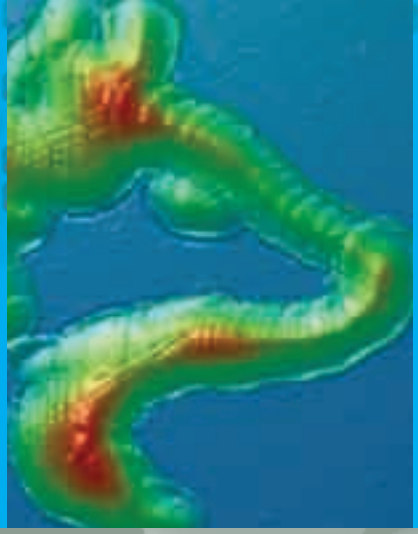
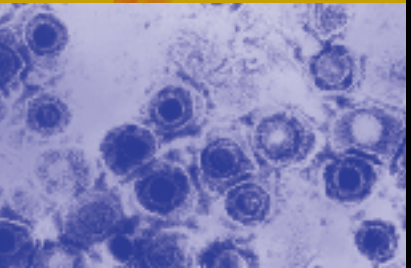
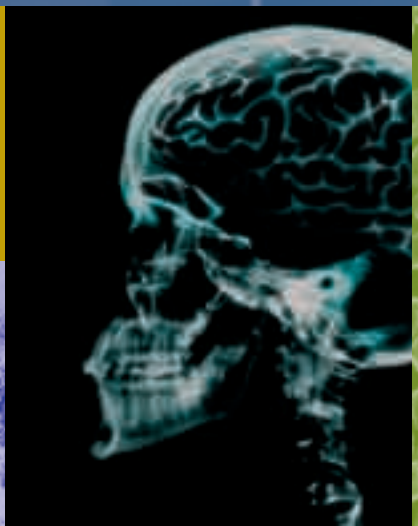


FY2007 ANNUAL REPORT

UW TechTransfer





WELCOME FROM THE VICE PROVOST

Dear Colleagues,

Fiscal year 2007 was another strong performance in key areas for UW TechTransfer.

UW researchers, faculty and staff reported 335 innovations, which are key indicators of the university's ability to generate new technologies and materials. Licensing agreements and options, which formalize the transfer of technology from the university to businesses, grew from 153 in 2006 to 198 in 2007—a 29 percent increase. Eleven new startup companies based on UW research were also formed in the fiscal year, representing a diverse range of products and services.

UW TechTransfer programs like the Technology Gap Innovation Fund and LaunchPad continue to demonstrate their usefulness in enhancing the development and commercial outcomes of UW research. To date, over $1.8 million has been awarded to UW researchers to support the further development of their projects through the Technology Gap Innovation Fund. A number of these technologies have been licensed for further commercialization. Three LaunchPad projects were transitioned to UW startup companies in FY07. In the coming year, 15 research teams will be using LaunchPad to support the planning and formation of new companies based on their innovations.

These strong results are made possible through the outstanding efforts and dedication of an exceptional team assembled at UW TechTransfer. This past year we have added staff in key areas that continue to support and advance campus research. Our primary goal is to achieve the maximum utilization of discoveries arising from UW research. To achieve this goal our unit works in close partnership with researchers to ensure that the business models used to transfer discoveries support their long-term research goals.

Featured in this report, you will find projects that best represent the breadth of our activities. I hope you take an opportunity to read through them, as we are very proud to be associated with such talented innovators, helping to extend UW research.

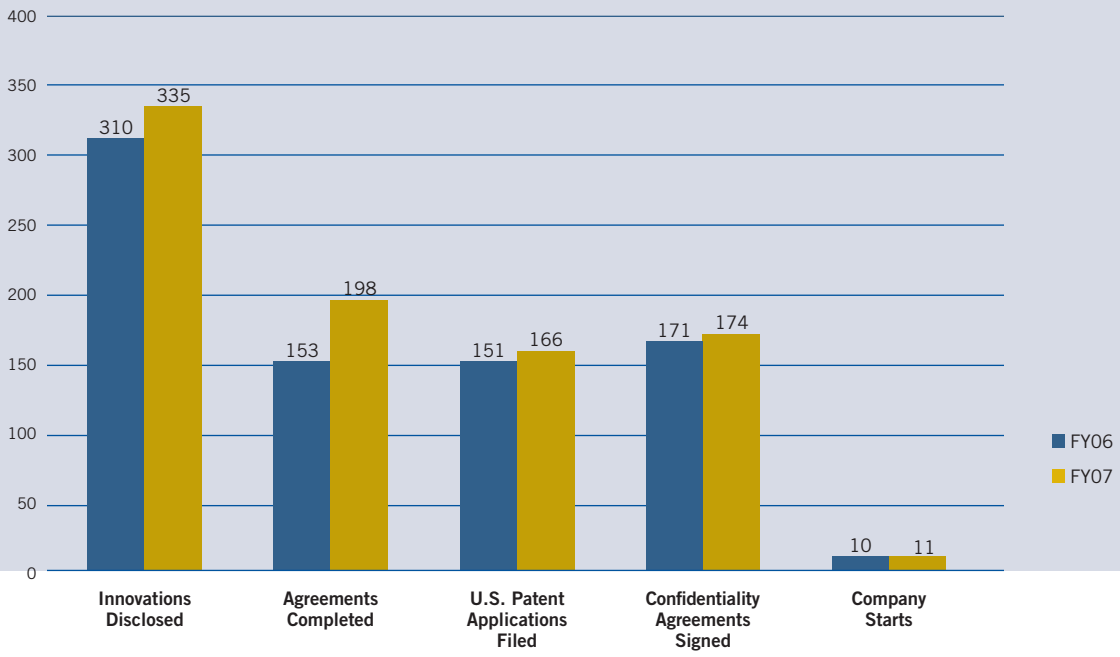
Thank you for this opportunity to share our successful year with you. We look forward to furthering our accomplishments in 2008.

James A. Severson, PhD
Vice Provost, Intellectual Property and Technology Transfer

THE MISSION OF UW TECHTRANSFER IS TO EXTEND THE IMPACT OF UNIVERSITY OF WASHINGTON RESEARCH THROUGH THE CREATION OF PARTNERSHIPS THAT ENCOURAGE INVESTMENT IN INNOVATION.

2007 FAST FACTS

FY06-FY07 COMPARISON



- UW TechTransfer manages a total patent portfolio of over 2000 issued and pending patents filed in the U.S. and around the world.
- 235 companies have been started by UW students and faculty or with UW technology.
- $1.8 million in Technology Gap Innovation Funds (TGIF) have been awarded since the program was introduced in 2004. This joint program of UW TechTransfer and the Washington Research Foundation supports UW innovations that are commercially promising.
- In FY07, 501 researchers from 64 departments disclosed innovations to UW TechTransfer.
- UW innovators earned $6.2 million from their successful technologies in FY07.
- UW TechTransfer revenues contributed over $9 million to UW's Royalty Research Fund whose purpose is to advance new directions in research.
- In FY07, over 6,000 licenses were executed for academic no-charge software/content (34% over FY06). Through the UW TechTransfer portals (UW OpenDoor and Express Licenses), UW innovators make available academic licenses, open source software, freeware and data sets*.

*See page 6 of this report for more information on this resource.

SUMMARY OF ACTIVITY: AGREEMENTS

FY07 Licensing Activity

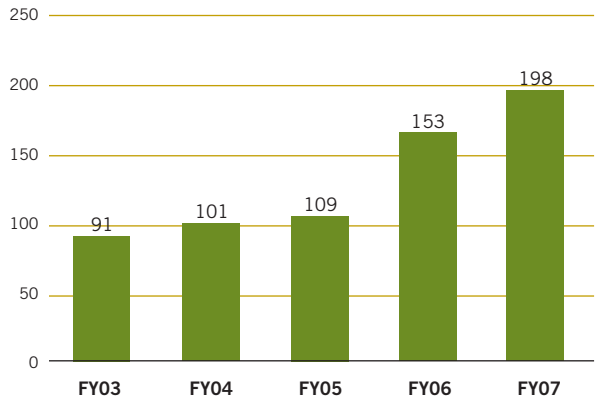
In FY07 UW TechTransfer executed a total of 198 agreements for the commercial use of inventions and copyright works owned by the UW, a 29 percent increase over FY06. This total includes both non-exclusive and exclusive licenses and options for commercial development of products and services utilizing inventions and copyright works, as well as software and research tool use agreements that exceed $1000.*

TABLE 1. FY07 COMMERCIALIZATION AGREEMENTS COMPLETED

Licenses/Options	90
Software Use Agreements over $1000	83
Research Tool Use Agreements over $1000	25
Total	**198**

*This definition is employed by the Association of University Technology Managers (AUTM) in its Annual Licensing Survey. UW TechTransfer uses the definition to provide consistency and facilitate comparisons with peer institutions.

EXHIBIT 1: FY03-FY07 LICENSES AND OPTIONS COMPLETED



UW TechTransfer also negotiated and executed a substantial number of agreements that facilitate technology transfer but do not typically grant commercial development rights or generate licensing income. These include confidentiality agreements, inter-institutional management agreements for jointly-owned technologies and non-revenue bearing transfer or use licenses for software and research tools (material transfer agreements) such as cell lines, antibodies, and mouse models.

No-Charge or Academic Software Licenses

To support the broad distribution of innovations created by the UW academic community, UW TechTransfer works closely with these individuals to first protect their innovation and then formulate strategies to share it at no charge with other universities, government entities and non-profits. In FY07, over 6,000 academic and no-charge licenses were executed. This number demonstrates the broad availability and impact of UW software, and reflects hundreds of software projects managed by UW TechTransfer.

Fee-Based Software Use Agreements

UW TechTransfer also works with innovators to develop software distribution models that generate revenue to support their group and help further their software project. These formal software use agreements range from self service licenses with standard terms to negotiated licenses with fees applied. In FY07, more than 1,300 agreements were negotiated generating over $1 million in revenue.

Material Transfer Agreements (Research Tools)

The exchange of research materials is an important component of the research enterprise. UW researchers are both providers and recipients of research materials such as cell lines, cultures, bacteria, nucleotides, proteins, transgenic animals, pharmaceuticals, and chemicals. Material transfers can occur between the UW and research institutions or corporate entities.

This vital exchange requires a specific contract for each transfer. These contracts are known as Material Transfer Agreements (MTAs). In FY07, UW TechTransfer executed over 769 MTAs, a 30% increase over FY06.

Confidentiality or Non-Disclosure Agreements

Confidentiality or Non-Disclosure Agreements measure to a certain degree the marketing success of a particular technology or group of technologies as it indicates the level of interest by outside parties in UW research. Entering into a CDA or NDA provides an opportunity for a company to better understand a technology and determine if they want to negotiate a license while protecting the researcher's intellectual property. In FY07, UW TechTransfer completed 174 Confidentiality (CDAs) or Non-Disclosure (NDAs) Agreements.

