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

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INSIDE THIS ISSUE

Medical Device Network Promotes Ingenuity and Cooperation to Create New Tools for Doctors

The Medical Device Network (MDN) was recently formed at Stanford University to stimulate innovation in the field of medical devices within the University. Stanford is widely recognized as having an enormous impact on the Bay Area computer technology industry (i.e. Hewlett Packard, Netscape, Yahoo).

Not quite as well known, however, is the fact that Stanford faculty and students have played a major role in developing and sustaining the regional medical device industry (i.e. HeartPort, GUIDANT/Advanced Cardiovascular Systems, Arterial Vascular Engineering). This is also a large and dynamic business sector: there are more than 170 medical device companies within an hour of the Stanford Campus having a net valuation of over $15 billion.

Two basic goals

MDN's charter states the two basic goals of the group:

- To encourage and facilitate invention, patenting and early-stage development of medical devices within the University
- To develop and promote Stanford as an effective regional resource for research, education and early feasibility testing in the area of medical device design and development.

The Medical Device Network Logo

Basically, MDN is a service organization designed to help students and faculty identify prom-

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Funding: Making Ideas, People and Things Happen

OTL's mission is to promote the transfer of SU technology for society's use and benefit while generating unrestricted income to support research and education. While two-thirds of Net Royalties are returned to the Departments and Schools to support further research and education, the University has set up several other funds to provide additional support for specific purposes.

The following are descriptions of three types of funds that may be of interest to those in the Stanford community.

OTL Research Incentive Funds

The OTL Research Incentive Fund is intended for faculty members who wish to explore new research directions. Got an idea for the next great whatchmacallit but don't have the funds to move from hypothesis to thesis? This fund might just be your answer.

The fund was established eight years ago by the Dean of Research, who manages the fund. The purpose is to help channel some of OTL's 15% administrative fee directly into a Stanford faculty member's innovative research.

The maximum amount of funding for a single grant is $25,000. Last year $633,944 was distributed to 27 of the 92 total applicants. The grant itself lasts from the date of the award through August 31 of the following year.

Proposals for 1998 are due to the Dean of Research by **November 9, 1998**. The review criteria includes assessment of the probability that the research could result in a significant advance and will lead to opportunities for future funding.

For more information on requirements and where to submit your proposal, please visit www.stanford.edu/group/OTL. Each proposal is reviewed by a panel consisting of members of the Academic Council. Letters of notification are sent in late January and funds are distributed in February.

Birdseed Fund

OTL sometimes receives disclosures of ideas that are difficult to license, or licensable only for small fees, due to lack of a prototype or tangible proof of concept. The Birdseed Fund could poten-

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STANFORD TECHNOLOGY BRAINSTORM

Stanford University
Technology Transfer
Through Licensing
Office of Technology Licensing

STANFORD TECHNOLOGY BRAINSTORM

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Stanford Technology BRAINSTORM is published quarterly to provide information about OTL and general information of interest to the licensing community, both within and outside Stanford.

OTL's services are available to any Stanford faculty, students, or staff who invent technologies which may benefit the public or be of commercial value.

To learn about a specific technology or to disclose one of your own, contact us at the above address.

Medical Devices Network...

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assist in the patenting process in cooperation with OTL and to help provide a bridge between faculty and students and the medical device industry.

MDN is the brainchild of Dr. Paul Yock, himself an inventor of a number of medical devices and founder of Cardiovascular Imaging Systems. "There is no other University in the country that comes close to Stanford as far as talent in medical device development," said Yock. "There are at least 50 faculty members who have made major contributions in this area. But we can do a better job still if we leverage our expertise and our connections as a group. It's especially important to mentor young inventors and to help them find the right connections. These are the people that come up with the truly break-through concepts."

Other faculty who are active in the Leadership Group for MDN are John Adler (neurosurgery), Michael Dake (radiology), Peter Fitzgerald (medicine/engineering), Bob Hu (medicine/engineering), Stuart Goodman (functional restoration), Charles Taylor (vascular surgery/engineering) and Greg Kovacs (engineering).

Educational programs

MDN is sponsoring several educational events this year. "In addition to our role as a service organization for faculty and students, equally important are our efforts in presenting unique and valuable educational programs," said Sandy Miller, MDN Program Coordinator.

