FLC
April/May 2003

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FLC NEWSLINK

Federal Laboratory Consortium for Technology Transfer
The Only Government-wide Forum for Technology Transfer

T² Events

BIO 2003
Annual Convention
Washington, D.C.
June 22-25, 2003

•

FLC Southeast
Regional Meeting
Charleston, S.C.
Sept. 17-19, 2003

•

Technologies for Public Safety & Critical Incident Response Expo
St. Louis, Mo.
Sept. 23-25, 2003

•

FLC Northeast/Midwest
Joint Reg. Meeting
New York, N.Y.
Oct. 1-3, 2003

•

International Biotech & Infotech Summit East
Washington D.C.
Oct. 20-21, 2003

•

CMMI
Technology Conference
Denver, Colo.
Nov. 17-20, 2003

Go to:
<www.federallabs.org>
for a complete calendar of events

T² Fact

In the 1890's, George Thomas photographed people acting out the song "The Little Lost Child". The photographic slides were than projected in a theater while musicians played and sang along. Thomas' creation is considered the first music video.
- Public Broadcasting Service

Inside

Check out FLC NewsLink online
www.federallabs.org

New Leadership Takes Charge

The 2003 FLC national meeting in Tucson, Ariz. became election headquarters the National Nominations Committee Chair **Debra Covey** announced the results for the Chair, Vice-Chair, and three Members-at-Large positions on May 8.

FLC Vice-Chair Ed Linsenmeyer delivers his members-first campaign speech in Tucson, Ariz.

The FLC general membership elected **Ed Linsenmeyer** of the **Naval Surface Warfare Center - Coastal Systems Station** to replace outgoing Chair Ann Rydalch.

Larry Dickens of **Oak Ridge National Laboratory** (ORNL) will fill the Vice-Chair position vacated by Linsenmeyer.

After graduating from the Illinois Institute of Technology with a B.S. in physics, Linsenmeyer then attended the University of Florida, where he was a John C. Slater graduate research fellow on the Quantum Theory Project, a joint program with Uppsala University, Sweden. After obtaining a master's degree and being admitted to a Ph.D. candidacy, he taught at Santa Fe Community College, Gainesville, Fla.

Linsenmeyer has been active in the DOD Technology Transfer Integrated Project Team (TTIPT), serving as a member of the planning committee and as a lecturer on CRADAs. As a Navy ORTA, he has led the team revising the Navy's Standard CRADA and developing the Navy CRADA Handbook.

For the last decade, Ed has served as the manager of the Coastal Systems Station Office of Research and Technology Applications. He has held a variety of FLC offices, including Program Chair, Member-at-Large, Southeast Regional and Deputy Regional Coordinator, and his current position as Vice-Chair. The FLC has recognized Linsenmeyer's service by awarding him both the regional and national FLC Laboratory Representative of the Year Award.

ORNL's Larry Dickens promises to be a T² multiplier.

See New Leadership, page 4

Livermore, SECA Energize the Future

by Emmeline Chen

For a growing number of power generators and users, fuel cells are the key to the nation's energy future. Clean, quiet, efficient, and compact, fuel cells generate electricity through chemistry—instead of combustion.

As they become more widely used, fuel cells promise to help reduce global warming, air pollution, and U.S. dependence on foreign oil. No wonder, then, that interest in the advanced development and commercialization of fuel cells is at an all-time high.

Much of this interest is focused on four types of fuel cells—solid oxide, proton exchange membrane, molten carbonate, and alkaline. A major impediment to commercialization is the manufacturing cost. In the case of solid-oxide fuel cells (SOFCs), high manufacturing, or fabrication, costs translate into capital costs that run upwards of $5,000 per kilowatt. In comparison, energy produced by conventional power plants has a capital cost of about $500 per kilowatt.

Primarily because of these high costs, the Department of Energy formed the Solid State Energy Conversion Alliance (SECA) in 1999 to accelerate the development and commercialization of SOFCs. The alliance is helping researchers discover ways to both lower fabrication costs and increase power density, that is, the power generated per area of fuel cell.

As a committed developer of fuel cell technology, the Applied Energy Technologies Program at **Lawrence Livermore National Laboratory's (LLNL)** Energy and Environment Directorate is helping SECA to reach

Lawrence Livermore National Laboratory materials science researcher Quoc Pham at work in the laboratory optimizing the solid-oxide fuel cell.

