

Portal al Mercado

"Door to the Marketplace"

Volume IV (Spring 2005)

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STC Staff

Lisa Kuuttilla
President & CEO
kuuttilla@unm.edu/272-7905

Jane Fedor
Director, Life Sciences
jfedor@unm.edu/272-7908

Peter Rachor
Director, Venture Development
prachor@unm.edu/272-7910

Randall Parish
Associate Director,
Software & Media
parish@unm.edu/272-7937

Sophia Bowers
Commercialization Manager,
Engineering & Physical Sciences
sbowers@unm.edu/272-7912

Kyung Salazar
Operations Manager/Controller
kyungs@unm.edu/272-7909

José Garcia
Intellectual Property Coordinator
josefgar@unm.edu/272-7886

Andrea Kemp
Agreements Coordinator
akkemp@unm.edu/272-7974

Gerri Marousek
Executive Assistant
gerrim@unm.edu/272-7900

Mark Horbeck
Computer Systems Administrator
horbeck@unm.edu/272-7890

Office
T: 505-272-7900
F: 505-272-7300
W: stc.unm.edu

For more information, visit
stc.unm.edu/about/staff.php

Message from the President

Welcome to the newsletter from the Science & Technology Corporation @ UNM (STC), the technology commercialization arm of the University of New Mexico. This issue contains information about STC, its services and events, as well as educational material about intellectual property and its management.

Many areas of STC have grown and evolved in the first half of FY2005. Our newly formed Lobo VentureLab is up and running and assisting in the formation of new start-up companies based on UNM technologies. This issue contains an article profiling one of STC's start-up companies, AVANCA Medical Devices, Inc.

A recently released study conducted by the UNM Bureau of Business and Economic Research studied the impacts of STC spin-off companies. BBER found that the eight companies licensed to UNM technologies had a substantive impact on New Mexico. See the article in this issue for more detail.

The first half of FY2005 saw a sharp increase in the number of invention and copyright disclosures, up thirty percent over the same time frame in the previous year.

An important mechanism is being initiated by STC to

directly distribute software and digital media via the web called WolfWare. Look for more details in this issue of the newsletter. Please contact us if you have materials that may be suitable for direct distribution to end users.

We are pleased to welcome Sophia Bowers to STC as Commercialization Manager for Engineering and Physical Sciences. Sophia brings strong industry experience to the position at STC.

For those interested in learning more about the patent process, the article in this issue, "Provisional Application for Patent" will be of interest. Steve Lundberg explains the difference between a provisional and a regular patent application.

We have listed the patents issuing to STC inventors during the period July 1, 2004 through December 31, 2004. Congratulations to our inventors who have patents issuing to them!

Please feel to contact me or other STC staff if you would like to discuss new ideas for commercial potential. As the name of our newsletter indicates, we consider STC to be the Portal al Mercado, or the **Door to the Marketplace!**

Lisa Kuuttilla, *President & CEO*
(kuuttilla@unm.edu/272-7905)

Patents Issued to UNM Inventors (7-1-04 - 12-31-04)

Traction Splint
Patent No. 6,786,882 issued 9/7/04
Slushman, Sam

Quantum Dot Lasers
Patent No. 6,816,525 issued 11/9/04
Lester, Luke F.; Liu, Guangtian; Malloy, Kevin J.;
Newell, Timothy; Stintz, Andreas; Varangis, Petros

Photo-Definable Self-Assembled Materials
Patent No. 6,808,867 issued 10/26/04
Brinker, C. Jeffrey; Doshi, Dhaval; Fan, Hongyou;
Huesing, Nicola; Hurd, Alan

Organoboron Route and Process for Preparation of Boron Nitride
Patent No. 6,824,753 issued 11/30/04
Paine, Robert T.; Kroenke, William J.; Pruss, Eugene

Digital Design Using Selection Operators
Patent No. 6,792,589 issued 9/14/04
Cameron, Eric G.; Whitaker, Sterling R.; Miles,
Lowell H.

