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Title: FLC Nomination: The Los Alamos National Security
Venture Acceleration Fund

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Intended for: Federal Laboratory Consortium award nomination

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THE 2013 FLC MID-CONTINENT REGION ANNUAL AWARDS PROGRAM

Award Criteria

1. Regional Laboratory Award

- Presented to the management of a Mid-Continent member laboratory or facility that has provided exceptional support and encouragement to the transfer of federal technologies to the private sector
- Such support and encouragement must have provided tangible benefit to the private sector and to the general public
- The award will be based on contributions during the current calendar year.

2. Regional Partnership Award

- Presented to an American-owned company, a non-federal entity, or a university in the Mid-Continent Region to recognize outstanding efforts to promote technology transfer between federal government facilities and the private or public sectors
- Definition of one or more specific transfers of technology would benefit the nomination but are not essential
- The award will be based on contributions during the current calendar year

3. Regional Laboratory Representative of the Year Award

- Presented to a designated FLC Representative or Alternate from the Mid-Continent Region.
- The nominee must have made significant contributions in one or more of the following areas:
 - Innovative developments in technology transfer that are applicable to other member laboratories or facilities
 - Outreach to a new and viable FLC Mid-Continent user group
 - Leadership in regional FLC programs and initiatives
- The award will be based on contributions during the current calendar year
- The nominee may not have received the same award within the past three years

4. Notable Technology Development Awards

- Problem it solves and benefits;
- Markets and consumers;
- Partnerships formed; Patents filed or to be filed;
- Technology does not have to be transferred to be eligible for nomination.
- Action shown has to have occurred within the last three calendar years.

5. Excellence in Technology Transfer: *Criterion mimics national FLC award criteria in this category.*

A. Description of Technology Transferred

1. Describe the technology transferred, including advantages, benefits, and other relevant features (10 points)
2. Who or what was the recipient of the transferred technology, and when did the transfer take place? (5 points)

B. The Technology Transfer Story

1. How and by whom was the partnership for the technology initiated? (5 points)
2. What were the specific roles, goals, objectives, and expectations of each partner? (10 points)
3. What technology transfer mechanisms, resources, and/or activities were used to transfer the technology? (25 points).

C. Key Contributions to the Technology Transfer

1. Describe each nominated team member's role in the technology transfer, including any innovation or creativity demonstrated by team members in transferring the technology. (20 points)

D. Outcomes of the Technology Transfer

1. What was the result of the technology transfer effort? (10 points)
2. Describe how this technology transfer effort met the mission requirements of your laboratory. (10 points).
3. How well were the goals and expectations of the partners met? (5 points)

6. Notable State & Local Government Collaboration (NEW!!)

- Must demonstrate a successful partnership between state or local governments and federal laboratories for regional economic benefit.
- Must demonstrate partnership with federal laboratories as key in creating technology-based regional economic development.

7. STEM Mentorship Award

- Given to an individual who may or may not be a direct employee of a government laboratory or facility in the Mid-Continent Region, but has demonstrated exceptional character, mentorship, and creativity in the areas of science and math or by promoting the development of young people in grades K-12 or higher in technical career fields.
- Contributions must be unique and show measurable benefit to the laboratory, school system/students and must have occurred within the past three calendar years.

Important Note: This year, extra consideration will be given to any award write-up that used unique and creative marketing designs in its implementation. Question? Call Ann, 870-241-3382 or alkerksieck@totaltechnologyinc.net or alkerksieck@gmail.com.

Mid-Continent's Past Winners (2012 – 2007)

2012

Outstanding Laboratory Award

NASA Johnson Space Center

Outstanding STEM Mentorship Award

- Casey DeRaad AFRL Phillips Research Site
- Clint Hoffman, USDA ARS, College Station, TX

Excellence in T²

- Smartphone Apps - USDA-ARS
- Black Silicon Nanocatalytic Wet-Chemical Etch With Liquid Phase Passivation, NREL & Natcore Tech. Inc.
- CO₂ETM Enabled Geothermal Energy, LANL
- Enhancing Virtual Pain Software, Ames Lab
- Crystalline Silico-Titanates, SNL &, UOP, (Honeywell Co.)

