

B STANFORD TECHNOLOGY BRAINSTORM

THE NEWSLETTER OF STANFORD UNIVERSITY'S OFFICE OF TECHNOLOGY LICENSING (OTL)



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ISSUE

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OTL 1999-2000
Fiscal Year
Numbers

IF

New
Entrepreneurial
Undertakings

OF

IF = Inside Flap
OF = Outside Flap



Special Edition: 2000 In Review

New Millennial Beginnings (at OTL)

During the new millennium's initial year, OTL began initiatives to build better relationships with its clients here at Stanford and in industry, to promote service, and improve OTL's process efficiency.

Surveying the scene

Conceived at OTL in 2000, and soon to be implemented, customer surveys allow inventors and licensees to give OTL feedback at various stages along the technology transfer continuum. Inventors and new licensees will receive an email asking them to complete the survey at the linked OTL web address. OTL will use the information to keep apprised of customer needs and continually improve its

service.

Best of all, inventors and licensees can provide feedback at various stages, and if they include their name, OTL sends a thank you gift each time an individual completes a survey. For instance, participants receive a pen, then a CD holder, then a lunch cooler, then a shirt if they complete surveys at four of the following surveyed stages:

-Inventors:

- Recently met with OTL to discuss newly disclosed invention
- Technology not licensed for a period of time
- Technology recently licensed

New at OTL... *Continued on page 2*

Phenomenal Millennial Start-ups (from Stanford)

During 2000, OTL's 99/00 fiscal year ended, a year that brought 162 new licenses, bore 20 Stanford start-ups, and heralded success for many growing companies previously started out of Stanford. Here is a smattering of the technically varied, up-and-coming stars:

PIXIM

World Leading Digital Imaging

Pixim's vision is to become the world's most influential digital imaging company by leveraging its Digital Pixel Sensor technology licensed from Stanford University. If this year's progress is any indication of the future, Pixim is well on its way to realizing that vision.

In November of 2000, Pixim successfully closed its second round of venture capital funding led by the Mayfield Fund. Additionally, the year proved to be a very productive one: the company recruited its entire senior management team, established a product development roadmap, and entered into a unique joint development partnership with TSMC (Taiwan Semiconductor Manufacturing Corporation).

Founders Dave Yang and John Deng established the company in 1999 to revolutionize the world of image sensors used in digital video cameras, digital still cameras, toys, game consoles, PC cameras, mobile phones, industrial automation and web cams just to name a few. The growth projections in this market

Start-ups... *Continued on page 3*



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TECHNOLOGY
BRAINSTORM

Editor
Rich Scholes

Writers
Carey deRafael
Sara Nakashima
Imelda Oropeza

Office of Technology
Licensing (OTL)
Stanford University
900 Welch Road
Suite 350
Palo Alto, CA 94304
Campus M/C: 1850
Ph. (650) 723-0651
Fax (650) 725-7295
<http://otl.stanford.edu>

Director
Katharine Ku

Stanford Technology
BRAINSTORM is pub-
lished quarterly to pro-
vide information about
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own, contact us by any
of the above means.

New at OTL... Continued from page 1

-Technology dropped from OTL's active files
-Licensees: Company recently licensed first, sec-
ond, fifth, or tenth technology

Marketing at the speed of email

Since email has increasingly become a dominant form of business correspondence, in 2000 OTL made it the main way it informs companies of licensing opportunities. Using email, OTL and potential licensees will often have initial communications regarding the company's interest in licensing a technology within 48 hours (sometimes even before US mail recipients have received the licensing opportunity).

Company contacts interested in receiving licensing opportunities by mail simply inform OTL of such, and it is noted in the OTL database for future marketing. Marketing letters, now created within and printed from the OTL database, are sent according to the company contact's preferences, and they receive licensing opportunities related to their indicated areas of interest. To submit your areas of interest and contact-means preference (email, mail, or fax), please visit <http://otl.stanford.edu/industry/resources/interest.html>.

DID YOU KNOW?

During 2000 and this year, OTL continues several programs that have proven helpful to the Stanford and industrial communities. If you're interested...