See Livermore, page 4

Federal Labs Face a Variety of Challenges, Officials Say

by Neil MacDonald
Federal Technology Watch

Top officials at some of the nation's leading federal laboratories engaged in technology transfer activities admitted last week that they face challenges on several fronts—revised personnel structures, outsourcing, possible closure of military research facilities—as well as constrained federal budgets.

Tom Barton of DOE's Ames Laboratory, Brian Simmons of the Army's Aberdeen Proving Ground, and Jim Zarzycki of the Army's Edgewood Chemical Biological Center took part in a panel at the FLC's national meeting on May 6-8 in Tucson, Ariz.

How might lab directors become advocates for tech transfer, asked

See Lab Challenges , page 5

Lab in the Limelight

SANDIA Embraces Biotech Future

SNL researcher Mike Sinclair designed the Hyperspectral Microarray Scanner for Microarray Analysis to scan glass slides containing DNA.

The DOE's Sandia National Laboratories (SNL) is expanding its work in biotechnology — combining traditional inorganic sciences with biology — to push scientific discovery and development into such areas as the creation of new materials and to help in America's war on terrorism.

"The same way computers dominated the past 20 years, biology is going to dominate this new century like nothing else will. How can Sandia not go into biology?" said Bill Camp, SNL Director of Computers, Computation, Information & Math Center.

Biotechnology — the coming together of traditional inorganic sciences of physics, engineering, and chemistry with biology — is making new and complex types of research possible. Sensors, computing, nanoscience, robotics and materials science are all benefiting from the

See Lab in Limelight, page 4

Fed Labs Flash

Technology Transfer Notes from Within the Federal Laboratory Community

Edgewood Breaks Ground for $38M Advanced Chem Lab

On May 9, 2003, the **Edgewood Chemical Biological Center** (ECBC) held a groundbreaking ceremony for its new Advanced Chemistry Lab. U.S. Sen. Paul Sarbanes (D-Md.) attended the event and spoke in support of the project.

Michael Parker, from the U.S. Army Research Development and Engineering Command (Provisional), and **Jim Zarzycki**, ECBC technical director, also addressed the crowd of more than 100 public officials, ECBC employees and Army representatives.

"ECBC has contributed greatly to making our world a safer place. Our experts are called upon by our military, our homeland defenders, and our international allies," said Zarzycki. "The Advanced Chemistry Lab will allow us to continue our work at an even higher level."

ACS Honors Propellant Chemist

Dr Karl O. Christe

Dr. Karl O. Christe has been presented the American Chemical Society's 2003 Inorganic Chemistry Award. ACS awards which recognize individual accomplishments in diverse fields of chemistry, are renowned throughout the scientific world. Christe is a research chemist and senior staff advisor at the **Air Force Research Laboratory**'s (AFRL) Edwards Research Site.

Christe was nominated for the award based on his lifetime achievements in chemistry. Described by his colleagues as an unusually creative, imaginative, and highly skilled chemist, he has tackled some of the most difficult and challenging synthesis problems in chemistry. Funded by the Defense Advanced Research Projects Agency and the Air Force Office of Scientific Research, Christe's studies are identified as High Energy Density Matter (HEDM).

Cold Regions Lab Partners to Test Composite Materials

The **U.S. Army Engineer Research and Development Center**'s (ERDC) **Cold Regions Research and Engineering Laboratory** (CRREL) in Hanover, N.H., has entered into a CRADA with the University of New Orleans, La. (UNO).

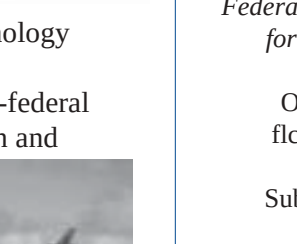
Currently in a separate program, UNO is partnering with Lockheed Martin and **NASA** to address basic research focus area needs for cryogenic structures to operate in extremely cold temperatures. Polymer composite materials are increasingly being considered by NASA for cryogenic applications in multiple launch re-entry vehicles. The primary concern for composites used in a space environment is the premature brittle failure of containers made of lightweight composites that will contain cryogenic fuels.