Digital Logic Optimization Using Selection Operators
Patent No. 6,779,158 issued 8/17/04
Cameron, Eric G.; Whitaker, Sterling R.; Miles, Lowell H.;
Gambles, Jody W.

Digital Circuit Using Universal Logic Gates
Patent No. 6,779,156 issued 8/17/04
Cameron, Eric G.; Whitaker, Sterling R.; Miles, Lowell H.;
Gambles, Jody W.

Pass-Transistor Very Large Scale Integration
Patent No. 6,829,750 issued 12/7/04
Maki, Gary K.; Bhatia, Prakash R.

Quantum Dot Vertical Cavity Surface Emitting Laser
Patent No. 6,782,021 issued 8/24/04
Stintz, Andreas; Cheng, Julian; Lester, Luke F.; Liu,
Guangtian; Malloy, Kevin J.; Huang, Xiao-Dong

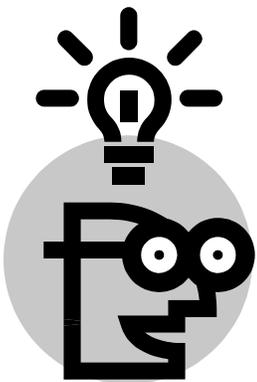
Provisional Application for Patent

Article by Steven W. Lundberg, *Schwegman Lundberg Woessner & Kluth, P.A.*

Since June 8, 1995, the United States Patent and Trademark Office (USPTO) has offered inventors the option of filing a provisional application for patent which was designed to provide a lower-cost first patent filing in the United States and to give U.S. applicants parity with foreign applicants who, prior to the availability of provisional patent filings to U.S. applicants, could achieve a 21-year term vs. the 20-year term available to U.S. applicants filing a regular U.S. application. A provisional application eliminates this disadvantage for U.S. applicants.

A provisional application for patent is a U.S. national application for patent filed in the USPTO under 35 U.S.C. §111(b). It allows filing without a formal patent claim, oath or declaration, or any information disclosure (prior art) statement. It allows the term "Patent Pending" to be applied. It also can be used to establish the effective filing date for a later-filed, follow-up "regular" non-provisional patent application filed under 35 U.S.C. §111(a).

A provisional patent application is not inherently inferior to a regular patent applica-



tion. Quite the opposite, it is in one critical respect superior to a regular application. As suggested above, a provisional application has a potential term of 21 years from the date of filing of the provisional, whereas a regular application has a

potential term of 20 years, barring any special extensions of the term. Therefore, if the term of the patent is of high concern, as is typically the case for pharmaceutical or gene therapy inventions, it should be filed first as a provisional application.

In reality, there are only two critical differences between a provisional application and a regular application. First, as noted, the provisional application allows an applicant the ability to achieve a 21 year term. Second, because a provisional application is not examined, it can be filed with "informalities" that would, if attempted in a regular application, provoke objections from the USPTO. Such informalities may include a poorly formatted specification, the absence of claims, the omission of a

declaration and the absence of a prior art statement. These informalities are most often addressed and rectified if and when the provisional is converted to a regular application.

Notwithstanding the tolerance for informalities in a provisional application, it still needs to meet all the substantive requirements of the patent law. The specification shall disclose the manner and process of making and using the invention, in such full, clear, concise and exact terms as to enable any person skilled in the art to which the invention pertains to make and use the invention and set forth the best mode contemplated for carrying out the invention. See 35 U.S.C. 112, 1st paragraph.

“ The ultimate patent term of any resulting patent may be extended by as much as 12 months. ”

Therefore, the filing of a provisional application is not an excuse to overlook these critical requirements. Enablement requires that a U.S. patent application show one of reasonable skill in the art how to make and use the invention without undue experimentation. The best mode essentially requires that the applicant show the best way they know how to implement the invention, and not only inferior embodiments.