Info meetings every Friday

Each Friday at 10AM, OTL offers an informational meeting to describe OTL's roles within Stanford and with industry, and OTL's process of transferring technology to industry. Fridays bring groups of zero to twenty, with attendees from Stanford and industrial and academic visitors from Europe, Asia and beyond. Anyone interested in learning more about OTL is welcome to gather their questions and come. Please call ahead (650-723-0651).

Funding idea generation and technology development <http://otl.stanford.edu/inventors/resources.html> (see "Research Funds")

As some Stanford inventors know, OTL offers four means for promoting research and funding development of appropriate technologies, each situated in a different niche.

A Selection of Licenses Granted by OTL in the Last Quarter

License #	Title	Field	Company	Term
S00-188-189	"Autologous Lens Capsule"	Eye surgery	VISX	Exclusive
S00-013	"Increasing the size of rAAV-mediated expression cassettes in vivo"	Gene insertion	Avigen	Option
S98-216	"Visualization of Eyetracking Data"	Analyzing user-web interaction	Eyetoools	Exclusive
S98-004	"SCORE Sleep-Wake Bioassay"	Analyzing drug effects on sleep	Hypnion	Exclusive
S91-126	"Deformable Grating Modulator"	Optical Communications	LightConnect	Field Exclusive
S91-126	"Deformable Grating Modulator"	Optical correlators	OPTS	Field Exclusive

The Research and Graduate Fellowship Fund
Stanford receives equity as partial consideration for license agreements OTL completes. After the inventors' share of equity is distributed, SMC (Stanford Management Company) manages the remaining equity. Once SMC liquidates the equity, the resulting money is allocated to this Fund, which supports Stanford Graduate Fellowships (SGFs: <http://www.stanford.edu/dept/DoR/Fellows/>). Managed by the Office of the Dean of Research, OTL was pleased to fund 25 SGFs last year.

The Research Incentive Fund

Applied for and awarded annually, Research Incentive Funding is granted by the Dean of Research to spark junior investigators' research. Applications for the Fund are accepted each year between January and March. Recipients are awarded up to \$25,000 individually, or \$40,000 for co-investigation. The 2001 application deadline is March 1, 2001 (http://otl.stanford.edu/inventors/resources/research_inc_fund.html).

The "Birdseed" Fund

The Birdseed Fund offers up to \$25,000 to fund development of an existing technology to make it more commercially viable or valuable. After discussing technologies internally and with the inventors, OTL suggests funding candidates, and the inventors apply for the Fund. The Dean of Research chooses which technologies to fund.

The Gap Fund

The Gap Fund offers between \$25,000 and \$250,000 to span the "development gap" that exists for many technologies between their early-stage conception

and commercial viability. Many technologies need additional development to sufficiently diminish their riskiness such that a company or investors will back their development. This Fund is a loan that is paid back by the technology's future license income if it generates royalties. A panel composed of industry experts from various technical fields decides which technologies are awarded Gap Funding.

On the web

Amidst 2000's excitement, OTL added to its website (<http://otl.stanford.edu>) more functions, information, and links for inventors and licensees. The site now offers:

For Industry

- "Tech Search" allowing customizable searching of Stanford's currently available licensing opportunities
- New "Entrepreneurial Opportunities" within "Tech Search": yields technology-field-specific lists, or a complete list, of inventions that OTL has identified as having entrepreneurial potential.

- "Resources" that include:

- "Ready to Sign Agreements" for specific, broadly-licensed technologies.
- "Sample Documents" such as OTL's general exclusive, non-exclusive, and software licenses.
- Descriptions of "Our Policies" and "Our Process" at Stanford and OTL, respectively.

For Inventors

- "Disclosures" allowing either easy online disclosure of an invention or quick PDF download of the invention disclosure form.

- "Resources" that include links to forms, sample documents, and entrepreneurial information. ▲

Start-ups... Continued from page 1

are nothing short of phenomenal. PIXIM hopes to make its technology commercially available by early 2002.

CBYON

Providing Surgeons with 3-D Superman X-ray Vision

CBYON, Inc. is a medical technology company that develops and markets innovative software products for minimally invasive surgery. CBYON's 3D visualization and navigation software, SAVANT, enables surgeons to visualize a patient's internal anatomy in a virtual 360-degree view and to navigate instruments during surgical procedures.