"In order to tap into CRREL's expertise on the behavior of composites at low temperature, the University of New Orleans has signed a cooperative research and development agreement with our research laboratory," said **Dr. Piyush Dutta**. "The aim of this partnership is to jointly develop new testing methods that can predict the structural integrity of composites at cryogenic-level temperatures."

MOU Signed by FLC & MFC

by Neil Macdonald

A Memorandum of Understanding (MOU) between the FLC and the Metropolitan Fire Chiefs has been signed. The MOU, which commits the FLC and MFC to "cooperatively help transition to the private sector federally funded technologies that can improve fire fighting safety," was signed recently by FLC chair **Ann Rydalch** and MFC chairman **Chief Mario Trevino**.



A primary objective of the MOU is to bring the relevant expertise of each party to address the potential of federally funded technologies.

Lab Work

FAA T² Joins Office of Knowledge Management

The **Federal Aviation Administration's** Technology Transfer Program has found a new home in the Technical Center's Office of Knowledge Management (ACK). This agency program, established by congressional legislation, provides a unique opportunity for the private sector to more fully optimize the research capabilities and products of federal laboratories.

The ACK explores, evaluates, and establishes policies that will lead to new technical opportunities and avenues for the Technical Center to embrace. The office establishes and implements the Center direction and policies for intellectual property and technology transfer (T^2), and facilitates knowledge-sharing.

Dennis Filler
ACK Program Director

"The William J. Hughes Technical Center is the FAA's premier research laboratory with a vision of being internationally recognized as the leader in shaping aviation's future," said **Dennis Filler**, Chief Scientist for Technology and ACK Program Director. "This heightened focus on technology transfer will enhance the technical center's opportunities to be just that."

The CRADA is the key vehicle the agency uses to collaborate with non-federal partners to conduct specific research and development (R&D) efforts consistent with its T^2 goals.

These programs provide many benefits to all involved parties, including collaborative research; licensing of patent rights and other intellectual property protections that provide royalty income for the laboratory and the inventors; reduced costs by leveraging investments during all stages of R&D; employee exchanges; and awards to the inventors.

Deborah Germak is the Technology Transfer Program Manager. Deborah formerly had been the Technical Center's Contracts Branch Manager.

"We have numerous CRADAs and SBIR contracts covering collaborative research on a multitude of subjects," said Germak. "We are very proud of our successes in researching many new initiatives and in patenting several inventions resulting from our technology transfer efforts."

Deborah looks forward to more exciting new opportunities to use the program to generate effective products for researchers and the general public alike.

More info: Deborah Germak, (609) 485-6320, or <deborah.germak@faa.gov>

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FLC Management Support Office
950 North Kings Highway
Suite 208
Cherry Hill, NJ 08034
Phone: (856) 667-7727
Fax: (856) 667-8009

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Tech Watch

Federal Laboratory Technologies Ready for Transfer

Medical

If Fake, Don't Take

The artemisinin class of antimalarial drugs has become an essential component in the treatment of multi drug-resistant malaria. This family of drugs is derived from the natural product artemisinin and includes artesunate, artemether, and dihydroartemisinin.

Recent reports have confirmed an alarming prevalence of counterfeit and substandard artesunate, primarily in less developed countries. The impact of these spurious drugs on public health has prompted **Michael Green** at the **U.S. Centers for Disease Control and Prevention** (CDC) to develop a simple and inexpensive test to quickly determine drug authenticity for artesunate as well as artemether and dihydroartemisinin. About 5% of the tablet is transferred to a small tube containing acid. After about one hour, the solution is buffered and Fast Red TR salt (FRTR) is added.

If artesunate, artemether or dihydroartemisinin is present, a distinct yellow color appears. Details of the assay are reported by Green, et al., in *Tropical Medicine and International Health 6*, 980-982 (2001).

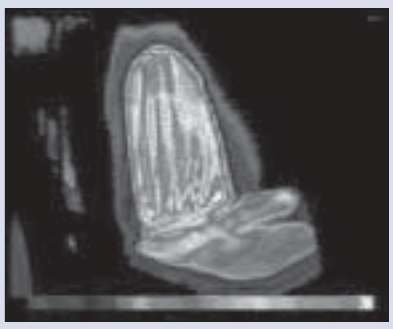
A similar method specific for artesunate involves exposing the active ingredient to a base before adding FRTR. This technique has been reported by Green, et al., in the *Journal of Pharmaceutical and Biomedical Analysis 24*, 65-70 (2000).