Notable Technology Development Award

- USDA ARS "Poultry Litter Subsurfer"
- Biomimetic Membranes for water filtration, SNL
- Hazardous Device Utility Tools, LANL
- RoboGlove – NASA JSC and General Motors
- Massive Heat Transfer Experiment (MHTEX) and VADER, AFRL

2011

Outstanding Lab Rep

1. Carriann McDonough, NREL

Regional Partnership

1. STC.UNM—Sandia National Laboratories Partnership

Outstanding Laboratory

1. USDA Poisonous Plant Research Lab
2. USDA's Forage and Range Research

STEM

1. USAFA Dr. William Crisler
2. NASA JSC's Rao and Sankaran

Notables

1. Sandia's Gemini-Scout
2. NREL's Black Silicon Ink
3. AFRL's IDASS
4. LANL's MOXIE - World's Fastest Camera
5. NASA Deployable Fresnel Ring
6. AFRL's CHAMP
7. USDA's Range Management Software Systems

Excellence in T²

1. USDA's - Biodegradable molded board products from cotton gin byproducts
2. USDA's Illumina Porcine SNP60 BeadChipTM
3. NREL and Innovalight: Silicon Ink Boosts Quality with Cost Savings
4. NREL and US e-Chromic Accelerate'd Electrochromic Window Technology
5. Sandia National Laboratory Solar Glitter
6. LANL's L-1 Agrosiences

2010

STEM

1. NASA High School Aerospace Scholars
2. Sandia Nat'l Lab - NINE

Excellence in Technology Transfer

1. NREL and Ampulse Corp – Thin Film Silicone
2. Ames Lab – BAM TB Ceramic Composite
3. Sandia – Stingray
4. Los Alamos Nat'l Lab – ROB Biosensor
5. USDA ARS – Rapid Insect Detection System
6. USDA ARS SNARC – Copper Sulfate Use on Catfish Eggs

Regional Partnership

1. Robonaut, NASA & GM

Notable Technology Development

1. AFRL – LOCSET
2. Sandia – Fuel Cell Mobile Light
3. LANL – Superluminol Radar System
4. USDA ARS – Database Emission Levels
5. USDA ARS – Paradigm Predicting Genetic Characteristic in Cattle

2009

Excellence in Technology Transfer

1. *PowerPlane UX Microbattery*- NREL & Planar Energy Dev.
2. *SkyTroughTM Parabolic Trough System* – NREL & SkyFuel
3. *BIOTIC for Managing Irrigation*- USDA ARS
4. *Lead-free Solder*: Ames Lab
5. *SeismicPULSERTM System* - RMOTC
6. *Flash-Bang*- SNL

Distinguished Service – J. R. Chavez - AFRL

Regional Partnership - NM Small Business Assistance (NMSBA)

STEM :

- LANL's Northern NM Math & Science Academy;
- Air Force Research Laboratory
- Ames Laboratory - *Tinkering with Science*

Notable Technology Development

- USAFA- *Ammonia-Hydride Hydrogen Generator & Storage*
- NASA JSC-*Portable Hyperbaric Chamber*
- FEHM: *Finite Element Heat and Mass* - LANL
- SNL - *Sandia Cognitive Framework*
- USDA – ARS *US Meat Animal Research Ctr. - Top Steaks*

2008

Excellence in Technology Transfer

- *Stirling Cycle Generators (RMOTC)*
- *Hybrid CIGS Photovoltaics (NREL)*

Outstanding Lab Rep - Ms. Mary Archuleta, AFRL

Outstanding Partnership Awards

- Midwest Forensics Resource Center
- Hyperacuity Systems & the U.S. Air Force Academy HERS