CBYON has received FDA approval to use SAVANT for neurosurgical, spinal and ENT surgeries and expects to begin commercial shipment in the first quarter of 2001. Currently, nearly one million brain and spine surgeries, and over a quarter

of a million sinus surgeries are performed every year in the United States alone. With SAVANT, these surgeries are now doable with very accurate anatomical positioning and true 3D visualization. Likewise, because the modular design of the SAVANT suite enables its use in numerous other surgical applications, in the next four years CBYON expects to expand SAVANT's use into nearly every area of the body, including cardiovascular and cancer surgeries.

CBYON, a privately-held company backed by venture capital, is positioned in a rapidly growing market that is gaining attention for minimally invasive surgical techniques. CBYON has raised a total of \$16.5 million since it started in 1999.

The core patented technology of SAVANT was developed by Ramin Shahidi, Ph.D., Director of the Image Guidance Laboratories at the Stanford Medical Center where CBYON's technology was first conceptualized. Dr. Shahidi is the Chief Technology Advisor and a co-founder of CBYON.

Barcelona Design

Revolutionizing analog and mixed-signal design

Launched in June 2000 at the Design Automation Conference (DAC), Barcelona Design unveiled its innovative, market-leading web-based product that simultaneously addresses and simplifies analog-circuit synthesis. Promising to end the multiple iterations of manual analog design that is the norm today, Barcelona offers technology that automates the design process, generates optimal designs and significantly reduces design time, even for an experienced analog designer.

Founded in 1999 by inventors Mar Hershenson, a Stanford alum who earned a PhD in Electrical Engineering, and Stephen Boyd, professor of electrical engineering, Barcelona has taken technology exclusively licensed from Stanford University successfully from the research laboratory to the marketplace.

Their business model leverages the Internet so that customers can access the system, virtually any time and anywhere, and pay only for the time they actually use. In addition to the ease of use and accessibility, Barcelona can offer customers the freshest enhancements immediately, eliminating costly upgrades and associated delays.

Start-ups... Continued on page 4

OTL 1999-2000 Fiscal Year Numbers

Total income:	\$36.9M
Distribution to other institutions:	\$2.3M
Department distribution:	\$6.9M
School distribution:	\$6.9M
Inventor (Individuals) distribution:	\$5.9M
Patent expenses:	\$3.0M
Income from new licenses:	\$2.6M
Number of dockets producing income:	378
Number of new disclosures:	252
Total new licenses:	162
Companies Stanford took equity in:	20



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Got Feedback?

If you have input on this year's developments or ways OTL can improve in the future, please email the editor at rich.scholes@stanford.edu.

New Entrepreneurial Undertakings

Many groups at Stanford both further entrepreneurial education and sponsor ventures to promote new entrepreneurial undertakings. Groups based in the schools of Engineering and Medicine, and campus-wide groups, create courses and hold salons to spark student and faculty entrepreneurship. Generating new activity this year are:

The Entrepreneurial Task Force (Eship Task Force) www.stanford.edu/group/eship

A new initiative that began this past year, the campus-wide Eship Task Force offers several broad entry points to the Stanford community and industry representatives alike. Their website (above) serves as an effective starting point for exploring Stanford's breadth of entrepreneurial groups for all individuals—from the law school to the business school, from engineering to medicine.

The Eship Task Force website links to a "slide overview" that celebrates the relationship between Stanford and Silicon Valley. The Eship Task Force also sponsors entrepreneurship salons that bring the different cross-sections of the Stanford community together with industry to network, learn from entrepreneurial speakers, discuss entrepreneurship, and combine their skills in creating new ventures.

At their first salon, on November 21, 2000, speakers from Stanford and from local incubators discussed "To Incubate or Not to Incubate: What are the needs of Stanford entrepreneurs and how can those needs best be met?" The Eship Task Force site also describes many other Stanford entrepreneurial groups as well as upcoming entrepreneurial challenges, salons, and events.

Business Association of Stanford Engineering Students (BASES) <http://bases.stanford.edu>

A member of the E-ship Task Force and a volunteer, student-run group, BASES continued throughout 2000 its four year tradition of promoting entrepreneurship at Stanford through for-credit seminars, for-credit courses in engineering, and the Entrepreneurship Challenge (E-Challenge). At this year's annual E-Challenge, a business plan competition, BASES awarded its winner a \$50,000 cash prize.