DiMeMa

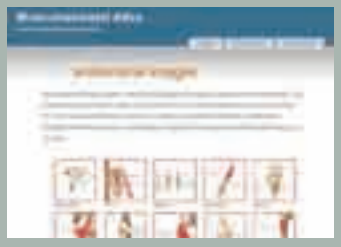
What began as a project researching digital image database technologies at the UW has resulted in the creation of a startup company, DiMeMa (Digital Media Mangement), and acquisition by a leading library content management organization. OCLC Online Computer Library Center, which had previously been the exclusive distributor of DiMeMa's CONTENTdm software, acquired the UW startup in August 2006. Former UW professor Greg Zick formed DiMeMa in 2001 to support the growing CONTENTdm user community and to focus on accelerated research and product development. The acquisition will allow the newly created team to explore new ways to help libraries and other cultural heritage organizations manage their digital collections. As a part of the agreement, Dr. Zick and DiMeMa's staff of 11 were able to maintain their office in Seattle. For more information visit www.oclc.org.

EXPRESS LICENSING PROGRAM AT UW TECHTRANSFER

UW TechTransfer supports and encourages the broad utilization of UW technologies. One way we help researchers license and distribute their software and digital innovations is through our Express Licensing Program, one of the first such university programs in technology transfer. UW's Express Licensing Program generates over 7,300 licenses per year.

Express licenses are made to be "ready to go." They are ready-to-sign non-exclusive agreements that allow for efficient licensing of UW technologies to companies, universities and research institutions, and individuals. Express licenses streamline the licensing process for software and digital media by providing publicly accessible and transparent terms and conditions. The enthusiastic adoption of express licenses demonstrates that users want straightforward licenses and simple-to-follow processes.

UW TechTransfer can negotiate a custom license for some situations if a licensee needs some additional rights, terms or conditions—for example, if a company requests a UW technology that is available as an academic express license. However, customizing a license alters the essential terms and risks and affects conditions and fee structure.



THE KEY ADVANTAGES OF EXPRESS LICENSE DISTRIBUTION ARE:

- easy access, which positions the technology for rapid adoption by end-users
- monthly statistics reports, so researchers can track the technology user base
- the ability to channel licensing income to internal project budgets, which reinvest licensing royalties back into the project to provide support and development for the technology

FY07 EXPRESS LICENSE FACTS:

- 7,305 express licenses were issued (including over 5,500 academic no-fee licenses)
- Fee-based express licenses generated $2.4 million in revenue, more than 50 percent of the total revenue earned from licensing UW software and digital innovations
- 80 percent of revenue generated by fee-based express licenses was channeled back into internal project budgets to support those licensed technologies
- express licenses are available for 37 different software technologies and digital innovations in a broad range of fields including anatomy, bioinformatics, computational biology, dentistry, language, library services, proteomics and mass spectroscopy, medicine, healthcare/patient management, pharmacological research, and statistics

EXPRESS LICENSE SUCCESS STORIES:

- UW Metabolism and Transport Drug Interaction Database (DIDB) is a Web-based search and analysis tool designed for scientists and researchers for extracting drug interaction information from scientific literature and regulatory information. The DIDB is commercially licensed to the pharmaceutical industry.
- Rosetta++ is a suite of software for protein structure and design prediction that has over 1,000 users worldwide, unraveling the mysteries of human proteins. It is offered free for academic and non-profit use and to corporations for an annual fee.
- Phred, Phrap, and Consed-Autofinish are a remarkable suite of bioinformatics tools that represent the most important technical advance in DNA sequencing in the 1990s. The sequencing of three billion base pairs in the human genome was made possible by this software, which is in use at over 250 commercial sites and furnished at no cost to thousands of academic laboratories. Proceeds from license activities are reinvested in the project and used to support the further design and use of computational methods.
- Musculoskeletal Atlas is a collection of over 80 digital images of the upper and lower extremities of the human anatomy. UW's Atlas tops every Web-based search query on the topic. Express licenses make the images available for fee-based commercial or educational use, as well as provide a no-fee academic permission for scholarly purposes.

LAUNCHPAD

In FY07, LaunchPad, UW TechTransfer's business development program, celebrated its second year assisting UW innovators in starting new ventures. In this short time, the program has grown from six projects to sixteen. The goal of LaunchPad is to build a strong supportive system and network in which UW innovators can vet and develop their business ideas based on their UW research.

LaunchPad assists in the creation of new businesses through the formation of small advisory boards. These advisory boards offer support and guidance on technical, business and funding issues for each project as needed. Moving forward, LaunchPad will increase its focus on innovator education. Local educational opportunities on and off campus will help innovators round out their business knowledge and training.

Recently, three teams successfully transitioned from LaunchPad projects to new UW startups: Pfemtoquest, Inc., Cirrus BioSystems, Inc. and Brown & Henry, LLC. See our list of company starts on the opposite page for additional information on these LaunchPad graduates.

A dynamic and diverse group of professionals in the UW community and in the greater Seattle area have contributed to the energy surrounding LaunchPad. Community members have been involved in LaunchPad projects as advisors, mentors and leaders. Many professionals have offered their time, resources, and connections to address the unique needs of each project that we look forward to working with in the year ahead.

CURRENT LAUNCHPAD PROJECTS INCLUDE:

A 3-D display technology that projects lifelike three-dimensional imagery that appears to float in space. Unlike conventional stereoscopic displays, each pixel is placed at the correct viewing distance, enabling viewers to focus their eyes at different depths. Market applications currently being explored include the medical and military industries along with entertainment and gaming.

A lab-on-a-chip technology that miniaturizes large and expensive bench-top systems onto portable and disposable platforms. A novel manufacturing technology is used for the integration of heterogeneous semiconductor materials onto a common platform for optical fluorescence detection. Potential applications include: point-of-care diagnostics, STD testing in developing countries, bioterrorism/homeland security, environmental testing, food/industrial testing, and tools for research.

An electrochemical printing (EcP) technology that fabricates 3-D metal micropatterns directly from computer drawings. This novel approach reduces cost and lead time while increasing flexibility. EcP uses a moveable 'print head' (analogous to an inkjet printer) to deposit metal on another metal piece. Potential markets include custom jewelry, test parts for integrated circuits, medical devices, and other micro-electromechanical systems (MEMS).

FY07 COMPANY STARTS

In FY07, agreements for eleven company starts were completed:

COMPANY	DEPARTMENT(S)	PRODUCT
Brown and Henry, LLC	Interdisciplinary Arts and Sciences	Brown and Henry sublicenses composting toilet technology to both for-profit and non-profit companies in addition to providing training and consulting on sustainable solutions to waste management problems.
Cirrus BioSystems Inc.	Comparative Medicine	Cirrus BioSystems has developed a novel hands-free workstation to decontaminate animal cages in Specific Pathogen-Free environments. The workstation will reduce the time spent disinfecting animal cages and will increase user handling control, thereby reducing the potential for pathogen contamination and endangerment to the animals.
CorazonX, Inc.	Surgery, Electrical Engineering, Bioengineering	CorazonX is developing ultrasound technology to detect the presence of arterial plaques which leads to narrowed, or stenosed arteries in the heart. They plan to develop this technology into a noninvasive, inexpensive, fast and potentially portable test that detects coronary artery disease in its early stages.
Dan Allred & Co.	Chemical Engineering	Dan Allred & Co. was formed to commercialize ultra-thin (of the order of a few nanometers) metal films for use with transmission electron microscope (TEM) sample holders. The films are transparent to an electron beam and allow specimens smaller than the current sample holder grid to be imaged on high-magnification TEM systems.
EnerG2, LLC	Materials Science and Engineering	EnerG2 has produced a suite of energy storage technologies utilizing nanomaterials. Their solutions shed the constraints imposed by naturally occurring storage materials while leveraging the significant commercial and technical advantages created by molecular self-assembly.
Illumita, Inc.	Computer Science and Engineering	Illumita is developing virtualization technology tools that boost server productivity saving companies on hardware purchases and power costs.
Pfemtoquest Inc.	Chemistry	Pfemtoquest has developed a proprietary biochip for cancer cell detection and prognosis, improving the assessment of cancer recurrence and spreading.
PhaseRx, Inc.	Department of Medicine, Bioengineering, Applied Physics Laboratory, Electrical Engineering	PhaseRx will develop novel approaches to drug delivery using polymer technology.
Physware, Inc.	Electrical Engineering	Physware develops high-speed field solutions for signal and power issues in high-frequency package and board-level electrical modeling and design for the microelectronics industry, enabling design cycle robustness and efficiency and reducing time to market.
Polgenix, Inc.	Ophthalmology, Mechanical Engineering, Human Interface Technology Lab	Polgenix will develop novel instrumentation that provides safe, real-time, in vivo imaging of the human eye's functional components. The devices created will help ophthamologists interpret, diagnose and track disease progression for age-related macular degeneration and other ocular diseases.
Ratner BioMedical Group, LLC	Pathology, Chemical Engineering, Bioengineering	Ratner BioMedical Group is a development company pursuing startup opportunities based on UW biomaterial technologies. Startups created to date are Calcionics and Healionics.

SUMMARY OF ACTIVITY: INNOVATIONS

Innovations Reported

In FY07 innovations reported increased from 310 in FY06 to 335. The types of innovations range from software and other digital assets to medical and engineering discoveries. A total of 501 researchers from 64 departments contributed to these innovations.

Colleges and Schools

Researchers in the College of Engineering contributed to 51 percent of the innovations reported, and researchers in the School of Medicine contributed to 33 percent.

Departments

In FY07, 37 researchers in the Mechanical Engineering Department were involved in 83 reported innovations. The Mechanical Engineering Department has expertise in such diverse areas as energy, manufacturing processes, robotics, nanotechnology and medical devices.

Individuals

The most active innovators in FY07 were Wei-Chih Wang, a research assistant professor in Mechanical Engineering and research scientists Richard Johnston and Charles (David) Melville in the Human Photonics Lab, a recent spinout of the Human Interface Technology Lab.

For the third year, Dr. Wang is the top researcher reporting inventions for FY07. Dr. Wang heads the Micro Technology Laboratory in the Mechanical Engineering Department and uses unique polymer materials and fabrication techniques to develop micro-sensors and actuators for industrial and biomedical applications.

Notable advances in Dr. Wang's work this year include the development of new optical techniques for use in a viscosity sensor. This work allows for a further reduction in size from previous prototypes and has been demonstrated successfully in the laboratory. Applications of this sensor include whole blood viscosity measurement, environmental monitoring, food and paper processing and imbedded sensors for ink monitoring.

Dr. Wang has also developed an electro-optic scanner useful in image acquisition and high definition displays. This device combines a novel polymer with unique optical design to create a two-dimensional scanning device.

Rich Johnston's research, which resulted in 16 disclosures in FY07, focuses on the Scanning Fiber Endoscope, a collaborative project with David Melville (who also reported 16 disclosures); both work under the direction of Eric Seibel (with 12 disclosures). A major goal of the project is to advance minimally invasive medical imaging by using ultrathin flexible endoscopes that allow access to regions of the body that were previously inaccessible by conventional endoscopy instruments. Additional goals are to make the new endoscope low cost while also adding integrated functionalities, such as laser diagnostics and therapy.

The clinical potential is vast for the resulting instrument, which improves upon the flexible endoscope, one of the most important tools used in minimally invasive medicine. Unlike commercial flexible endoscopes, the new design is not restricted to using large arrays that require a sensor element for every display pixel. The result is the development of ultrathin endoscopes (approximately 1 mm diameter) having high resolution, full color imaging, wide field-of-view, and very low flexural rigidity. Having a more effective endoscopic tool that is even less invasive will expand the capabilities of minimally invasive medical techniques, while decreasing error rates and tissue trauma and lowering health care costs.