MDN's debut event this past March, "Forum on Minimally Invasive Coronary Surgery", assembled — for the first time — the top 35 individuals in the field across rival companies and surgical groups for an experts "summit" meeting. The Forum provided the first opportunity for this group to convene in a closed-door session and to focus on common technical and clinical agendas for the field.

Invention Challenge

MDN's first activity this Fall is to issue a medical device "Invention Challenge" to Stanford faculty, staff and students. The challenge is to develop a better approach to anastomosis, a method for joining blood vessels and a key element of coronary bypass surgery. Coronary bypass surgery is evolving towards a beating heart approach. As a result, creating an anastomosis has become much more challenging for surgeons.

The concept for the Invention Challenge emerged from the March Forum, during which the participants agreed that the ability to create an anastomosis in a restricted and mobile environment is a key limiting factor in the evolution of minimally invasive surgical technology.

A selection committee of MDN faculty will determine the Invention Challenge winner by choosing the most novel and "patentable" design concept. The winner of the Invention Challenge will receive $2,500 (sponsored by OTL), plus a possible patent filing by Stanford's Office of Technology Licensing. More information is available on the MDN website at http://MDN.Stanford.edu/ or call Sandy Miller at MDN: (650) 498-7856.

Patent/Start-Up 101

The second event for the Fall is an educational seminar which will focus on how students and faculty with novel ideas in biomedical technology can obtain patents and develop their concepts into actual products. The two-day program, called "Patent/Start Up 101," is designed for Stanford faculty, staff and those in the local medical device community who have an interest in patenting and issues related to licensing their technology or starting up a company.

Using interactive case examples, panel discussions and lectures, the first day (Saturday, October 24) will address questions such as "Is my idea patentable?", "What's really worth patenting?" and "How will Stanford help me license my idea?". On Sunday, October 25, expert panelists will discuss funding options, how to write a business plan and how to mix academics and entrepreneurship.

For more information on "Patent/Start-Up 101" and other upcoming MDN seminars, please see box to right.

MDN Leadership

Although still in its early stages, MDN is taking some innovative and significant first steps toward stimulating the invention and development of medical devices. To learn more about MDN and to become a member, please visit their website at http://mdn.stanford.edu or call 650-498-7856.

OTL Fiscal Year '97-'98 (Preliminary Figures)

Total Income: $61.2 Million (M)
Cohen-Boyer DNA Patents:
- **Total Income: $37.3 M**

All Other Technologies:
- **Total Income: $23.9 M**
- **New Licenses: 119**

Number of Companies in Which Stanford Took Equity: 7
OTL Budget: $2.2 M

A Sampling of Licenses Granted by OTL in the Last Quarter

Docket(s)	Title(s)	Uses	Licensee(s)	License Type
S83-007	"Anti-Leu-12 Monoclonal Ab"	Therapeutic	Chimeric Therapies	Non-exclusive
S91-041	"NF-AT Antibodies"	Transcription System	Serotec	Non-exclusive
S92-086	"Method of Killing B-cells"	Research Reagent	Palingen	Non-exclusive
S93-132	"cDNA for Nerve GF Receptor"	Human Therapeutics	Cantab Pharma.	Field Exclusive
S93-199	"Ultrasonic Air Transducer"	Gas Flow Measurements	Sensant Corp.	Field Exclusive
S95-024	"DHPLC"	Mutation Detection	Rapigene	Non-exclusive
S96-031	"Compact Hi-Power RF Load"	RF Loads	CML Engineering Sales	Field Exclusive
S97-072	"GENSCAN"	Gene Identification	metaGen, ZymoGenetics, Ceres, Glaxo Wellcome, SmithKline Beecham, Novartis	Non-exclusive
S97-140	"Volume Rendering"	Medical Imaging	Nuclear Diagnostics	Non-exclusive
S97-179	"Affinity-based Fluorophores"	Expression Quantitation	Rigel Pharma.	Excl. Option

Funding...

Continued from page 1

tially move these ideas from concept to prototype.

If OTL believes a technology could become more licensable by building a prototype, the Birdseed Fund can be used to help fund a small development effort, up to approximately $25,000.