A provisional application for patent (provisional application) has a pendency lasting 12 months from the date the provisional application is filed. **The 12-month pendency period cannot be extended.** Therefore, an applicant who files a provisional application **must** file a corresponding non-provisional application for patent (non-provisional application) during the 12-month pendency period of the provisional application in order to benefit from the earlier filing of the provisional application. In accordance with 35 U.S.C. §119(e), the corresponding non-provisional application must contain or be amended to contain a specific reference to the provisional application.

Thus, by filing a provisional application first, and then filing a corresponding non-provisional application that references

the provisional application within the 12-month provisional application pendency period, the ultimate patent term of any resulting patent may be extended by as much as 12 months.

The later-filed non-provisional application claiming the benefit of the provisional application must include at least one claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as the invention. See 35 U.S.C. 112, 2nd paragraph. Although a claim is not required in a provisional application, the written description and any drawing(s) of the provisional application must adequately support the subject matter claimed in the later filed non-provisional application in order to benefit from the provisional application filing date. Therefore, care should be taken to ensure that the disclosure filed as the provisional application adequately provides a written description of the full scope of the subject matter regarded as the invention and desired to be claimed in the later filed non-provisional application.

To summarize, a provisional patent filing is not inherently inferior to a regular application. In fact, by allowing up to 12 additional months of patent term, it is often the filing form of choice for many applicants including the world's largest corporations. Also, a provisional application, while allowing for informalities in form, still requires adherence to the substantive requirements of patent law, namely enablement and best mode. Further, filing a provisional should not be taken as an excuse for omitting disclosure that may prove essential to the ultimate scope of your patent. This is particularly true for the chemical and bio-tech arts, where the scope of patent coverage is more strongly influenced by the scope of the patent disclosure than as is the case for other areas of technology.

Author's note: Portions of this article were taken from publicly available information found at the U.S. Patent Offices web site: www.uspto.gov.

Steven W. Lundberg is a registered patent attorney and a founding partner of Schwegman, Lundberg, Woessner and Kluth. His practice is focused on patent protection for software, medical and telecommunications technology, and related opinion and licensing matters. Steve received his B.S.E.E. in 1978 from the University of Minnesota, and his law degree from William Mitchell College of Law (J.D., 1982). He has published and spoken widely on software and electronic patent protection, and is active in the Software Publishers Association and the Computer and Electronics Committee of the American Intellectual Property Law Association. He is also co-editor of the treatise "Electronic and Software Patents: Law and Practice", published by BNA Books.

STC Announces New Technology Commercialization Manager, Engineering and Physical Sciences



STC announces the addition of Ms. Sophia Bowers as Technology Commercialization Manager, Engineering and Physical Sciences, effective December 1st, 2004.

Sophia brings eight years of engineering and business experience to her role at STC. Prior to STC Sophia worked for Hewlett-Packard, Agilent Technologies, and Progressive Language, Inc. (an Albuquerque-based start-up). Her expertise includes market analysis, strategy development, test and measurement, and sales. Sophia has a B.S. in Engineering from New Mexico Highlands University and an MBA from the University of California-Berkeley.

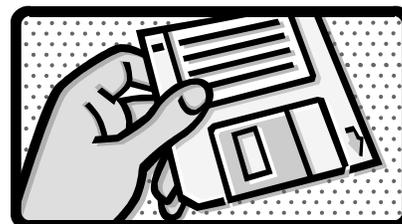
Lisa Kuuttilla, President & CEO, stated, "We are very pleased to have Sophia join STC. Her technical and industrial experiences will support the growth in technology commercialization activities occurring at UNM and STC."

STC Soliciting Software and Digital Media for Web-Based Distribution

STC is soliciting disclosures for WolfWare, a new technology commercialization avenue available to the UNM community. WolfWare is a direct-distribution portal on STC's website, launched in early 2005. The portal enables end-users around the globe to license, purchase, and download copyrighted software and digital media developed at the University. WolfWare is closely integrated with PayPal to ensure convenient, secure, 24/7 transactions.