Sponsors of this research project include The Whitaker Foundation, the Washington Technology Center, the National Cancer Institute of the NIH and PENTAX Corporation.

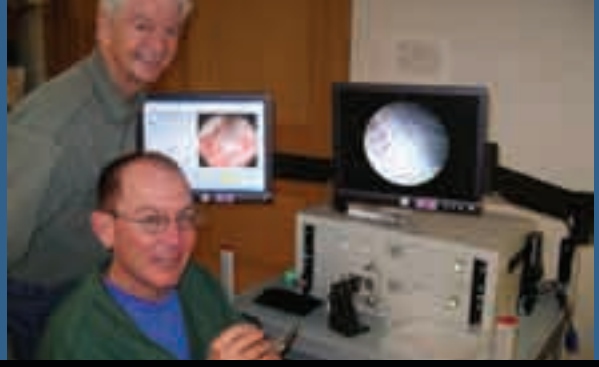


EXHIBIT 2: FY03-FY07 INNOVATIONS REPORTED

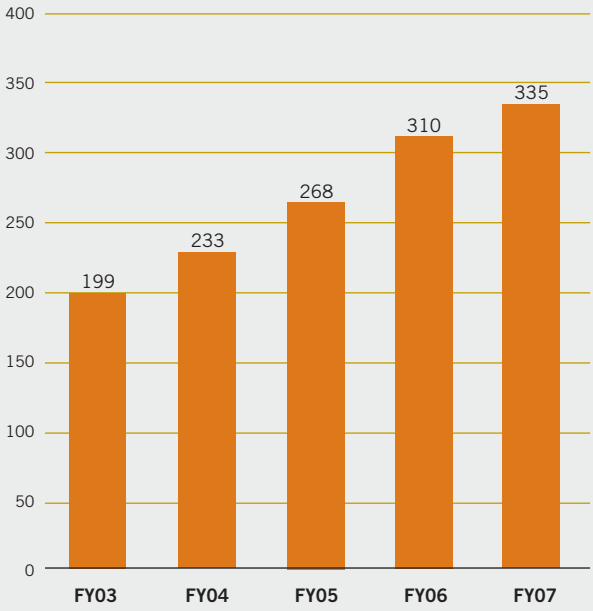


TABLE 2: FY03-FY07 INNOVATIONS REPORTED BY COLLEGE/SCHOOL

	FY03	FY04	FY05	FY06	FY07
Arts and Sciences	18	32	26	23	27
Dentistry	3	7	1	1	3
Engineering	68	89	122	156	172
Forest Resources	0	2	0	0	0
Medicine	77	74	94	102	111
Ocean & Fishery Sciences	11	10	11	12	8
Pharmacy	1	2	2	4	4
Public Health	4	1	2	5	4
Other	17	16	10	7	6
Total	**199**	**233**	**268**	**310**	**335**

Table 2 illustrates the school/college affiliation for innovations reported in FY07. The percentage is pro-rated in the case where more than one school/college is affiliated with the innovation. The Department of Bioengineering reports jointly to the School of Medicine and College of Engineering; thus half of the total number of innovations is credited to each department.

TABLE 3: FY07 DEPARTMENTS REPORTING MORE THAN TEN INNOVATIONS

DEPARTMENT	NO. OF INNOVATIONS
Mechanical Engineering	83
Electrical Engineering	50
Department of Medicine	34
Bioengineering	31
Chemistry	27
Computer Science & Engineering	15
Radiology	14
Genome Sciences	14
Materials Science & Engineering	12
Pharmacology	11

TABLE 4: FY07 INNOVATIONS GROUPED BY INDIVIDUAL

NAME	DEPARTMENT	COLLEGE/SCHOOL	NO. OF INNOVATIONS
Wei-Chih Wang	Mechanical Engineering	Engineering	25
Richard Johnston	Mechanical Engineering	Engineering	16
Charles Melville	Mechanical Engineering	Engineering	16
Vikram Jandhyala	Electrical Engineering	Engineering	15
Eric Seibel	Mechanical Engineering	Engineering	12
Lichen Jing	Division of Allergy and Infectious Diseases	Medicine	11
David Koelle	Division of Allergy and Infectious Diseases	Medicine	11
Minoru Taya	Mechanical Engineering	Engineering	10
Swagato Chakraborty	Electrical Engineering	Engineering	9
Daniel Chiu	Chemistry	Arts & Sciences	8
Dipanjan Gope	Electrical Engineering	Engineering	8
Blake Hannaford	Electrical Engineering	Engineering	8
Alex Jen	Materials Science & Engineering	Engineering	8

SUMMARY OF ACTIVITY: PATENTS

Intellectual Property

Intellectual property protection for commercially viable innovations is a significant activity for UW TechTransfer as it formalizes the transfer of UW-based research from the university out into the marketplace. While the forms of protection (patent, copyright, trademark, etc.) can vary depending on the intellectual property strategy, our department works in close partnership with researchers to ensure that the models we use are consistent with and support their research goals.

Patent Applications

UW TechTransfer filed 166 U.S. patent applications on UW innovations in FY07. These patents applications include a novel method for the treatment and detection of breast cancer, which was developed by UW Oncologist Mary L. 'Nora' Disis. The goal is to produce a vaccine that will immunize against several of the most common proteins expressed in malignant tumors, similar to getting vaccinated against several different strains of flu with a single flu shot.

More than ten of the FY07 patent applications are related to the development of the Scanning Fiber Endoscope project, sponsored in part by Pentax.

Patents Awarded

In FY07, 67 patents were awarded on 51 different innovations from 23 departments at the University, including 43 U.S. patents and 24 issued in foreign jurisdictions. Awarded patents include a method to manufacture porous structures that will grow living tissue, advancing medical care in tissue regeneration and wound healing.

Additionally, the long standing research project sponsored by Pentax to develop a Scanning Fiber Endoscope has resulted in a number of related patents being awarded in FY07. Working with companies like Pentax demonstrates the level and quality of UW research and assists our department in bringing research to the marketplace.

Colleges and Schools

The College of Engineering and School of Medicine continue to produce the majority of patents issued. In FY07, the School of Medicine contributed to 49 percent of the issued patents and the College of Engineering contributed to 45 percent.

UW Patent Ownership

The University of Washington holds over 700 granted patents and is participating in the prosecution of over 1,000 pending patent applications in the U.S. and throughout the world.

Ultreo

After licensing ultrasound technology developed by UW professor Pierre Mourad in 2004, Ultreo Inc. announced in February the first power toothbrush that combines ultrasound waveguide technology with precisely tuned sonic bristle action. An ultrasound waveguide channels ultrasound waves into the bubbly fluid created in the mouth by the sonic action of the bristles. When the ultrasound comes in contact with the bubbles, it transforms them into pulsating bubbles that can remove hard-to-reach plaque bacteria that bristle contact alone can leave behind. Since its launch the Ultreo toothbrush has received numerous accolades and endorsements from the dental industry and recently secured $11.3 million in venture financing. For more information visit www.ultreo.com.

EXHIBIT 3: FY03-FY07 U.S. PATENT APPLICATIONS FILED

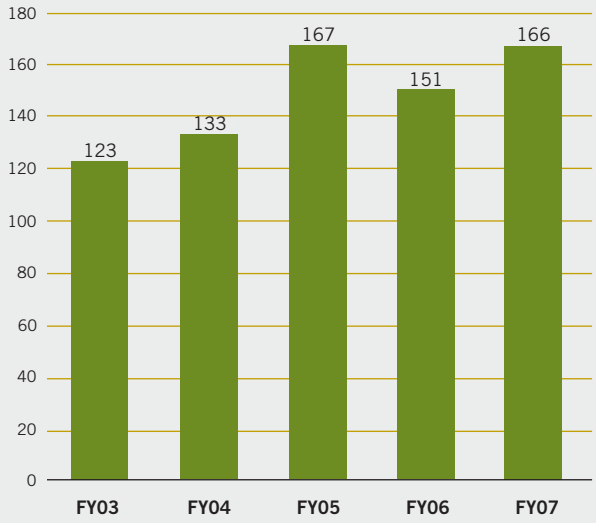


EXHIBIT 5: FY03-FY07 U.S. PATENTS AWARDED

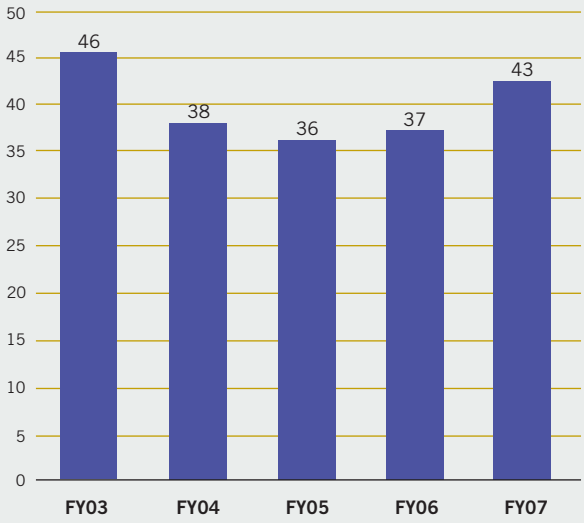


EXHIBIT 4: FY07 U.S. PATENTS FILED, GROUPED BY COLLEGE OR SCHOOL

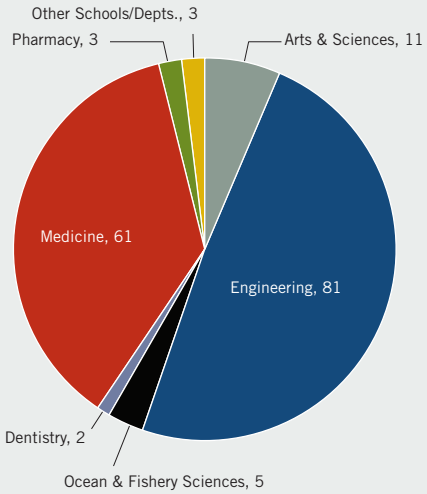


EXHIBIT 6: FY07 U.S. PATENTS AWARDED, GROUPED BY COLLEGE OR SCHOOL

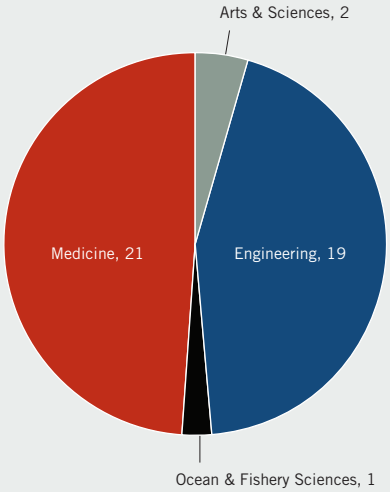


Exhibit 6 illustrates the school/college affiliation for inventions on which patents were awarded in FY07. The number is pro-rated in the case where more than one school/college is affiliated with the invention. The Department of Bioengineering reports jointly to the School of Medicine and College of Engineering; thus half of the total number of patents is credited to each.

Research scientist's expertise brings safety and efficiency to research lab

The old phrase "the devil is in the details" is certainly true when working in research, especially when handling animals in a way that protects them from bacterial and viral pathogens.