These methods are specific and require minimal use of reagents. Simple kits can easily be developed for use in the field.
This patent pending technology is available for licensing from CDC's Technology Transfer Office.
More info: www.cdc.gov/od/ads/techtran/index.htm

Energy

Cool Cars & Hot Rods

The **National Renewable Energy Laboratory**'s (NREL) center for Transportation Technologies and Systems developed various technologies to cool automobiles and generate power from heat sources with the desired results of increasing vehicle efficiency, reducing tailpipe emissions, lowering auxiliary load requirements, and improving passenger comfort.



NREL uses infrared technology to test temperature levels of its temperature-controlled seats.

Additional technical information is available on the DOE web site.

The automotive cooling technologies are covered by U.S. patent No. 6,186,886 and several invention disclosures.

This technology is the subject of invention disclosures and will require a non-disclosure agreement (NDA) to be put in place prior to reviewing the invention disclosures.

NREL's Photovoltaic sunroof

More info: Contact the NREL Technology Transfer Team at 303-275-3015, 303-275-3040 (fax) or <technology_transfer@nrel.gov>

Imaging

Compress to Impress

NASA seeks companies to commercialize its Optimized Image Compression (DCTune) technology.

DCTune is a computer software that significantly improves digital image compression. NASA **Ames Research Center** now seeks a development partner to license this technology and take it to market.

The DCTune quantization matrix is compatible with industry compression, standards for digital image compression such as JPEG, MPEG and CCITT H.261.

From cable TV to high-speed copiers, a wide array of today's electronic imaging products utilize the power of digital imaging. DCTune, significantly improves compression efficiencies for pictures and videos.

Potential commercial uses include editing, storage and transmission of x-ray, MRI and other medical images; multimedia over the Internet; cable TV; advanced television; HDTV; still or motion pictures.

The technology can be used in digital copiers, scanners, digital facsimile machines, digital still cameras, digital video cameras, and personal communications services

NASA currently seeks to license the DCTune technology to U.S. companies interested in developing commercial applications.

The technology is described in U.S. patent 5,426,512 and 5,692,780 entitled "Image Data Compression Having Minimum Perceptual Error."

More info: NASA Ames Research Commercial Technology Office, 650-604-1754

Proven to Work

Think Small When Powering Today's Electronic Soldier

Pacific Northwest National Laboratory's (PNNL) revolutionary microscale fuel processor, which consolidates several chemical processes and operations into one package, is considered the smallest integrated catalytic fuel reformer in the world.

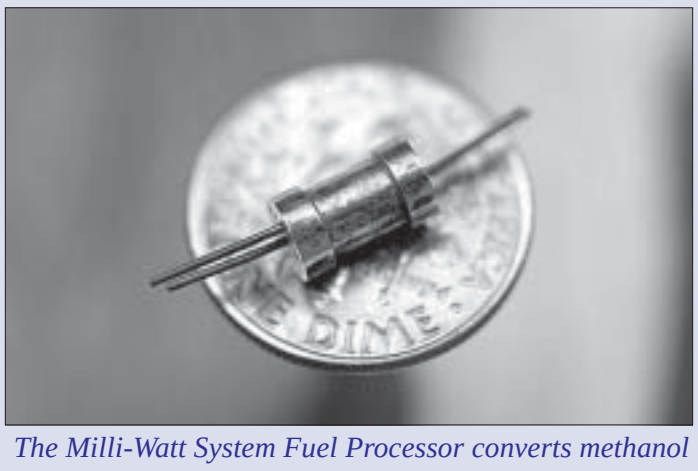
On the battlefield, having a reliable source of power to operate the many advanced electronic devices a soldier carries is essential. But today's heavy and cumbersome batteries fall short in satisfying the military's needs. In search of both a lightweight and a reliable alternative, PNNL has developed the smallest power system yet, all wrapped up in a micro-sized package.

PNNL researchers, with funding from the Defense Advanced Research Projects Agency, have developed the world's smallest catalytic fuel processing reactor system to provide a low-watt power source for hand-held wireless equipment, sensors and other small but essential devices required by today's troops.

The petite power system — about the size of a cigarette lighter — converts liquid fuel to electricity via a microscale fuel processor coupled with a microscale fuel cell developed by Case Western Reserve University in Ohio.