STC welcomes software and digital media disclosures of any kind. The software can be anything from raw source code to a finished application. A video tutorial and a clinical survey instrument in electronic format are examples of digital media.

The software disclosure form can be found on our Web site at <http://stc.unm.edu/inventors/downloads.php>. After receiving a disclosure, STC will meet with the inventors and determine whether the software/media is best suited for distribution via WolfWare or is better served by one of our other commercialization strategies.



If the WolfWare approach makes sense, we will work closely with the inventors to develop a market-focused summary of the technology, identify potential licensees, and decide upon a pricing plan. STC will then post the code/media on WolfWare and aggressively market it to potential licensees.

All revenues will be shared with inventors pursuant to the UNM intellectual property policy.

UNM's Science & Technology Corporation Is Economic Engine For New Mexico

The University of New Mexico's Science & Technology Corporation is showing promise to be the economic engine for the state that regents envisioned when they founded it in 1995 as a private non-profit corporation to license and commercialize technology developed by researchers at the university. "STC is the springboard our faculty and student researchers need to commercialize new ideas," said UNM President Louis Caldera. "They put the intellectual property of our researchers into the hands of entrepreneurs for development into products."

A review of the STC technology commercialization program conducted by the UNM Bureau of Business and Economic Research shows that STC played a significant role in the development of 12 start-up companies in the physical and life sciences field.

Chairman of the Board Joesph Cecchi says, "An important part of STC's mission is to support UNM's inventive culture to benefit the state of New Mexico. This review clearly demonstrates the significant impact that STC has had on economic development in the region."

STC Website Features

Draft Manuscript/ Grant Application Upload

stc.unm.edu/inventors

Upload your draft manuscript or grant application today for STC to review. We will advise you concerning the patentability of your invention for free.

"My Technologies"

stc.unm.edu/inventors/portal

Log in today and check your inventions' patent status! See activity as it occurs and help us help you. View the marketing efforts being pursued on your inventions in real-time!

The direct impact of STC to the New Mexico economy over the past decade is \$21 million dollars, and the employment of 73 people with an average salary of \$80,000, well above the New Mexico average. Of the 12 start-up companies STC has worked with, 8 remain in the state.

When indirect impacts are added, the total effect is to add \$37 million to the New Mexico economy, resulting in the employment of 143 people. Much of the economic impact comes from the investment of \$12.5 million from outside venture capital in New Mexico companies. The companies have had combined sales of \$8.8 million. STC Chief Executive Officer & President Lisa Kuuttilla says, "The report demonstrates that STC is generating substantial impact for the New Mexico economy, even at a relatively early stage of its program. We expect this to be the beginning of even greater economic impact in New Mexico for the future."



The full report can be found at <http://stc.unm.edu/about/metrics.php>.

Commercialization Seminars

Moving Toward and Into Commercialization and Entrepreneurship: Expectations and Realities

Presented by Dr. Robert Fisher
January 20, 2005 / 12:00pm
Health Sciences Center (exact location TBD)
UNM North Campus

Industry Entrepreneurs Partnering with Faculty for Successful Start-Ups

Presented by Ray Radosevich (Verge Fund)
February 10, 2005 / 12:00pm
Lobo Room B, Third Floor, Student Union Building
UNM Main Campus

Life Science Patents

Presented by Katy Fain (Mays & Fain, LLP)
February 17, 2005 / 12:00pm
Health Sciences Center (exact location TBD)
UNM North Campus

How to Start and Get Funding for a High-Tech Business in New Mexico

Presented by John Dunning (Wasatch Venture Fund)
March 3, 2005 / 12:00pm
Health Sciences Center (exact location TBD)
UNM North Campus

Writing a Meaningful Patent Disclosure

Presented by Dr. Albert León (Bauman, Dow & León, P.C.)
March 24, 2005 / 12:00pm
Lobo Room B, Third Floor, Student Union Building
UNM Main Campus

Box lunches will be provided for all events



Visit our website at stc.unm.edu/news/events.php to register for any of these events!