J. Preston Van Hooser, a former UW research scientist in ophthalmology and currently a senior compliance analyst and animal use training program manager, has a clear understanding of the challenges of working with laboratory animals in a pathogen-free environment. For Van Hooser, a typical day in the lab included collecting blood from approximately 500 mice. But, said Van Hooser, "it wasn't the task of collecting the samples that was time consuming; it was the laborious but critically important task of manually disinfecting the hundreds of rodent cages prior to handling the animals that burned up most of my time."

Van Hooser explained the tricky process for hand-spraying the cages, which house valuable research mice. "Before even touching a cage you must spray your gloved hands with disinfectant. Then you balance the cage in one slippery hand while using the other hand to spray the entire surface. All this must be done without straining your wrist, missing a spot, or dropping the cage, which can injure the animals."

It was clear that what was needed was an automated, hands-free disinfecting system, but nothing like it was available on the market. Van Hooser set out to design the first.

Once he had a clear concept in mind and with the enthusiastic support of colleagues, Van Hooser met with UW TechTransfer technology manager Bolong Cao.

"When I met with Preston, I knew this was a great idea. It was so simple," said Cao. "Typically researchers think they need to have their ideas well developed before they engage with our office, but coming to us early on allows us to anticipate, and plan for, intellectual property and commercialization issues."

Cao encouraged Van Hooser to start a company around the technology, and suggested he collaborate with engineers at the UW to build the system and to simplify the intellectual property issues. He also recommended that Van Hooser apply for the Technology Gap Innovation Fund (TGIF) to build the first "proof-of-concept" prototype.

Van Hooser worked closely with UW TechTransfer to jump-start the creation of the new venture. LaunchPad, UW TechTransfer's business development program, provided resources and key connections with the local business and venture communities.

The first prototype of the Pathogen Reduction Misting Station (PRMS) was engineered and built by Tom Donaldson of UW's Scientific Instruments department. The device disinfects an animal cage in one second, much faster than the 15 or more seconds needed to hand-spray a cage. Prototype beta-testers found it provided better coverage of disinfectant, eliminated wrist and hand strain, and was fast and efficient.

Recently Van Hooser partnered with the Seattle product development company Slipstream Design, headed by Stuart Jamieson, to further develop and promote the PRMS and form the startup Cirrus BioSystems. The goal of Cirrus BioSystems is to improve standard operating procedures in animal research laboratories through invention and modernization of current technology and practices. UW TechTransfer licensed the patent-pending technology to the company.

The misting station is the first of many innovative technologies Van Hooser hopes to develop.

Focus on broad public use drives strategy for promising cancer discovery

For the past ten years, UW associate professor of medicine Dr. Teri Brentnall has led an international team of researchers in the search for biomarkers involved in the genesis of pancreatic cancer. Pancreatic cancer is one of the deadliest types of cancer—it is nearly always lethal and patients often die within one year of diagnosis—yet few funds are available for research. Brentnall's research program was kept alive through private donations, gifts from the non-profit Lustgarten Foundation, which supports pancreatic cancer research, and even money earned from Brentnall's speaking engagements.

Recently, Brentnall's team made an exciting discovery that will likely change the approach to pancreatic cancer research. In a surveillance study of families who had inherited disease, the team found family members in the initial stages of pancreatic cancer. When they compared the DNA of family members with pre-cancer to those without the disease, they were able to isolate a potential cancer-causing gene. They discovered a mutation in a gene called palladin, which controls the cytoskeleton, the cell's structural backbone. The researchers believe the mutation disrupts the cytoskeleton and allows cells to move quickly and invade healthy tissue.

Brentnall and her colleagues also found that over-expression of the mutated gene occurred in non-hereditary, or sporadic pancreatic cancer, which could shed light on how this form of the disease develops. The close association of the gene with early tumorogenesis makes palladin a potential candidate for an early detection screening test, which Brentnall and her team have begun to work on.

UW TechTransfer recently licensed the discovery to the non-profit organization Canary Foundation. Canary Foundation is focused exclusively on early detection of cancer, while most cancer research is devoted to developing cancer cures and therapies. Canary has funded Brentnall's research for the last two years and will continue to support it. The license agreement gives the Foundation the option of sub-licensing the intellectual property, when combined with intellectual property covering other pancreatic cancer markers, to research and development companies for continued development and commercialization.

"We licensed this technology to Canary Foundation because it has the capability and funding to bring together researchers with diverse areas of knowledge and expertise," said technology manager Angela Loihl. "By pooling resources, a better screening test can be developed, and by licensing non-exclusively, UW TechTransfer can license to additional organizations and companies, maximizing the public benefit of this exciting discovery," Loihl added.

Three institutions are co-owners of the technology: University of Pittsburgh, Cleveland Clinic Foundation, and University of North Carolina at Chapel Hill. UW TechTransfer has applied for patents on the discovery.

Entrepreneurs seek out UW renewable energy technology

When Chris Wheaton and Rick Luebbe, two entrepreneurs in the information technology field, decided to form a company, they came to the UW to find the innovation and the expertise. Aaron Feaver, a doctoral student in materials science and engineering working with Professor Guozhong Cao, was developing just the technology they were looking for.

"We had three criteria: the technology had to be focused on renewable energy, it had to be commercializable, and the technical team had to be a good fit with us. We found all three with Dr. Cao and Aaron and this technology," said Luebbe. Soon thereafter, Feaver joined the pair to form EnerG2, a startup using nanotechnology to custom-design carbon-based storage materials to match specific energy needs. Feaver's UW-based technology is the foundation of the new company.

Feaver, a former engineer with Boeing, came to the UW with an interest in energy storage technologies, specifically ways of efficiently storing hydrogen. With support from UW's Center for Nanotechnology he began working with Cao, who was already studying energy-related nanotechnologies.

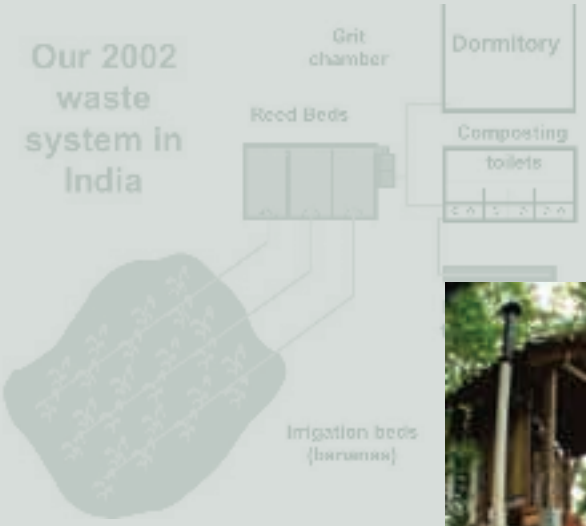
Once on board with EnerG2 and with grants from the Washington Technology Center, Feaver developed a nanotechnology process for creating pure synthetic carbon materials with very high surface areas. The process can be tuned to make specific carbon structures that match the desired energy storage approach. The powder-like material effectively acts as a sponge to absorb and store gases.

Until now, carbons derived from naturally occurring materials were used as alternative ways to store gases. But natural materials have limitations which make them less than ideal for energy applications: they often contain impurities which are difficult to remove, and they have to be "force fit" to match the size of gas molecules. Feaver's process designs carbon structures to match the specific energy application needed.

While work continues on hydrogen and methane gas storage applications, the team's primary focus has shifted to supercapacitors, a hot topic in green research, especially as replacements for batteries in electric and hybrid cars. Like batteries, supercapacitors are energy storage devices, but with major advantages. They deliver more power in a smaller device, and charge and recharge much faster. They also have a much longer life cycle than batteries and are safer, as they do not employ heavy metals or other toxic chemicals.

EnerG2's synthetic carbon material makes supercapacitors work even more efficiently by capturing additional energy that is typically lost as heat in current supercapacitor or lithium ion battery designs. In addition to electric cars, other applications for supercapacitors made with the proprietary material are in machines that lift loads, such as forklifts, cranes, and elevators.

Hydrogen, methane, and supercapacitors are just three green technologies that EnerG2 is making even greener, and more efficient, with its patent-pending method. The company is looking at many other applications for its unique, cost-competitive technology.



Simple but unique waste management solution spurs licensing opportunities

Former UW associate research professor Chuck Henry has been studying waste recycling and composting for more than 20 years. During that time, Henry developed a number of practical waste management solutions and started the Sustainable Resource Sciences program at UW's College of Forest Resources. But it wasn't until he met with business development professionals at UW TechTransfer that he realized a bigger plan could be put into place to address one of the most pressing problems of developing countries—lack of efficient human waste management systems.

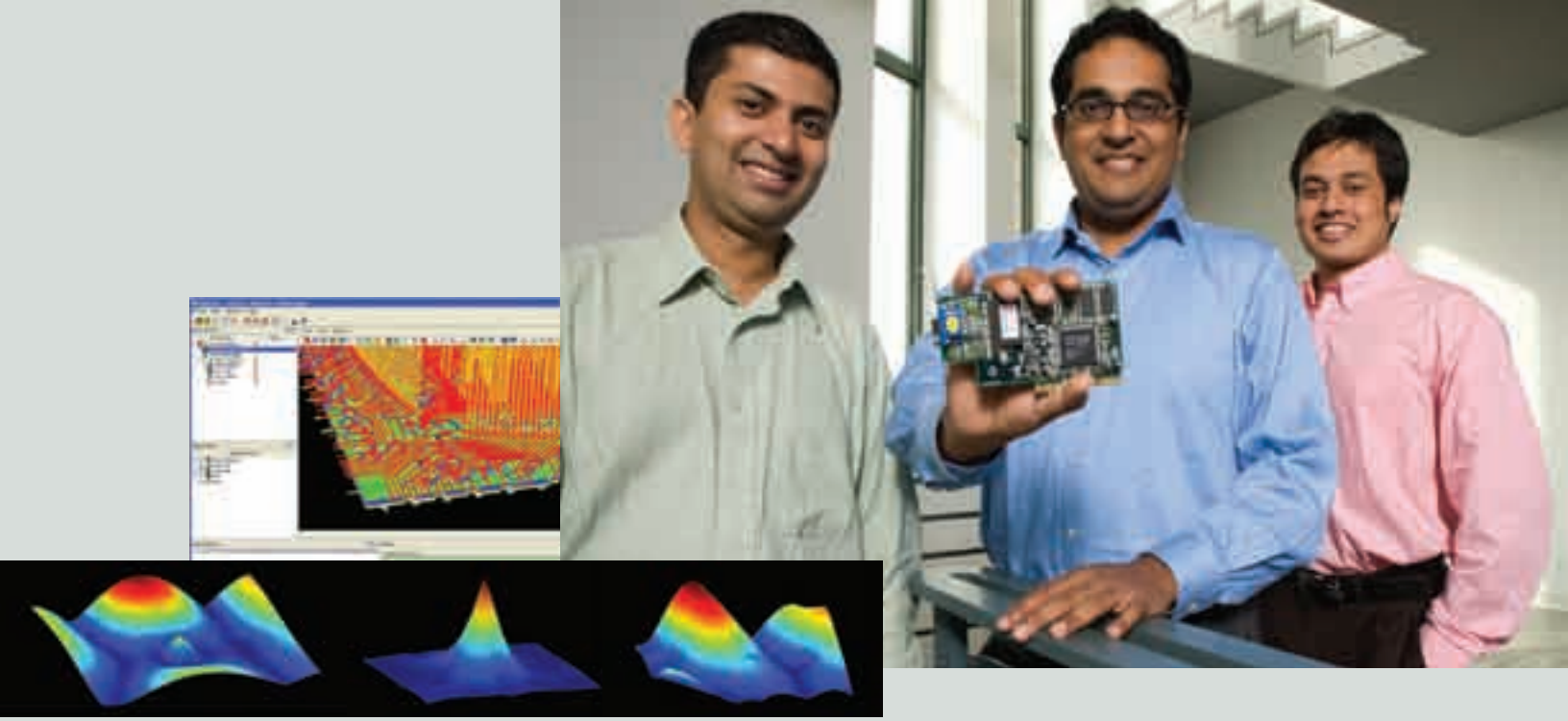
Henry developed a low-cost method for transforming human waste into rich compost. The simple, low-tech device, which is built primarily of PVC pipe, has already been installed at several locations in poor communities in Costa Rica and Ecuador, and with help from UW TechTransfer's LaunchPad program, versions of Henry's system could soon be deployed at additional sites in Latin America and even at local King County parks.