An integral part of the system is PNNL's revolutionary fuel reformer, about the size of a pencil eraser, which enables the system to convert fuel and water into hydrogen-rich gas.

The fuel cell then generates electricity by converting hydrogen and oxygen from the air into electrical power and clean water.



The Milli-Watt System Fuel Processor converts methanol into hydrogen and carbon dioxide and can be used in very small fuel cells to generate electric power. It is the smallest integrated catalytic fuel reformer in the world.

"Our miniaturized fuel processor incorporates several chemical processes and operations in one device," said **Evan Jones**, PNNL principal investigator. The fuel processor system contains two vaporizers, a heat exchanger, a catalytic combustor and a steam reformer, all within a compact package no larger than a dime.

When the systems is ready for final deployment, the military envisions many useful applications for this emerging miniaturized, energy-generating technology. According to **Terry Doherty**, director of PNNL's Department of Defense programs, soldiers could power personal, lightweight cooling systems while wearing protective suits and gear, prolonging their own comfort and efficiency during reconnaissance.

"Vital personal communications devices could function for extended periods without the added weight of bulky, inefficient batteries," Doherty said. He added that miniature sensors powered by the same technology could be scattered before advancing troops to monitor ground vibrations or detect dangerous toxic agents and relay this information electronically to soldiers. This technology broadens the possibilities for using self-sustaining items such as mobile devices in remote or difficult-to-access locations.

Testing has revealed that performance from the reformer and fuel cell prototype is impressive. "This system can produce an equivalent power (20 mW) to batteries, but at one-third the weight," Jones said.

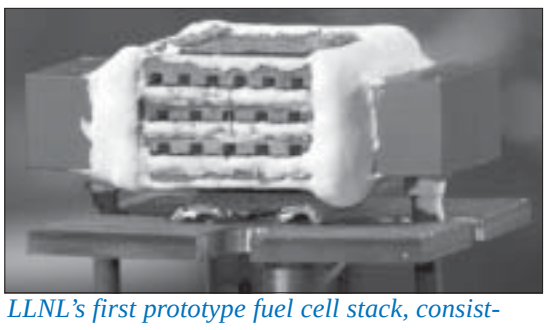
More info: 1-888-375-PNNL or <inquiry@pnl.gov>.

Livermore *from page 1*

its goal.

Why Solid-Oxide Fuel Cells?

SOFCs are particularly attractive because they have the highest efficiencies of any conventional fuel cell design and the potential to use many fuels—including gasoline and diesel—without expensive external reformers that create more volatile chemicals. SOFCs can operate at high temperatures, producing high-grade waste heat, or exhaust, which can be recovered and used for other applications, such as space heating and cooling, supplying homes with hot water, and even generating extra electricity by spinning a gas turbine linked to the unit. For the military, SOFCs offer the possibility of delivering quiet, clean, and uninterruptible energy to armed forces stationed in remote locations.



LLNL's first prototype fuel cell stack, consisting of three solid-oxide fuel cells, set a record for stack power density.

Before SOFCs can be fully commercialized, however, several technological breakthroughs are needed. A team of LLNL researchers led by materials scientist Quoc Pham is working to address the key technological challenges. Under Laboratory Directed Research and Development (LDRD) funding since 1998, the team has pursued the development of low-cost, high-power-density SOFCs that operate at temperatures below 800°C. The team's focus is developing low-cost thin-film processing techniques and optimizing materials and design to increase power density.

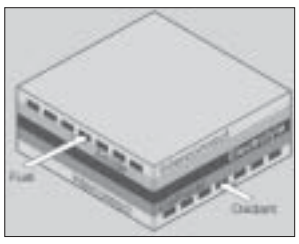
The initial challenge for Pham and his team was to lower the SOFC's operating temperature without compromising the power density. The researchers first made the electrolyte layer thinner, thereby lowering the amount of resistive energy lost during operation and increasing the efficiency. The team developed a low-cost, thin-film deposition technique called colloidal spray composition, which has since been patented. This simple technique produces high-quality thin films ranging from one to several hundred micrometers thick.

Tackling Current Challenges

Although the team has addressed many SOFC issues, major materials science challenges are preventing the commercialization of planar SOFCs. "The planar fuel cell is a difficult design because of sealing problems," says Pham. The biggest challenge is separating the air from the fuel, which requires that the edges of the ceramic plate be sealed.