The inventor must present a well-defined plan for producing a 'prototype product' that will demonstrate the usefulness of the invention to potential licensees. If the inventor can sell the idea to the OTL associate, the associate will present the idea to the Dean of Research, who makes the final decision on disposition of the funds.

OTL Graduate Fellowship Fund

During the 1980's and early 1990's, Stanford's policy was generally not to take equity in faculty-associated start-up companies because of conflict of interest concerns. In 1994, the University approved a policy which allows OTL to take equity in such companies as long as the equity is placed in the OTL Graduate Fellowship Fund. (http://www-portfolio.stanford.edu:80/104046) Under this policy, the proceeds from liquidated equity are used to fund graduate fellowships.

Many thanks to Mary Watanabe for her help with the creation of this article.

MDN Educational Seminars: Patent/Start-Up 101
Entrepreneurship in BioMedical Technology

Keynote Speakers:
- Brook Byers, Venture Capitalist, Kleiner Perkins Caufield & Byers
- James Gibbons, Special Counsel, President's Office, Stanford University
- David Gollaher, President, California Health Care Institute
- Ginger Graham, President, Guidant Corporation
- Edward Holmes, Associate Dean, School of Medicine

Dates/Times:
- Saturday, October 24, 1998, 8:30 a.m. to 4:30 p.m.
- Sunday, October 25, 1998, 9:00 a.m. to 4:00 p.m.

Location:
Fairchild Auditorium, Stanford University Medical Center

Cost:
Stanford students: $15
Stanford faculty: $35
Medical/Technology Community (outside Stanford): $145

Registration:
Please call 650-498-7629 to register. To learn more, please visit MDN's website at http://mdn.stanford.edu/Events/

Tentative seminars and forums for 1999/2000 include:
- Image-guided surgery: simulation, planning, navigation
- New enabling technologies from bioengineering
- The tissue/prosthetic interface
- Interventional cardiology in the next millennium
- New approaches to neurovascular disease

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As a service to Stanford students, *Brainstorm* is now accepting advertisements from companies based in California. And the first issue is on us!

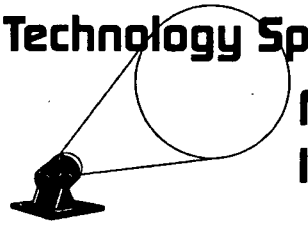
Each advertisement will be approximately 1/4 of a page with a total of four to eight advertisements per issue. The company can either supply its own description or we can build one for you.

Brainstorm's current circulation is 3,000 issues per quarter and it is distributed widely around the Stanford campus as well as companies and other universities across the world.

After the first issue, if the company decides to continue with the advertisement, the cost is either $150 per issue or $500 for one year (four issues).

For more information, please contact Jill Brigham at jill@otlmail.stanford.edu or (650) 725-9112.

Technology Spotlight:



New Technologies Incorporating CMOS

FASTER THAN...

Ten years ago, cellular phones were expensive and bulky. However, subsequent improvements have made them cheaper, smaller and better. Today's cell phones can fit in your shirt or pants pocket without much discomfort to you or to your pocketbook. Soon they may also tell those of us who are directionally challenged exactly where in the world we are.

Stanford's School of Engineering faculty and students consistently bring unique technologies to the wireless communications field. Two of these inventions improve the speed and lower the cost of the analog circuitry used by cellular phones and GPS, for example.

One of the technologies, Patterned Ground Shields for Integrated Circuit Inductors (S97-014), accelerates performance of the inductors, a key circuit element in radio frequency circuits. The second technology, Lateral Flux Capacitor (S96-074), also improves radio frequency circuits, but by increasing the efficiency of the capacitor, another important part of the circuit.

Both of these inventions take advantage of CMOS technology that reduces costs for radio frequency circuitry as well as computer chips. Stanford's Center for Integrated Systems recently completed a single chip GPS receiver.

For more information, please contact Linda Chao at (650) 725-9408 or linda@otlmail.stanford.edu.

S97-014 Inventors: C. Patrick Yue, Professor S. Simon Wong

S96-074 Inventors: Arvin Shahani, Derek Shaeffer, Professor Tom Lee, Steven Walther, Hirad Samavati

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