When Henry disclosed his composting toilet technology to UW TechTransfer, he was surprised at the enthusiasm with which it was received. "UW TechTransfer got excited about it," he recalled. The LaunchPad team linked Henry to community mentors and worked with the UW Business School to bring in MBA Gates Fellows who conducted market research, wrote business plans, and eventually started the for-profit company Zaste (for "zero waste") around Henry's technology. Zaste, which entered the UW's Center for Innovation and Entrepreneurship Business Plan competition and won a cash prize to help further develop the prototype, is focused on developing a version of the composting system for recycling dog waste. A second, non-profit company called Creative Sustainable Practices, founded by two of Henry's students, will take the technology to community sites in Latin America and other developing countries.

Henry now acts as a consultant for Brown & Henry, LLC, a UW startup created to sublicense the composting toilet technology to for-profit and non-profit companies and provide training and consulting on sustainable solutions to waste management problems. Brown & Henry signed a limited-term exclusive "know-how" license with UW TechTransfer for the composting technology, and will likely sub-license it to Zaste and Creative Sustainable Practices.

UW TechTransfer technology manager Kelly FitzGerald explained the licensing strategy. "When Chuck came to UW TechTransfer he was thinking about selling kits and instructions for the composting toilet. But we recognized that this could be deployed to help a lot of people, even if the technology itself isn't patentable. Licensing exclusively to Brown & Henry and including the sub-licensing component will allow the broadest possible distribution of this simple but revolutionary idea," she said.

Henry is currently teaching classes at Eastside Preparatory School in Kirkland, Washington, where he was instrumental in starting a sustainability program. He also retains a part time Senior Lecturer position at UW Bothell.



Researchers solve microelectronic design problem, launch startup

When associate professor of electrical engineering Vikram Jandhyala came to the UW in 2000, the microelectronics revolution was well underway. Electronic circuits for everything from computer chips to televisions were becoming smaller, faster, and cheaper. But microelectronics systems were also becoming more complicated, and fewer engineers existed to design them.

Recognizing this problem, the Defense Advanced Research Projects Agency (DARPA) initiated a project at the UW to design simulation software for microelectronics design, especially in the area of mixed-signal electronics. Jandhyala and his team of students with a high level of expertise would develop the electromagnetics software required, while principal investigator and electrical engineering professor Richard Shi would lead the circuit simulation effort.

From previously designing software in industry, Jandhyala had learned to think in terms of finding solutions to problems and making sure the solution worked in every case. His focus on usability and team-based design would carry over to his approach to the project. While his PhD students worked individually on interesting research problems, they tackled a difficult, real-world problem as an integrated team.

DARPA kept the team on a rigorous schedule of meeting deliverables, including algorithms, benchmarks, and code demonstrations. The team also produced more than 120 academic papers during this time. The completed electromagnetic simulation software for microelectronics, called PILOT, was an implementation of mathematical models and computational methods, technical knowledge and modular software design.

Shortly thereafter, Jandhyala learned of UW TechTransfer's Digital Ventures unit. Digital Ventures worked with him to secure the intellectual property rights so that Jandhyala and his team could collaborate with outside companies to further develop the product. Collaborators also included the U.S. Air Force and Navy, who along with the Washington Research Foundation (WRF), DARPA and NASA, provided funding for the project.

In 2006, two large software companies showed interest in licensing PILOT, but because Jandhyala was comfortable with the industrial model of production and wanted to keep the intellectual property at the UW, he decided to take a leave of absence from the UW, exclusively license the software, and create his own startup company. Physware was born, and several of Jandhyala's students and former students, some of whom had already taken jobs in industry, joined the young company, as did former colleagues from the University of Illinois.

"I expected a slower and more cumbersome process," said Jandhyala of the intellectual property management and licensing. "But all of the obstacles we faced were overcome. I am thankful for the support of the Electrical Engineering Department, the College of Engineering, and UW TechTransfer in making Physware a possibility." Jandhyala learned a great deal about technology transfer and now advises his students to disclose their innovations and work with technology managers early on.

Physware is funded by Madrona Venture Group, angel investors, and the WRF.

Intellectual property strategy paves way for license with Pfizer

Spirometry, a procedure which measures lung function and is used to assess lung health in patients with asthma and other respiratory conditions, was an under-used diagnostic tool until a UW research team began to investigate why.

Dr. James Stout of the UW Department of Pediatrics and study coordinator Helen Powell found that primary care physicians were not routinely using spirometry in practice, even though the procedure had been shown to be important in assessing asthma. More than 80% of children are diagnosed with asthma by their primary care doctor, not a specialist, so they concluded that awareness of the importance of spirometry and high quality training in its use needed to be addressed.

The two set out to improve upon the few spirometry training methods available, and began developing content for an interactive, multimedia CD-ROM. Spirometry Fundamentals is a modular, self-paced tutorial for training primary care providers and other healthcare providers in the use and interpretation of spirometry. It has been hailed as a consistent, clear, authoritative source of spirometry information.

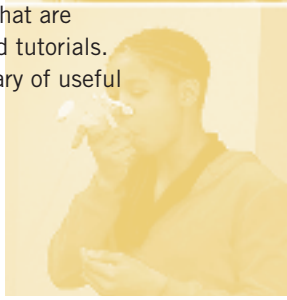
Using a contract with the Centers for Disease Control, Dr. Stout's team hired UW's Creative Technology group to design and develop a software platform for the CD. Early on in the project, the team met with UW TechTransfer's Digital Ventures unit to develop strategies for distribution and commercialization of the CD and to consolidate and manage the intellectual property rights.

To create a self-sustaining fund for further development of the CD, the team elected to distribute royalties through a Project Budget. UW innovators can elect to use Project Budgets to leverage royalties from licenses by re-investing them into their research project. Some researchers use this approach for expenses related to the development and maintenance of their digital media projects, including purchase of capital equipment or hiring staff.

Pharmaceutical giant Pfizer recently signed a non-exclusive distribution license with UW TechTransfer to distribute 65,000 copies of the Spirometry Fundamentals CD to hospitals and clinics in kits with its new inhaled insulin drug, Exubera.

"When Pfizer called, UW was ready to go," said Gail Dykstra, UW TechTransfer's technology manager working with the Spirometry Fundamentals group. The team started working early in the project to track and consolidate the intellectual property rights. "The relationship between the research team and UW TechTransfer paved the way to act on the opportunity for commercialization," continued Dykstra.

Dr. Stout and Dr. Rita Mangione-Smith are now studying the effectiveness of Spirometry Fundamentals in practice and they are using a self-sustaining royalty budget to build on their successes to create additional educational tools for the healthcare community of other procedures that are learned effectively from computer-based, self-paced tutorials. "Spirometry Fundamentals is just the first in a library of useful tools we plan to develop," said Stout.



Securing IP strategy upfront to streamline public health innovation deployment

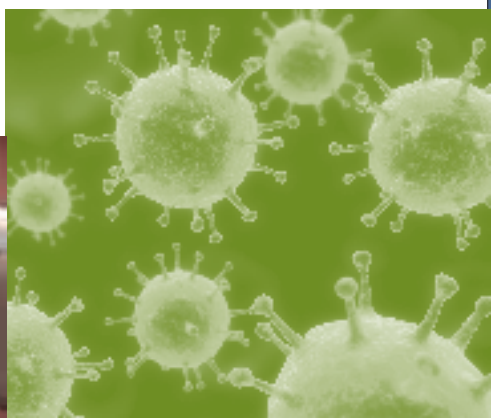
The Bill & Melinda Gates Foundation is taking aim at the world's most urgent public health issues, and one important strategy is to fund and mobilize university-based healthcare innovations. The Gates Foundation is partnering with numerous academic and research institutions, including the University of Washington, to promote the development and accessibility of innovative technologies that address the health issues of people in the developing world. The goal is not to "throw money at the problem," but to award grants thoughtfully and selectively to projects with well developed strategies regarding the ownership and management of intellectual property (IP) protection that are tailored to the type of product being developed. Such forward-looking IP strategies are aimed at ensuring that the resulting innovations will be made available for the benefit of people living within developing countries, serving the Foundation's goal of global access.

The Gates awards, with their proactive IP strategies, have created a new role for UW TechTransfer. Aline Flower, Manager of Legal Affairs, and Ariadna Santander, Manager of the Agreements Group, are scrutinizing incoming material transfer and license agreements that relate to the work of UW researchers Philip Greenberg and Joseph Blattman. Drs. Greenberg and Blattman play a key role in the Gates-funded global Consortium on AIDS Vaccine Discovery (CAVD). Flower and Santander are monitoring agreements with Greenberg's Mouse Immunology Lab for any potential problems with the research project's associated IP that could prevent the deployment of the much hoped-for HIV vaccine.

UW TechTransfer's substantial involvement in this global effort is a different kind of task for the office. As a service mission, it supports the ultimate goal of UW TechTransfer, which is to extend the impact of UW research. "This isn't about making money, it's about making healthcare advances available to people living within developing countries," said Flower. "We want no IP obstacles to stand in the way of applying UW innovations to urgent world health concerns."

For some agreements, IP issues can be difficult to untangle. For example, many research materials such as transgenic mice, cell lines, and cultures come to the UW from other institutions with their own IP rights attached. Agreements Manager Santander said, "My team ensures that incoming agreements are carefully reviewed and negotiated to avoid intellectual property language that would be in conflict with our global access mandate under the Gates Foundation funding. The Foundation understands that technology transfer offices are familiar with IP issues surrounding large-scale research projects, and that in order to achieve global access initiatives there needs to be oversight of potential IP conflicts. Our role is to provide this oversight so the overall goal of the program can be achieved."

As part of the UW's and the Gates Foundation efforts to address world health needs, the UW established the Department of Global Health. A $20 million grant from the Foundation will help fund the interdisciplinary program, which will serve as a focal point for the University's efforts to identify health problems in underserved populations and develop and implement innovative solutions.



"By pooling resources...and licensing non-exclusively, [we] can maximize the public benefit of this exciting discovery."

innovation

"The technology had to be...renewable energy [and] commercializable, and the team had to be a good fit. We found all three."

"Licensing exclusively... and including the sublicensing component will allow the broadest possible distribution."

"When Pfizer called, the UW was ready to go."

Our primary goal is to achieve maximum utilization of discoveries arising from UW research. We accomplish this goal through business models that are appropriate for each discovery. Our department works in close partnership with researchers to ensure that the models we use are consistent with and support research goals.

investment

"Coming to us early on allowed us to anticipate and plan for intellectual property and commercialization issues."