Partnering for the Future

Once the remaining materials science problems are resolved, the team plans to construct and demonstrate a 100-watt, high-power-density SOFC, followed by construction of 500- and 1,000-watt prototypes. "After that, we can say we've solved the materials science issues, and our task evolves into an engineering project," said Pham.



Solid-oxide fuel cell

The team has secured several sources of funding, including support from DOE's Fossil Energy Program. The LLNL technology is being licensed to Solid Oxide Systems, LLC (SOX), a private startup company that is matching the CEC funding with a goal of demonstrating a 10-kilowatt system. By partnering with SOX, Pham and his colleagues hope to achieve the long-sought goal of commercializing solid-oxide fuel cell technology and fulfilling the promise of clean, highly efficient electric power at an affordable cost.

Lab in the Limelight *from page 1*

influx of biotech into their worlds, just as the biological sciences are advancing from new interfaces with the physical and engineering sciences.

SNL's focus on biotech started about three years ago when Al Romig, SNL Vice President for Science & Technology and Partnerships, and Mim John, Vice President for the California Laboratory, began advocating that Sandia expand research efforts in the new field. They felt that SNL could have an even a greater impact on keeping the United States safe by adding biology to the science and technology base at SNL for nuclear weapons and other purposes.

"I knew as far back as the early 1990s that biotech was going to explode," John said. "It became apparent that if SNL didn't go into biotech, we were going to be left behind." Romig adds that Sandia had a "clear mission driver" for pursuing biotech — countering bioterrorism and biowarfare.

"We knew that long before 9/11. And we have a lot of intrinsic strengths that make us a competitive biotech player — sensors, electronics, mathematical algorithms, and computational ability. It only makes sense that we do this."

SNL researcher Paul Gourley examines the photomask used to microfabricate the biocavity microlaser flow device.

A dime-sized biocavity microlaser, connected to tubes that aspirate brain cells in fluid, may aid patients by detecting cancer cells during surgery.

A second part of the vision, Romig said, is the bio/nano/info interface. "I am very excited about how bio will be a key enabler of nano and lead to new materials and devices." Romig said. "To stay at the cutting edge of nanoscience, materials science and micro/nano devices we MUST invest in bio."

In 2001 a biotechnology portfolio was established as part of an internally funded program, called Laboratory Directed Research and Development (LDRD) program, to provide "seed" funding.

Biotechnology investment is about 5 percent of Sandia's research budget. This fiscal year about $21 million of SNL $1.7 billion annual budget is devoted to biotech projects.

"We will be working in the 'sweet spots' in physical and bio areas where we have expertise and where there is the greatest need," Romig said. "This will have direct and major impact on our bioterrorisim efforts and will also have important medical spinoffs."

More Info: Chris Burroughs, coburro@sandia.gov, (505) 844-0948

New Leadership *from page 1*

A 1973 graduate of North Carolina State University, newly-elected Vice-Chair Larry Dickens has a B.S. in Engineering Operations and an M.S. in Business Administration from Boston University.

Dickens has dedicated much of his career at ORNL to moving technologies from the laboratory to viable commercialization.

Relationships, teamwork, and consensus describe Larry's management style. As a T^2 professional at ORNL, Larry has been involved in all aspects of commercialization, from coordinating technology assessments, to negotiating licenses and cooperative R&D agreements, to assisting entrepreneurs to form new business ventures.

He is responsible for executing the largest patent license in ORNL history and last year negotiated a $121 million CRADA with $25 million funds-in.

The FLC is also a beneficiary of Larry's inclusive, team-building management style. He has served as ORNL's FLC Representative since 1999, and is completing a two-year term on the FLC Executive Board. He also serves as the Southeast's Deputy Regional Coordinator.

The newly elected Members-at-Large are **Terry Lynch** of the **National Institute of Standards and Technology** (NIST); **Carolyn MacMillan** of the **NASA Marshall Space Flight Center** (MSFC); and **Jana Smith** of the **Rocky Mountain Oilfield Testing Center** (RMOTC).

Terry Lynch

Responsible for negotiating licenses to NIST inventions, CRADAs, facility use agreements, and commercial assessment of intramural inventions; advising the scientific staff on commercial relationships; and contributing to technology transfer policy development, Terry Lynch has served as manager of the NIST SBIR Program and as a member of the Institutional Review Board on research involving human subjects since 1993.