801 University Blvd., SE, Suite 101
Albuquerque, NM 87106
Tel: 505-272-7900 / Fax: 505-272-7300 / Web: stc.unm.edu

The technology commercialization arm of the University of New Mexico

LOBO VENTURELAB

Accelerating the Process of New Venture Creation

A part of the Science & Technology Corporation @ UNM

Spring 2005 Edition

Lobo VentureLab Looks Ahead to 2005

Having launched the Lobo VentureLab in 2004, STC is now looking forward to expanding its involvement in the University and the community in the coming year. The Lobo VentureLab is committed to launching several additional start-ups from UNM technologies and doing so with the help and cooperation of the many resources in the community available to assist in this process.

First, Science & Technology Corporation @ UNM is in the final stages of entering into Memoranda of Agreements with several seed-stage venture capital firms that are committed to evaluating for funding some of the most commercially promising technologies coming out of UNM. As part of this process, the Lobo VentureLab will form an advisory group, including representatives from these venture capital firms, to assist in quickly identifying technologies that lend themselves to the start-up process and that are likely to be successful in getting a product to market in a reasonable timeframe to create investment interest. This group will also help to link promising technologies with experienced management, investment capital, and strategic alliance partners, kick-starting a company's success. STC will be announcing these MOAs and the advisory group members during the first quarter of 2005.

Second, the Lobo VentureLab will collaborate with MBA students in the Anderson School of Business Management of Technology program to develop detailed business plans and market analyses for technologies in two industries that are key to the State's economic development initiatives: digital media and biotechnology. This marks a new level of cooperation between STC and ASM. This pilot project, which will leverage the strengths and interests of the Anderson School students along with the backgrounds and responsibilities of students and management of the Lobo VentureLab, was made possible by a grant from a leading New Mexico non-profit organization with the goal of developing these important industries in the State, aided by the technical competencies of UNM.

Finally, we are also pursuing a limited number of opportunities to assist those with a University affiliation in the development of start-up opportunities, which may not be directly linked to University research intellectual property. These include students who may have developed an idea unrelated to their field of study but from which they are interested in starting a company. It also includes several alumni and others from the community who have already patented an invention but may need assistance in assessing the market, building a business plan, or determining the viability of the invention as a foundation for a business.

In all of these activities, STC's Lobo VentureLab is contributing to the economic development of New Mexico and to the potential for the University to benefit from the creation of new enterprises based upon research and teachings of UNM.

If you would like to learn more about the Lobo VentureLab, please give us a call. We are anxious to meet with entrepreneurs who are seeking new technologies from which they could potentially found a start-up company here in the community.

By The Numbers

Since its establishment in July 2004, the Lobo VentureLab has:

- Met with 8 faculty inventors interested in exploring a possible start-up based upon technology they have developed at UNM
- Had 21 meetings with outside inventors (community members seeking to commercialize their technology with the assistance of the LVL)
- Met with 5 UNM students or student groups seeking to commercialize their inventions (including several developed within engineering, computer science, or business courses at UNM)
- Had 17 meetings with venture capital firms from the State to present technologies and discuss improved means of collaborating on commercialization
- Met with 12 entrepreneurs from within and outside the State interested in starting a company based upon technologies developed at UNM
- Had 23 meetings with companies who have a license or other collaboration with UNM (or are interested in forming one); 17 of these were with companies in New Mexico
- Had ongoing meetings with TVC, Next Gen, NM Economic Development Department, Digital Media Industries Project, Los Alamos National Lab Technology Transfer Division, Sandia National Labs, and other organizations to explore collaborations leading to start-ups or new alliances with New Mexico companies, based upon UNM technologies