"Technology transfer offices...play an integral part in the success of this program."

impact

"I expected a...more cumbersome process, but the obstacles were overcome."

2007 TECHNOLOGY GAP INNOVATION FUND (TGIF) RECIPIENTS

TGIF, a joint program of UW TechTransfer and the Washington Research Foundation, advances the development of UW innovations that are commercially promising but need to bridge the funding gap between academic research and a full-fledged commercial product or service. Researchers use the funds to test or refine innovations or create prototypes in anticipation of licensing. To date, $1.8 million in TGIF funds have been awarded.

Michael R. Bailey of the Applied Physics Laboratory will make improvements to and test a new system for determining when kidney stones have broken up completely during treatment. This feedback will lessen damage to the kidneys and surrounding tissue by reducing the number of shock waves used in treatment.

Valerie Daggett of Medicinal Chemistry has designed a software program to model and simulate protein dynamics, such as protein folding and interactions with other molecules. TGIF funds will support the development of a graphical user interface and functionality needed for protein and drug design.

Daniel F. Leotta of the Applied Physics Laboratory will modify and test an ultrasound-based system to detect breast cancer and monitor the effectiveness of chemotherapy. The ultrasound system detects small, early stage tumors, (an improvement over x-ray mammography) by detecting new blood vessels associated with malignant tumors.

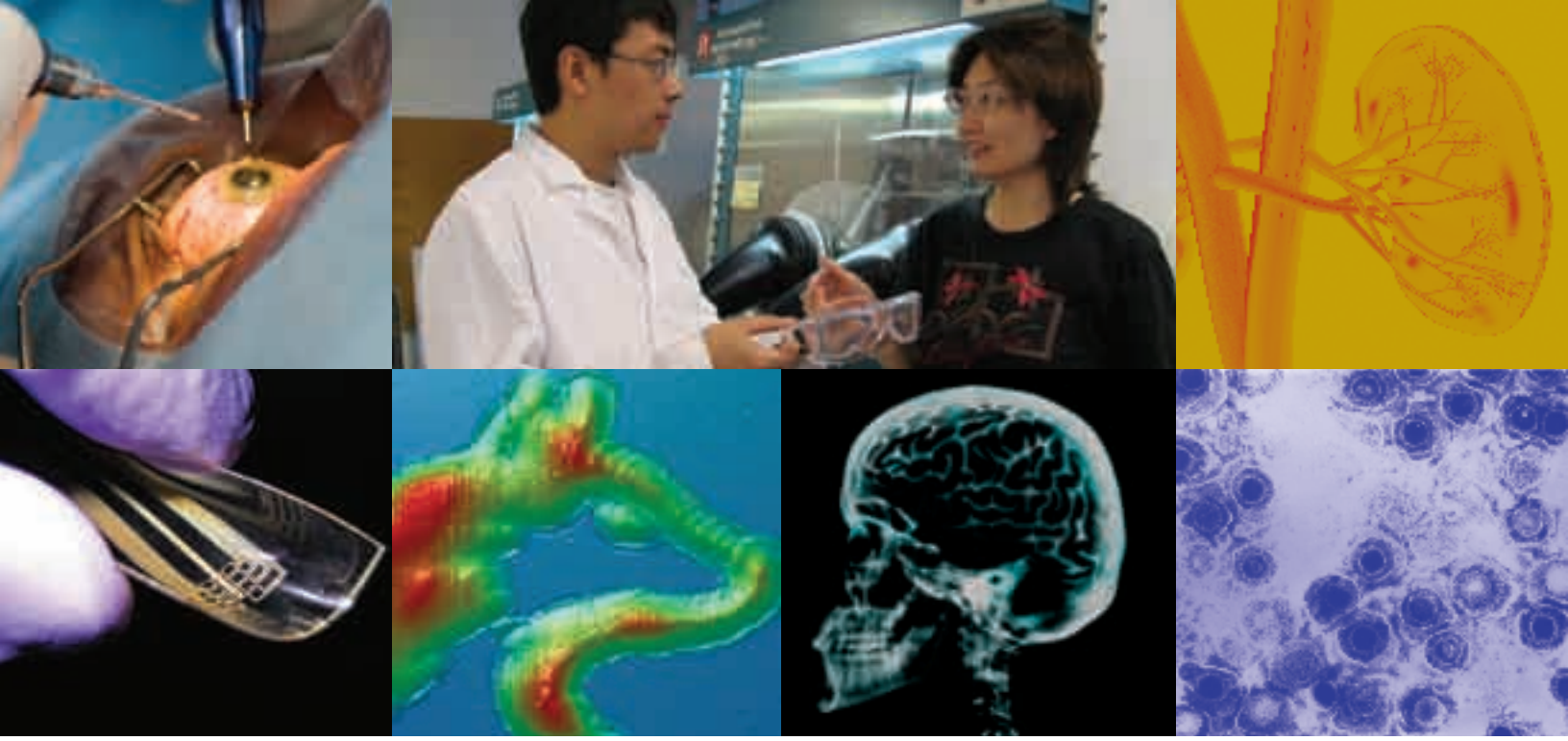
James M. Olson of Pediatrics has developed a molecular probe named "Tumor Paint" to help surgeons distinguish brain tumors and other cancers from normal surrounding tissue. TGIF funds will support further study of Tumor Paint properties.

Babak Amir Parviz of Electrical Engineering will design, build, and demonstrate the operation of a small (100 x 100 pixel) flexible display created with a micro-component self-assembly process that also incorporates single crystal LEDs and silicon transistors. This prototype will demonstrate a novel approach to the cost-effective manufacture of high performance flexible displays.

Daniel T. Schwartz of Chemical Engineering will produce sample products created with a unique low-cost, single-step process for producing 3-D metal patterns. Electrochemical Printing (EcP) replaces multiple steps and tools currently in use.

Younan Xia of Chemistry will demonstrate high volume production of electrospun nanofibers. Electrospinning produces thousands of nanofibers with uniform diameters. These fibers have potential uses in antimicrobial films, purification membranes, and electrochemical and energy-storage applications.

Glenn Bartholomew of Chemistry will further develop and optimize a recently invented method for processing organic electronic devices that use organic electronic materials that are not degraded by oxygen. This new method significantly reduces the cost of manufacturing by eliminating the need for expensive equipment and special manufacturing procedures to reduce exposure to oxygen.



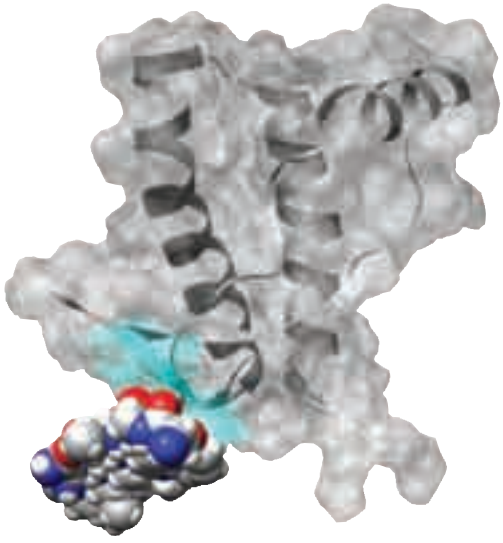
Daniel Chiu of Chemistry will test a patent-pending biochip filtration device for the prognosis of breast cancer. The biochip recovers greater than 98 percent of circulating breast tumor cells (CBTCs) in the blood. The number of CBTCs in the blood correlates with patient disease status, treatment success, and patient survival rate. The performance of the new biochip will be compared to the only lab test on the market for recovering CBTCs, which isolates much lower numbers of cells and is prone to false-positive results.

Jae-Hyun Chung of Mechanical Engineering will test Shadow Edge Lithography (SEL) to address the high demand for smaller, cheaper and faster computer chips. SEL is used to fabricate nano-sized structures on semiconductors and biochips. The throughput and resolution of the SEL technique are far superior to currently available methods, and SEL is compatible with existing equipment. It is also much less expensive than next generation ultraviolet and x-ray techniques.

Vikram Jandhyala and Indranil Chowdhury of Electrical Engineering will test their simulation software Lab-on-Chip Design Analysis. This unique, fast software allows for large-scale 3-D modeling and analysis of physical effects such as fluidic flow and particle motion in microfluidic devices ("labs on a chip"). This powerful tool has the potential to move the process of lab-on-a-chip design from experimental to simulated, and then to optimized design.

David Koelle of Medicine will create and test a second generation vaccine for Herpes Simplex-2 (HSV-2), the virus that causes genital herpes. The vaccine is a specific DNA chain that encodes for a novel HSV-2 protein, which has been shown to cause a strong immune response in mice. If successful, the vaccine would prevent serious and even fatal infections in neonates and immune compromised persons, as well as reduce the risk of infection with other sexually transmitted agents such as HIV.

Tueng T. Shen of Ophthalmology and Bioengineering will test a prototype drug delivery system for patients receiving artificial intraocular lenses during surgery for cataracts. The drug delivery system is attached to the implanted lens and delivers a consistent amount of antibiotics to prevent infection after surgery. This device, if implanted with every intraocular lens, would eliminate the need for antibiotic eye drops, which are universally prescribed after cataract surgery and which patients often forget to use.



TECHNOLOGY GAP INNOVATION FUND OUTCOMES

With the help of TGIF funds, many former TGIF awardees have succeeded in preparing their technologies for commercialization and attracting licensees or forming their own companies. We highlight four successful projects here.

Smart Sunglasses

Research assistant professor Chunye Xu and doctoral student Cao Ma of Mechanical Engineering applied their 2006 TGIF award to develop a prototype "smart sunglasses." The lenses contain electrochromic polymers that allow them to change from light to dark in less than a second with the application of electrical current like a switch. The lenses require only small amounts of power, and only when switching from one state to another. In addition, Xu's new approach of using organic compounds in the lenses reduces the cost of manufacturing.

Xu and Cao recently demonstrated the unique technology at the American Chemical Society meeting, garnering media attention and interest from large companies. UW TechTransfer licensed the technology for exclusive use in eyewear applications to Hi Tech Initiatives, a UW spinoff formed to further develop this novel and environmentally friendly technology.

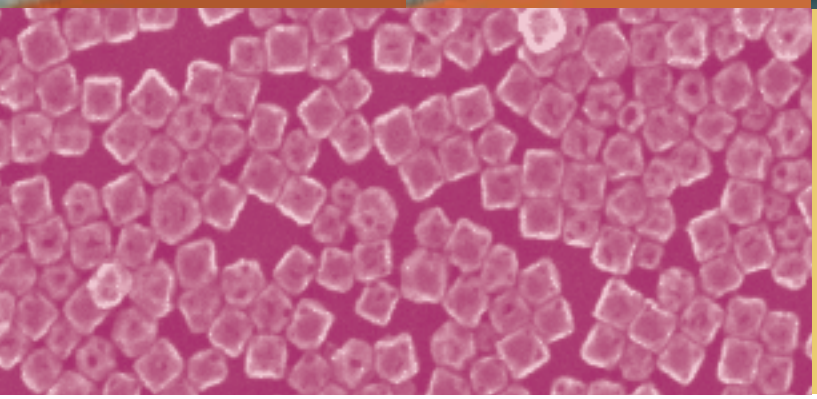
"There is always some distance between academic research and practical utilization. TGIF supported us in overcoming this "gap" and building a prototype of smart sunglasses. Now, this technology is closer to being transferred to production for the benefit of people's lives," said Xu.