Notable Technology Development

- *TAKE-OFF (LANL)*
- *Hyperion Power Generation, Inc. (LANL)*
- Grasspea - USDA ARS Grazinglands Research Laboratory
- Active Denial Technology Program – AFRL Energy
- NASA JSC - *Partial Pressure Oxygen Mask*
- Sandia National Laboratories - *TacNet Tracker*©
- Sandia National Laboratories - *Fabricating Tailored Thin Films*

2007

Notable Technology Development Awards:

1. TuffFoam – Sandia
2. RaveGrid: LANL
3. AFRL Junior Force Vehicle Stopper Program

Partnership Award - New Mexico Center for Isotopes in Medicine

Excellence in Technology Transfer

1. Sequoia Technologies AFRL
2. ElectroNeedleTM Biomedical Sensor Array - Sandia
3. WillowStick Technologies, LLC & DOE's RMOTC

Distinguished Service - John Jack James, NASA

Laboratory Representative of the Year: Cal Thorson, USDA NRPRL

Outstanding Lab – Ames Laboratory

THE 2013 FLC MID-CONTINENT REGION ANNUAL AWARDS

Nomination Form

Please note the specific criteria for the nominated award.

I nominate the following individual, technology, or organization for the following award (please ✓):

- | | |
|--|--|
| <input type="checkbox"/> Regional Laboratory Award | <input type="checkbox"/> Regional Partnership Award |
| <input type="checkbox"/> Representative of the Year Award | <input type="checkbox"/> STEM Mentorship Award |
| <input type="checkbox"/> Notable Technology Development Award | <input type="checkbox"/> Excellence in Technology Transfer
<i>Mimics FLC national</i> |
| <input checked="" type="checkbox"/> Notable State & Local Government Collaboration | |

Nomination submitted by Jacqueline A. Shen

Affiliation Marketing & Communications Executive at Los Alamos National Laboratory – Technology Transfer Division

Phone (505) 665-1358 FAX (505) 665-1325 E-mail jshen@lanl.gov

Nominee's Name The Los Alamos National Security Venture Acceleration Fund

Affiliation Los Alamos National Laboratory and the Regional Development Corporation

Laboratory Director/CEO or Point of Contact Belinda Snyder T# (505) 667-9896

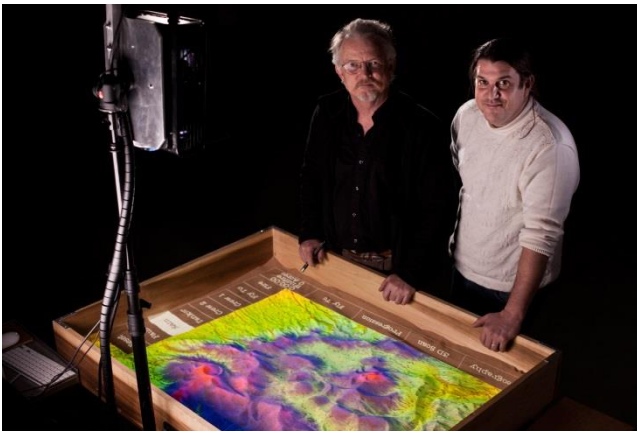
Basis for the nomination. Summarize in space below. Up to two additional pages of written justification may be appended. Total nomination should not exceed an additional two pages. Times Roman 10 pt or equivalent, 1 ½ line spaced. Artwork, photographs are required and are not included in the page count. Pay close attention to page count and photo/artwork requirement – must be met to be eligible for consideration. Submissions must be available in Microsoft Word.

Los Alamos National Security, LLC (LANS), the manager of Los Alamos National Laboratory (LANL or the Laboratory), invests \$1 million per year in economic development through a program known as Los Alamos Connect, formerly Northern New Mexico Connect. Administered by the Santa Fe, New Mexico-based, nonprofit economic development organization Regional Development Corporation in partnership with the Laboratory's Technology Transfer Division (TT), Los Alamos Connect offers a variety of business development services and activities to assist entrepreneurs and businesses in northern New Mexico at no cost.