Carolyn McMillan serves as the senior partnership project manager for MSFC Space Act Agreements and was the ISO implementation lead for partnerships.

An authority on promoting, facilitating and negotiating MSFC Space Act Agreement partnerships, Carolyn is the MSFC representative for all DOD interagency agreements. Her innovative approach to program management has afforded a strategically focused program aimed at helping MSFC's product lines meet their mission objectives.

Carolyn MacMillan

A Business Development Specialist for RMOTC, Jana Smith began her career in technology transfer in 1984 at the DOE's principal petroleum research facility in Bartlesville, Okla. She has contributed to the successful transfer of technology for use in the oil and gas industry.

Jana Smith

As former chair of the FLC's Marketing & Public Relations Committee, Smith oversaw activities to promote the successful transfer of technology developed by the FLC's member organizations.

Inside the FLC

Nurture Technology Transfer, Likins Says

by Teya Vitu,
The Tucson Citizen

There is no grand plan in America's high-technology research community — a melange of government laboratories, for profit and nonprofit companies, public and private universities.

"It's typical of our culture that things just grow," University of Arizona (UA) President **Peter Likins** said. "At universities, things just happen. There is a whole array of players that interact in a magical way. We move ideas very rapidly. It's an American phenomenon."

That may have created the Internet, e-mail, cell phones and any other high-tech gadget that has become commonplace in just the past few years.

Peter Likins
UA President

But that spontaneous approach also creates a problem. Banks are reluctant to finance such research, and state governments in recent decades have scaled back university funding, forcing schools to rely more on federal grants and private donations.

The federal government invests $122.5 billion a year in research development according to Likins.

"That's a lot of money," he said. "It's fair for people to ask what's the return on investment. That premise that government should be involved in research is sometimes challenged. What we do needs to be justified these days." Also, universities and national laboratories nationwide have yet to master the art of technology transfer. Tech transfer is taking university research and transferring it into the private sector to create companies or innovations for existing companies, resulting in revenue for universities from spinoff fees or licensing agreements.

Likins spoke at the FLC's annual meeting at the Hilton Tucson El Conquistador Golf & Tennis Resort, which attracted 238 people from the 711 national labs across the country. Two national laboratories are in Arizona: the **Army**

See Nurture T², page 6

FLC National Meeting, A T² Extravaganza

Technology transfer shined as bright as the stars blanketing the Tucson desert during the 2003 FLC national meeting, May 5-9, 2003.

Nearly 300 T² professionals, scientists, and engineers filled Tucson's Hilton El Conquistador Hotel for a week of T² training, honors, networking, and exploration.

Below are some of the highlights...stayed tuned for news on next year's meeting in sunny San Diego, Calif.!

FLC Northeast/Midwest Joint Regional Meeting

New York, N.Y. October 1-3,2003

T² Training • T² Awards • Networking

FLC Southeast Regional Meeting

Charleston, S.C. September 17-19, 2003

Business Development & Commercialization and the Role of Federal Laboratories, Industry, and Academia

Lab Challenges *from page 1*

Lab Directors Panel *- From left: Jim Zarzycki of the Army's Edgewood Chemical Biological Center, Brian Simmons of the Army's Aberdeen Proving Grounds, Tom Barton of Ames Laboratory, and FLC NAC Chair Ric Trotta*

moderator and FLC National Advisory Council chair Ric Trotta.

"They're not going to spend much time on it, that's for sure," Barton said. "I really believe what you want are for lab directors to be knowledgeable about FLC and supporters of its [tech transfer] activities in their labs." "Everybody is spending too much time chasing money," he said. "But that's probably always going to be true. Right now everyone is trying to figure out how the Department of Homeland Security might fund them!" Funding for small science is in a decline, in part Barton believes, due to "a natural inclination" to fund research that uses big instruments like a collider or cyclotron.

"Since the anthrax incident after 9/11, our tech transfer program has exploded," said Jim Zarzycki. "Sometimes it's just good to be lucky and our organization was in the right place to meet the surging demand. In my opinion, there's a benefit to the lab director if the lab is in tech-transfer because you really can prove the value of your organization all the time," he said.