Software for Prostate Surgery Training

Robert Sweet, formerly of UW Urology, and Peter Oppenheimer, software engineer at UW's Human Interface Technology Lab, collaborated to develop virtual simulation software to train surgeons on a common procedure called Transurethral Resection of the Prostate, or TURP, to treat enlarged prostate. TURP is a difficult procedure to learn and teach and new surgeons have few opportunities to practice it.

A TGIF award in 2004 funded translation of the simulation software into a PC-compatible format and other improvements, leading to the licensing of the software to Medical Education Technologies, Inc. (METI) "This development task, funded through the TGIF award, enabled us to take a research prototype to the point where it was viable as a commercially licensable product," said Oppenheimer. "Our TGIF funding had been granted prior to the start of negotiations with METI and was essential to establishing their consideration of our product."

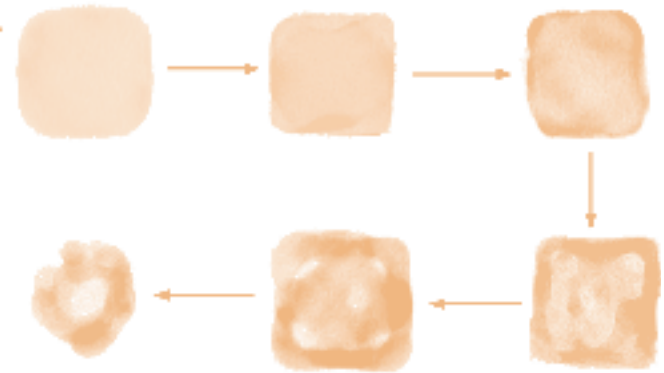
METI incorporated the software into its SurgicalSim® TURP virtual reality simulator that allows surgeons to practice the procedure and hone their skills before actually performing the surgery on patients. METI is now manufacturing and selling the virtual trainers.



An Optimized Method for Mass Production of Nano-structures

Chemistry professor Younan Xia developed a method for large-scale synthesis of small-scale structures: gold and silver nano-sized boxes, wires, and other nano-shapes for use in fields as diverse as medicine and electronics. Xia received TGIF funding in 2005 to make improvements to the synthesis process, making it easier and more efficient to create mass quantities of variously-shaped nanostructures. “The TGIF award allowed us to shorten the chemical reaction time from 15 hours to 15 minutes by optimizing the reaction conditions,” said Xia.

The improved method was licensed to Cambrios Technologies, a California company that plans to use the method in electronics and microelectronics applications. Multiple companies have expressed interest in Xia’s nanotechnologies for other uses.

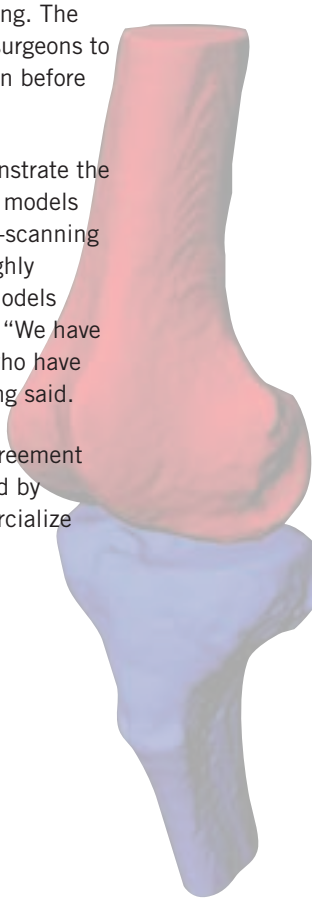


Patient-Specific Anatomical Models for Surgery

Randal Ching, Duane Storti, and Mark Ganter in Mechanical Engineering, and David Haynor and Yangqiu Hu of Radiology, and Bil Ledoux of the Veterans Administration Medical Center were awarded TGIF funds in 2006 to test 3-D, anatomically accurate plastic prototypes that are designed using the team’s patent-pending medical imaging software. “We can go from an individual patient’s CT scans, which are two-dimensional ‘slices,’ to creating a three-dimensional computer model and then outputting that to a highly patient-specific plastic model,” said Ching. The models can be manufactured quickly and allow surgeons to see and feel the part of the body they will work on before going into the operating room.

The TGIF funds allowed the researchers to demonstrate the accuracy and utility of the models. Using plastic models made from actual bones from cadavers and laser-scanning both to compare, they found the models were highly accurate representations of the real thing. The models have demonstrated their utility in the real world. “We have received very positive feedback from clinicians who have used the models in pre-operative planning,” Ching said.

UW TechTransfer recently signed an exclusive agreement with ImageSpace 4D (IS4D) a UW startup formed by members of the research team to further commercialize the technology.



FINANCIAL RESULTS

Revenue Summary

The University of Washington receives revenue from UW technologies managed by UW TechTransfer and the Washington Research Foundation (WRF). Total revenue received in FY07 from all sources was over $38 million, a 61 percent increase from FY06. One driver of the revenue increase was Merck's use of a technology, Expression of Polypeptides in Yeast, managed by WRF. Merck's new human papilloma virus (HPV) vaccine, Gardasil, is manufactured using the UW technology. Sales of Gardasil generated a substantial amount of revenue for the university in FY07.

In addition, 484 agreements for 450 different technologies generated licensing revenue in FY07. This total represents revenue received from commercial development agreements, software use licenses, and transfers of biomaterials. Twenty-nine technologies generated over $100,000 each. Four individual technologies and one agreement generated over $1 million each and cumulatively accounted for 78 percent of the total revenue received.

EXHIBIT 7: FY03-FY07 REVENUE

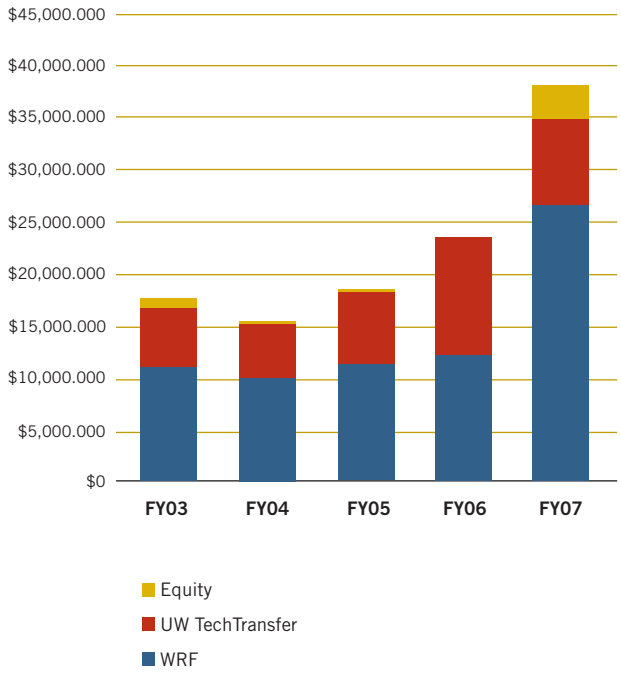


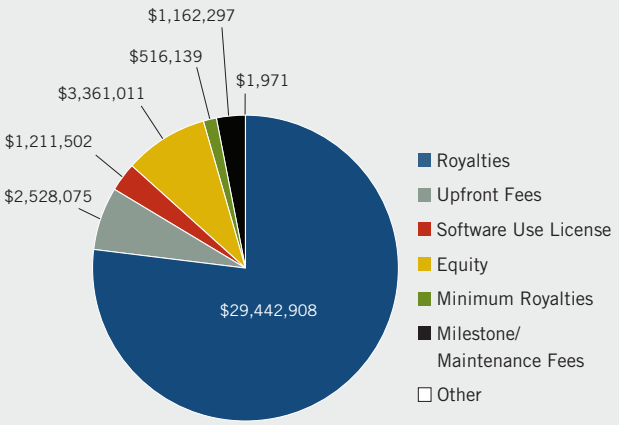
TABLE 5: FY03-FY07 REVENUE

	FY03	FY04	FY05	FY06	FY07
WRF	$10,872,402	$10,282,932	$11,174,046	$12,384,443	$26,544,945
UW TechTransfer	5,865,927	5,219,281	7,288,095	11, 097,654	8,317,947
Equity	610,315	254,410	181,573	5,032	3,361,011
Total	**$17,348,644**	**$15,765,623**	**$18,643,714**	**$23,487,129**	**$38,223,903**

Revenue by Type

Revenue includes several components: royalties on sales of products or services; lump sum or upfront fees generally received when a license is signed; periodic fees tied to milestones or time periods over the life of the license; liquidation of equity received as consideration for a license; and ongoing fees for continued use of licensed software. Over 75 percent of total revenue received in FY07 was from royalties on sales of products and services.

EXHIBIT 8. FY07 REVENUE BY TYPE



Erudite

Ultrasound technology developed in the laboratory of UW professor Les Atlas will soon be an important component of a global wireless system for tracking and monitoring ship cargo containers and securing them against terrorist threat and loss through pilferage, theft and spoilage. Atlas has partnered with local company Erudite, Inc. to incorporate his low-cost security technology into the company's system for tracking and monitoring the security and integrity of ship cargo containers. Erudite is currently testing its innovative acoustic profiling system at the Port of Tacoma, one of two national centers charged with identifying and developing solutions to secure the containerized supply chain. The opportunity to test its system within a marine terminal environment enables the company to develop technologies that accurately detect threat in ways that enhance the flow of commerce. For more information visit www.erudite.com.

FINANCIAL RESULTS

Expenses

UW TechTransfer utilizes legal counsel from outside the University for the preparation and prosecution of all patent applications, and currently oversees more than 200 outside counsel appointments with over 20 firms. Firms and attorneys are selected on a case-by-case basis depending on the particular expertise required. Legal expenses are also incurred for trademark registrations, legal opinions on intellectual property protection available, and for conflict resolution (which is associated with issues that could lead to arbitration and litigation).

Pursuing patent protection for UW innovations requires significant resources. UW TechTransfer invested over $3 million on patent protection and other legal expenses in FY07. The University of Washington also received reimbursements totaling $1.69 million from UW's licensees. The majority of the reimbursements are from expenses incurred in FY07, but a portion is from expenses incurred in previous years.

Distributions

Revenue received by UW TechTransfer is distributed to various stakeholders in accordance with contractual obligations and University policies. These stakeholders include inventors and developers, departments, laboratories, colleges and schools, University research funds and joint rights holders. UW TechTransfer retains an administrative fee and recovers certain expenses prior to distributions. Revenue received through the close of each fiscal year (June 30) is generally distributed in the following fiscal year, in accordance with University policy.

TABLE 6. FY03-FY07 LEGAL EXPENDITURES

	FY03	FY04	FY05	FY06	FY07
Expenditures	$2,018,096	$1,540,752	$2,915,062	$3,297,779	$3,146,950
Cost Recovery	2,628,240	1,077,395	1,375,385	1,160,459	1,694,347
Total	**$4,646,336**	**$2,618,147**	**$4,290,447**	**$4,458,238**	**$4,841,297**

Note: The data for Table 6 has been reformatted and calculated to be consistent with how UW TechTransfer submits data to the Association of University Technology Managers (AUTM) survey. Legal fees as defined by the AUTM survey include patent and copyright prosecution, maintenance, and interference costs, as well as minor litigation expenses that are included in everyday office expenditures.

