum. This Compton scattered part of the gamma-ray spectrum contains information about the radioactive source and the gamma-ray detector. Shielded sources frequently contain more counts in the continuum than in the peaks, making identification difficult. Ideally, we want to use all available information to best conclude what an unknown source was without requiring knowledge of any shielding.

Analyzing both the peaks and continuum is a full spectrum analysis. Automating this process to run unattended on a computer is challenging because of a limited ability to model all the relevant physics for all possible sources and shields.

LLNL has developed an approach for full spectrum analysis that uses little computer time, analyzes the full gamma-ray spectrum and can be adjusted to address numerous identification objectives.

Companies interested in commercializing LLNL's real-time gamma-ray signature identifier should provide a written statement of interest that includes a description of corporate capabilities relevant to commercializing the technology.

Contact:
Catherine Elizondo
LLNL Business Development Executive
(925) 422-0801
www.llnl.gov/IPandC

Aggregate Spray For Air Particulate (ASAP):

LLNL is offering the opportunity to license a new tool for Homeland Security and Department of Defense efforts to reduce or eliminate potential personal exposure to terrorist-related biological and "dirty bomb" weapon particulates. This will assist emergency responders and aid in protecting public health.

Background - This invention was conceived in response to the events that occurred between October 2 and November 2, 2001 when letters containing a powdered form of B. anthracis were mailed through the United States Postal Service resulting in the contamination of government and private facilities (US EPA 2002). According to government specialists, the geographic scope of the incidents was increased by the cross-contamination of mail. In bringing affected buildings back into service, reaerosolization of these bioaerosols occurred due to particle dynamics and the airflow patterns in the buildings and in the building ventilation systems that required multiple decontamination efforts (NIOSH 2002). The developing terrorist threat of "dirty bombs" expanded the products' focus to these hazardous particulate.

Applications - Responders to a suspect hazardous material in a populated area will be able to isolate and contain the material while it is fully evaluated. For explosive events, whether in the public arena or on the battlefield, returning quickly and efficiently back to full operations would be greatly aided with this product. Addressing the impetus for this invention, the decontamination and return to a normal mode of operations for affected areas can be achieved more quickly, safely, and in a cost-effective manner.

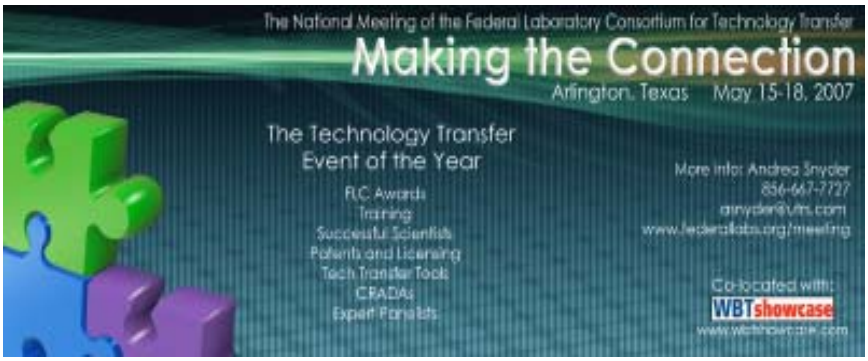
Contact:
Annemarie Meike
LLNL Business Development Executive
(925) 422-3735

Continued from page 4: ***NFESC Technology***

conventional sparging wells from both a cost and time standpoint.

The partnering of the NFESC's technology with licensing assistance by Techlink, and funding assistance by CCAT, allowed XDD to secure the technology perform the needed tests. The successful tests now insure that the ADAS technology will continue to be used by the company as it carries on its mission to provide the best strategic solutions for environmentally compromised property.

FLC National Meeting May 15-18, 2007
Arlington, Texas



Complete details are available on the FLC web site at

www.federallabs.org

Calendar

April 30 - May 3, 2007
National SBIR Conference
Research Triangle Park, NC
*919-962-8297 * John Ujvari*
www.sbtdc.org/sbir

May 1 - 2, 2007
2007 Venture Forum
San Francisco, CA
*213-765-4833 * Abigail Pohlman*
www.theventureforum.com

May 15 - 18, 2007
FLC National Conference
Arlington,TX
*856-667-7727 * Andrea Snyder*
www.federallabs.org

September 2007
FLC Far West Regional Meeting
San Diego, CA
*360-582-9106 * info@zyn.com*
www.flc-fw.org

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Send material for consideration to the FLC Far West Support Office at the above address. If you would like this publication sent to any of your local or State organizations/agencies, please send the names and mailing addresses of their points of contact to the Regional Support Office.

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