Expanding the tradition, this year BASES, along with many groups at Stanford, organized the first Global E-Challenge, with higher stakes, larger prizes, and a broader base of expert competitors. Held July 21, top honors went to a team from Australia's University of Sydney for their online guide and tourism company.

Having won the Stanford E-Challenge, a Stanford team also won best business plan in the categories of "Most Disruptive Technology" and "Elegence in Business Strategy" at the Global E-Challenge. Subsequently, the members of the team licensed the technology from Stanford and created a company: T-RAM (for more, see "T-RAM" section within Start-ups article).

Start-ups... *Continued from page 3*

Their strategy and technology have garnered rave reviews from industry luminaries. Most recently, Barcelona was named in EDN Magazine's list of Hot 100 Products of 2000.

Imetrx**Utilizing catheter-based devices for the detection and treatment of coronary artery disease**

Imetrx, Inc. is a new cardiovascular medical device company based on technology created by H. William Strauss, MD, Chief of the Division of Nuclear Medicine and Professor of Radiology at Stanford. Privately held Imetrx was founded in 1999 to develop catheter-based devices for the detection and treatment of vulnerable atherosclerotic plaque. The ability to differentiate between stable and vulnerable plaques allows for early and cost-effective therapy to prevent chest pain, heart attack, and sudden coronary death.

The Stanford technology, "Interventional Nuclear Diagnostic Device", describes a device that detects radiation in biological tissue in a precise and rapid manner. During 2000, Imetrx signed an exclusive license agreement with Stanford, which includes a key licensed patent that was filed last year on the technology. Imetrx also plans to draw on Stanford for its medical advisors, including faculty from Cardiology, Nuclear Medicine, and Physics.

Imetrx was born out of a collaboration between The Stanford Medical Device Network (MDN) and Nortech Ventures, LLC, a Bay Area-based medical technology germinator. Imetrx received early funding from Nortech Ventures, and in August 2000 closed its first round of venture funding from Domain Associates, a venture capital firm focused on the life sciences.

Rigel**Going public to discover novel pharmaceutical targets and collaboratively develop drugs**

In a year of a vacillating stock market, Stanford start-up Rigel Pharmaceuticals went public on November 28, 2000. Organized in 1996 to commercialize a technology from Stanford, Rigel uses its post-genomics combinatorial biology technology to discover new drugs for the treatment of immunological and infectious diseases

and cancer.

Rigel was founded upon exclusively licensed technology invented by Dr. Garry Nolan, a Rigel co-founder and Associate Professor at Stanford, and S. Michael Rothenberg, an M.D., Ph.D. student in Cancer Biology and the Department of Biochemistry. The technology, "Methods for Screening for Transdominant Effector Peptides and RNA Molecules", encompasses novel techniques for rapid genomic screening. Unlike other methods, this technology allows for a genetic probe to be synthesized, introduced, and created inside a cell in a single step. Additionally, it does not require prior knowledge about the disease pathway.

Since 1996, Rigel has discovered twenty-three new drug targets and partnered with four corporate collaborators: Cell Genesys, Janssen Pharmacia (a Johnson & Johnson company), Novartis and Pfizer. For 2001, these partnerships continue and more collaborations are in the works.

T-RAM**Revolutionizing the Semiconductor Memory Industry**

In the Year 2000, T-RAM achieved one success after another. In June, after winning the Stanford BASES business plan competition, T-RAM competed in the Stanford Global Entrepreneurship Challenge 2000, which had students from 20 universities and 14 countries competing for \$250,000 in prizes (for more on "BASES" see Inside Flap). T-RAM founders Farid Nemati and Homan Igehy won first prize in the categories of "Most Disruptive Technology" and "Elegance of Business Strategy" for their business plan for a unique proprietary memory that has the potential to revolutionize the semiconductor industry by providing the memory density of dynamic random access memory (DRAM) and the speed of static random access memory (SRAM).

Later that year they both graduated, formed the company, and exclusively licensed the technology that Nemati had developed at Stanford. They received funding from the Mayfield Fund, U.S. Venture Partners, and Tallwood Venture Capital, and the PTO allowed a key T-RAM-licensed, Stanford patent before the year's end. ▲



Office of Technology Licensing

Stanford University

900 Welch Road, Suite 350

Palo Alto, CA 94304-1850

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