EXHIBIT 9. FY03-FY07 DISTRIBUTIONS

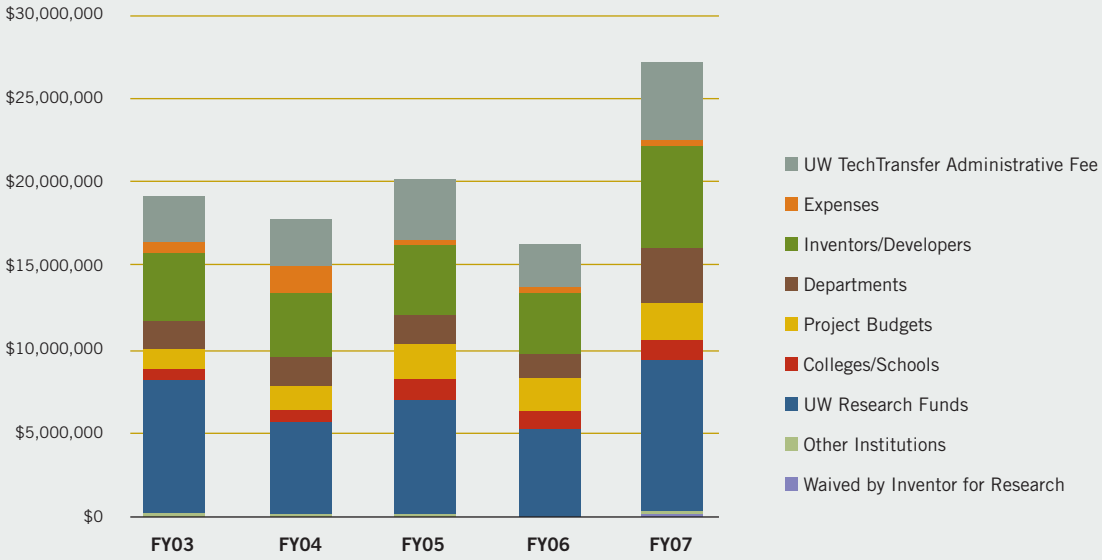


TABLE 7. FY03-FY07 DISTRIBUTIONS

	FY03	FY04	FY05	FY06	FY07
UW TechTransfer Administrative Fee	$2,678,645	$2,614,887	$3,149,003	$2,590,701	$4,702,479
Expenses	597,121	1,746,781	188,440	174,587	233,854
Inventors/Developers	3,994,348	3,726,192	4,588,513	3,612,089	6,263,814
Departments	2,007,369	1,973,856	2,109,870	1,734,208	3,073,636
Project Budgets	1,141,609	1,184,239	2,168,106	1,945,392	2,245,351
Colleges/Schools	910,319	574,598	954,304	570,935	1,007,620
UW Research Funds	13,496,446	6,701,213	5,427,564	6,743,084	5,485,340
Other Institutions	150,405	186,338	264,868	44,758	91,590
Waived by Inventor for Research					64,083
Total	**$18,181,028**	**$17,434,455**	**$20,166,187**	**$16,158,012**	**$27,448,735**

NOTE: Waived by Inventor is a new category; this option for inventors became available in FY2004.

COMPANIES UTILIZING UW DISCOVERIES

3M
Abbott Laboratories
Amgen Inc.
Apple Computer, Inc.
AstraZeneca Pharmaceuticals LP
Autodesk
Baxter Healthcare Corp.
Bayer AG
Boeing Commercial Airplanes
Bristol-Myers Squibb Company
Canon Inc.
Daewoo Telecom Co., Ltd
Eastman Kodak Company
Electronic Arts
Eli Lilly and Company
Excite, Inc.
Fuji Photo Optical Co. Ltd.
GE Healthcare

Genentech, Inc.
GlaxoSmithKline, Inc.
Google, Inc.
Hewlett-Packard
Hitachi, Ltd.
ICOS Corporation
InfoSpace Inc.
Intel Corporation
Lockheed Martin Corporation
Lucent Medical Systems
Medtronic, Inc.
Merck & Co., Inc.
Mercury Interactive Corporation
Micronics, Inc.
Microsoft Corporation
Novartis
Novo Nordisk
Pentax Corporation

Pfizer
Physio-Control Corp.
Promega Corporation
Quinton Instrument Company
Raytheon Aircraft Co.
Roche Diagnostics
Samsung Electronics Co., Ltd
Sanofi Diagnostics Pasteur
Siemens Corporation Medical Solutions USA, Inc.
SmithKline Beecham Corp.
SpaceLabs, Inc.
Tektronix, Inc.
Texas Instruments, Inc.
Unisys Corporation
Wyeth Pharmaceuticals
ZymoGenetics, Inc.

Photo Tourism

Imagine being able to explore Notre Dame cathedral in 3-D, zooming seamlessly from an aerial view to ground level view and back again. Computer Science and Engineering associate professor Steve Seitz, doctoral student Noah Snavely, and Microsoft researcher and affiliate professor Rick Szeliski have developed computer technology that turns a collection of 2-D photos into a rich, immersive, 3-D experience. The technology, called Photo Tourism, allows users to interactively explore realistic 3-D images constructed from hundreds or thousands of photos taken from different viewpoints. Microsoft incorporated Photo Tourism into its Photosynth product launched at the end of 2006, and recently NASA used the Photo Tourism technology to create images of the space shuttle Endeavour as a way to test the software in a very complex environment before releasing it more broadly. For more information visit http://phototour.cs.washington.edu.

FY07 TOP TEN REVENUE-GENERATING TECHNOLOGIES

TITLE	DEPARTMENT & RESEARCHERS	TOTAL INCOME ($)
Polypeptides in Yeast A method of producing recombinant proteins in yeast.	GENOME SCIENCES **Hall, Ammerer**	**$12,558,684**
Simplified High Frequency Tuner and Tuning Method An efficient low-IF architecture that improves the performance of wireless devices.	ELECTRICAL ENGINEERING **Suominen**	**$6,695,081**
Clotting Factor/Factor IX Construction of a plasmid containing the human gene for factor IX (Christmas Factor).	BIOCHEMISTRY **Davie, Kurachi**	**$5,198,698**
Electo-Optic Polymers & Related Organic Materials A method that translates electric signals into optical signals used in communication systems to transfer data, either over fiber-optic networks or between chip-based circuits, acting like high speed switches.	CHEMISTRY, MATERIALS SCIENCE & ENGINEERING **Dalton, Jen & colleagues**	**$3,429,393**
Hepatitis B Vaccine A method of producing synthetic hepatitis B antigen. Jointly developed with the University of California.	GENOME SCIENCES **Hall, Ammerer**	**$1,828,756**
Spirometry Fundamentals A modular, self-paced tutorial on CD-ROM for training primary care providers in the use and interpretation of spirometry, which measures lung function.	PEDIATRICS **Powell, Stout**	**$990,035**
Tape Management Library for STK 4400 Systems A series of client software for the Unisys STK 4400 tape library.	COMPUTING & COMMUNICATIONS **Profit, McHarg, Mason**	**$803,613**
Flow Cytometry Technologies A method to analyze the characteristics of individual cells.	GENOME SCIENCES **van den Engh, Esposito**	**$764,867**
Metabolism-Based Drug Interaction Database A web-based research tool that allows researchers to search peer-reviewed literature and ask specific questions about the content of drug interaction studies.	PHARMACEUTICS **Ragueneau, Carlson, Levy**	**$733,697**
Mass Spectrometry Fragmentation Patterns of Peptides Patterns of peptides used to identify amino acid sequences in databases.	GENOME SCIENCES **Yates, Eng**	**$415,121**

EXTERNAL ADVISORY BOARD

The UW has a growing role in fostering economic activity in our region, and technology transfer is a visible measure of the impact of the UW's research programs on our communities. UW TechTransfer's mission is to extend the impact of UW research through the creation of partnerships that encourage investment in innovation. In that effort we have formed an external board to advise us on all aspects of the development and transfer of UW-generated discoveries. Through the expertise of these leaders we look to improve how we identify and assess opportunities, gain insight into the venture and business development community, and enhance the flow of new discoveries to local companies.

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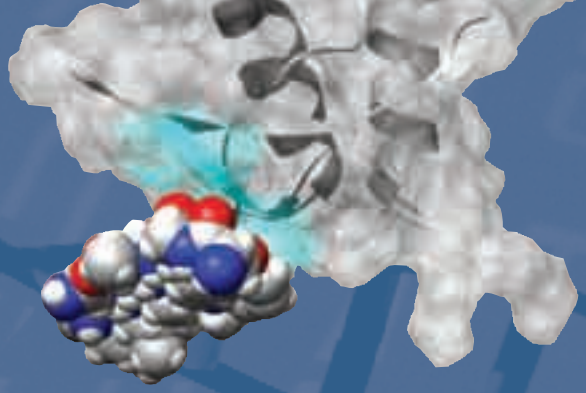
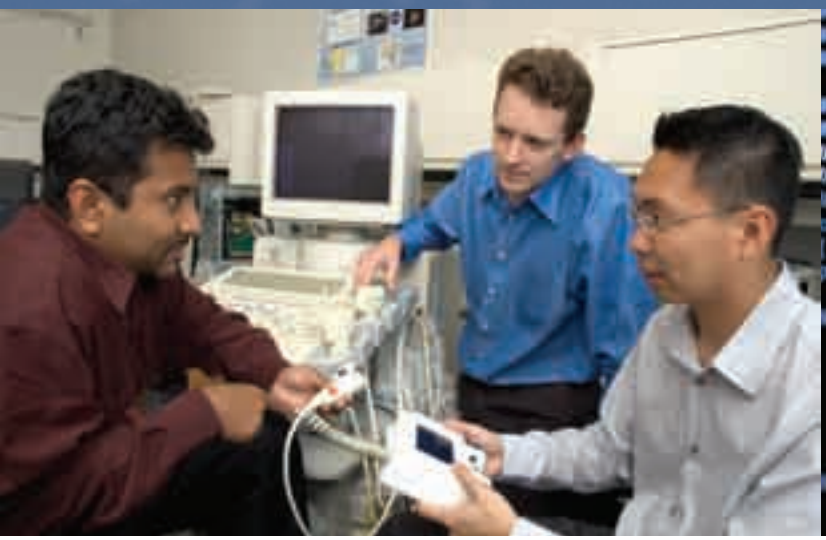
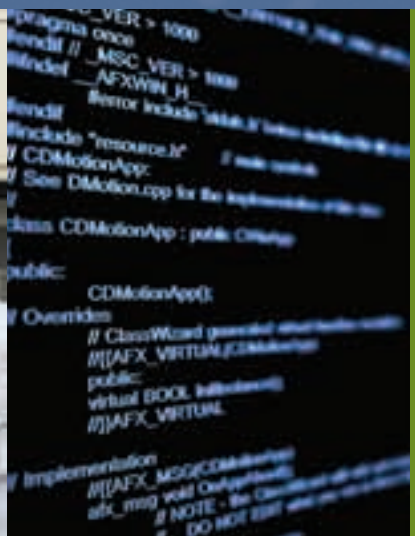


UW TECHTRANSFER

WEB: http://depts.washington.edu/techtran





UW TechTransfer
INNOVATION INVESTMENT IMPACT

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