One of the most successful activities is the LANS Venture Acceleration Fund (VAF). The LANS VAF was established in 2006 to help Northern New Mexico companies commercialize technology and take it to market faster. Companies in New Mexico at any stage of development are eligible to apply, although start-ups and early stage companies are the most common LANS VAF recipients. Laboratory scientists or employees may also apply for LANS VAF if they have a license for the technology they plan to commercialize and are approved by the Laboratory to participate in such outside activity. The program is managed out of TT by program manager Belinda Snyder and regional business development executives Shandra Clow and Kim Sherwood.

To date, LANS VAF has invested a total of \$2.8 million in 39 companies across six counties and has generated an impressive \$24.7 million (9X) return on investment through creating jobs (salaries), generating revenue, and attracting additional financing. Los Alamos County has also supported the fund. "Over the last two years, Los Alamos County has contributed more than \$75,000 in cash and in-kind resources in support of the VAF. We hope to see more communities contributing in the future to support the growth of exciting companies such as the current set of recipients. It's a great partnership," said LANL TT's division leader David Pesiri. In the most recent round of funding in May 2013, VAF awarded \$340,000 to nine local companies—four in Santa Fe, two in Los Alamos,

two in Rio Rancho, and one in Moriarty. Business areas ranged from solar-powered aircraft manufacturing to mobile app development for sports broadcasting to development of a seismo-acoustic system to monitor seismic activity.



LANS VAF has helped New Mexico small businesses, such as the Santa Fe-based SimTable, LLC, in developing their own innovative technologies. SimTable created a new three-dimensional model for wildfire and emergency response training. SimTable projects Google Earth and Geographic Information System data onto a sand surface to create an interactive model that helps predict phenomena such as where a fire is most likely to spread or where traffic will jam during an evacuation.

With VAF support, SimTable improved the user interface for its hardware and software and moved from proof-of-concept to assembly-line production. Chas Curtis of SimTable said, “The support we received from the Venture Acceleration Fund was the single most positive event that has contributed to the success of SimTable. In 2010, prior to receiving the funding from LANS [VAF], we had sold one unit and had total revenues of less than \$20,000. One year later we anticipate total revenues approaching \$500,000 and have hired two new full-time employees.”

Santa Fe-based HydroBio, Inc. utilized LANS VAF funding and several other Los Alamos Connect programs to commercialize their technology. The company utilized expert business coaching and market research assistance provided by Connect, received technical assistance from the Laboratory through the New Mexico Small Business Assistance program to install cybersecurity features in its satellite communication network, and was awarded \$75,000 in funding in 2012 from LANS VAF to complete the development of the interface for their trademarked Targeted Irrigation Management software program, which allows a farmer to direct pivot machines remotely to follow a water schedule customized for specific crops, soils and climates. This enables farmers to precisely monitor and control how much water their mobile center-pivot irrigation machines emit, reducing energy and water costs and boosting yields.



According to HydroBio CEO Bridget Adams, LANS VAF funding was the tipping point for the company. It accelerated the completion of their software development and helped them attract additional funding, including a \$100,000 Phase I grant and \$450,000 Phase II grant from the U.S. Department of Agriculture’s Small Business Innovation Research (SBIR) program to test the technology on thousands of acres of irrigated Texas farm land. “HydroBio is poised to commercialize its product by 2014 after final proof-of-concept testing in the Texas Panhandle this growing season,” Adams said. “Were it not for the involvement of Los Alamos Connect, the central economic development program of Los Alamos National Security LLC and Los Alamos National Laboratory, the project would not be this close to its market debut.”

Deadline for submissions is COB, Wednesday, 17 July 2013. Submissions should be e-mailed to alkerksieck@gmail.com or alkerksieck@totaltechnologyinc.net . If questions or you need assistance, call Ann at 870-241-3382