Contact Information

Peter Rachor

Director, Venture Development
505-272-7910/prachor@unm.edu

Lobo VentureLab

505-272-7026

AVANCA Medical Devices, Inc. A Lobo VentureLab Success Story

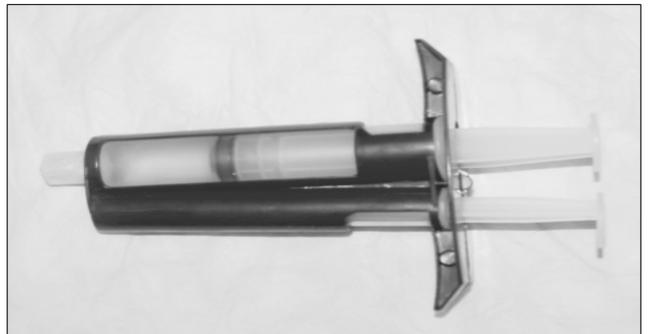
In July, 2004, Science and Technology Corporation @ UNM opened the Lobo VentureLab to support the development of new companies based upon UNM technologies. The Lobo VentureLab, located in the Science & Technology Park, provides a location from which a company getting organized can operate and hold meetings, as well as utilize the support of student interns and STC staff that can assist with market research, business planning and introductions to investment capital. With these resources organized "under one roof," STC expects to increase the number of firms founded as a result of UNM technologies and research.

AVANCA Medical Devices, Inc., a recent spin-out in the medical products area, is a good example of the process utilized by the Lobo VentureLab and the way in which resources are brought together by STC to facilitate this process. Dr. Wilmer Sibbitt, a physician in UNM's Health Sciences Center, had developed several technologies for small medical devices, identified as a result of his own practice as a rheumatologist and internist.

As Dr. Sibbitt disclosed these inventions via UNM's intellectual property protection process, STC pursued patent protection for these devices, including the reciprocating syringe, a device which creates greater stability and reduces risk to patients during certain specialized medical procedures. Though Dr. Sibbitt's devices attracted the attention of industry, he felt that the best means of advancing this technology in the marketplace was to start a company which could control the manufacturing process and influence distribution in the complex medical market.

While Dr. Sibbitt was interested in developing a business, STC encouraged him to do so with the help of an experienced entrepreneur. As STC regularly received inquiries from entrepreneurs, both in and out of New Mexico, STC began to look for someone with the requisite skills and experience to help make Dr. Sibbitt's product into a company. After speaking with several potential entrepreneurs, STC eventually introduced him to Kathleen Kelleher, an experienced business executive in the pharmaceutical and medical devices industries. Through the Lobo VentureLab activities, Kathleen was introduced to several UNM technologies and their inventors, and eventually connected with Dr. Sibbitt and the products developed. They decided to found AVANCA Medical Devices, Inc.

STC then assisted Dr. Sibbitt and Ms. Kelleher in researching the potential market, creating an initial business plan, and introducing them to service providers like lawyers and accountants, as well as potential investors. STC also introduced them to the wide range of additional resources offered by the community to support new technology businesses, including TVC, NMBBA, and flexible technology landlords, such as Science and Technology Park and the Lovelace Respiratory Research Institute. Both of the founders, as well as other investors, provided the initial "pre-seed" capital to launch the company and pay initial expenses. The company was formed and AVANCA (then still unnamed) moved into its first office space at the Science and Technology Park.



Since that time, the company's founders have worked very hard identifying a manufacturer for their first device, developing prototypes and packaging, and continuing to raise money to support the introduction of their first products to the market early this year. They have successfully raised several hundred thousand dollars and are now in discussions with several firms about their "A-round" of venture capital.

Throughout this process, STC's Lobo VentureLab has participated along with them, updating business plans, talking strategies, attending investor meetings, and providing the hard working founders a break at Friday afternoon "wind-downs" with STC staff. STC is very excited about AVANCA's future and is looking forward to the first products hitting the market soon. STC looks forward to continuing to work with exciting UNM technologies and their inventors to launch additional companies and to assist in economic development to the State in terms of jobs and revenues in the coming year.