"Edgewood is just completing celebration of its 85th anniversary," Zarzycki explained. "We've been active since World War I and as a result our troops are the best protected in the world to fight, survive, and win in a chemical or biological conflict." The lab works on non-medical CBW defense, such as detectors and protective equipment." An important part of my role is supporting people who destroy chemical stockpiles," Zarzycki said, "including Iraqi chemical weapons that were found in the early 1990s. With tremendous awareness now of chemical and biological threats, the lab has been much more engaged in tech transfer because of that," Zarzycki said.

"We did a couple of smart things a few years ago, one being an [organizational] commitment to become a bigger player in tech transfer. We organized ourselves to do that and have become pretty aggressive," he said. "We're now showing some significant successes with increased Cooperative R&D Agreements (CRADAs), patent license agreements, and test support agreements. We're all under pressure from things like BRAC, all kinds of realignment or downsizing of the infrastructure. The question is always asked 'What have you done?' I think as lab director I'm better served by being able to stand up and not just talk about my specific mission, but be able to make the case that I'm doing some very important things for the overall national good and that largely applies to tech transfer," Zarzycki explained. Barton and Zarzycki both got FLC awards for T² achievements at their labs, and Simmons received one in 2002.

ETC...

Nurture T² from page 5

Electronic Proving Ground at Fort Huachuca and the **Army Yuma Proving Ground**.

The consortium trains people who work at national laboratories in the details of creating and protecting patents, which are the means to transferring technology to the private sector.

A lot of people don't understand what that means," said **Victor A. Chavez**, a consortium ExecutiveBboard member and manager of regional and small business partnering at **Sandia National Laboratories** in Albuquerque, N.M.

"The focus of this meeting is what tech transfer is and what mechanisms are available and how to utilize them. The main thing is to have the proper tools to effectively implement tech transfer policy and create successful tech transfers."

The Arizona Legislature is considering a bill that would allow the state's three universities to take an equity position in companies formed from university research, a practice currently prohibited by the Arizona constitution but permitted in other states.

Pennsylvania and San Diego have seen their economies transform, in large part because of state investment in research, Likins said. "Arizona has been much more reluctant to invest in university research.

In Arizona, we're just going through a period of transition," Likins said. "Government investment must precede private investment if you are going to transform the economy."

We're blessed that our governor is a believer," he said of Janet Napolitano. "She's been very supportive.

Along with the tech transfer bill, the Arizona legislature may also consider a bill to reimburse universities up to $400 million for research facilities they want to build."

We find ourselves in a struggle to convince legislators that the state should commit to debt service in research infrastructure," Likins said. "The bill says they will pay starting in 2008. We have to bridge the gap to '08."

Greg Raupp, associate vice president for research at Arizona State University (ASU), said ASU is focusing on strategic investment in research facilities, such as the Arizona Biodesign Institute, which breaks ground next week.

UA has its own multi-disciplinary facility in the works: the Institute for Biomedical Science and Biotechnology. UA ranks No. 14 among American universities in federal research grants at $367 million for the current year.

FLC in Korea

On January 24, the FLC story was presented to technology transfer professionals in the International Technology Transfer and Commercialization Seminar hosted by the Korean Technology Transfer Association (KTTA) in Seoul, South Korea.

The presentation, developed by FLC Chair Ann Rydalch, was delivered by **Terry A. Young**, a member of the FLC National Advisory Council.

Former president of the Association of University Technology Managers and current Assistant Vice Chancellor for Technology Transfer at the Texas A&M University system, Young conducted a T² workshop. The workshop was cosponsored by The Institute of Information Technology Assessment, The Electronics and Telecommunications Research Institute, and the Korea Institute of Science & Technology Information.

T² professionals in Korea formed a professional association — the Korean Technology Transfer Association — on February 29, 2000. The current president of KTTA is **Dr. Young-Duck Lee**, Ph.D, Professor of International Technology Management, Chungnam National University, Daejeon, Korea.

The Association includes in its membership national research laboratories, universities, and private R&D organizations.

More info: Terry Young at <t-young@tamu.edu>; Dr. Young-Duck Lee at <younglee@cnu.ac.kr>, or Hyesoon Jeong, Director of the Technology Transfer and Evaluation Department, Korea Institute of Science & Technology Information, at <hanseunglee@hanmail.net>

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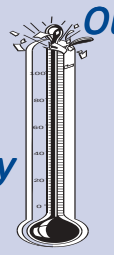

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