

EnterpriseWorks and Research Park

- \$5,120,000 in grants were awarded to EW firms in 2009 (15 total)**
- 18% of State of Illinois SBIR/STTR awards from federal agencies go to Research Park firms**
- \$1,096,500 of new venture capital funding was raised in 2009**
- 78% of companies have licensed technology from the University**
- 74% of companies have working prototypes**
- 43% have launched to sell to customers, 30% have commercial paying clients**
- 26% of companies are still in product development state, not yet selling**
- Since the Research Park opened, 45 companies have “graduated” from incubation. Of those, 31 remain in business (69%)**

OTM: FY09 End of Year Results and FY10 Year to Date

	FY 2009 Total			FY 2010 Year to Date		
	Chicago	Urbana	Total	Chicago	Urbana	Total
Disclosures Received	130	203	333	61	81	142
U. S. Patents Issued	15	42	57	10	32	42
Licenses & Options	16	33	49	7	18	25
Licenses to Start-Ups	2	6	8	0	1	1
*Royalties Earned	\$10.553M	\$5.116M	\$15.669M	\$4.632M	\$2.169M	\$6.801M
Patent Cost Reimbursement	\$0.506M	\$1.789M	\$2.295M	\$0.136M	\$0.681M	\$0.817M
Non-University Share	\$0.517M	\$0.245M	\$0.762M	\$0.189M	\$0.030M	\$0.219M
**Net for Distribution	\$9.001M	\$2.964M	\$11.965M	\$4.381M	\$1.540M	\$5.921M

*In FY09 \$3,613,305 was distributed to inventors, and \$4,850,134 was returned to the campuses and campus units.

**FY10 to date, \$1,885,313 was distributed to inventors, and \$2,033,912 was returned to the campuses and campus units.

University of Illinois

TEDupdate

FY10
Q2

Semprius

Semprius is commercializing Solar Module Arrays based on patented micro-transfer printing from UIUC, a highly efficient process for depositing high performance semiconductors onto any substrate, including glass, plastic and other materials. In addition to Solar Arrays, Semprius is developing other applications such as LCD and OLED displays, MEMS and advanced disk drives.

In January, Semprius and Siemens Industry, Inc. announced that they have entered into a joint development agreement to co-develop and deploy plug-and-play demonstration systems based on Semprius' Solar Module Arrays and Siemens' automation and control components. The systems are slated to be installed at numerous test sites around the world, including major utilities, commercial sites, international test locations and government facilities.

Semprius Solar Module Arrays offer the benefits of low installed cost and high capacity factor which when combined enable very low energy costs in sunny, dry climates. Their high efficiency, scalable design makes them applicable to a wide range of projects from distributed commercial and industrial to large scale utility installations. The company was selected this month by the U.S. Department of Energy to receive support through a \$3 million subcontract from DOE's PV Technology Incubator, which aims to accelerate commercialization of its solar photovoltaic systems.



Sony joins Research Park by acquiring iCyt Biotech company to stay and grow in the park

Sony Corp. announced on February 10th that it had acquired iCyt Mission Technology Inc., a fast-growing University of Illinois Research Park biotechnology company.

iCyt's flow cytometry machines use electronic devices to count, examine and sort cells and chromosomes for diagnostic and research purposes. iCyt's customers include university research laboratories, major hospitals, private labs, as well as corporations, such as Monsanto.

The Sony acquisition represents a new venture into the health care market for the electronics giant offering potentially new and powerful applications of its optic, data-transmission and Blu-ray disc technologies. Keiji Kimura, Sony's executive vice president, also cited his company's bringing "expertise in manufacturing consumer products" to the enterprise.

iCyt (www.i-cyt.com), founded in 1995, moved its staff of two into the university's research park incubator in 2000. In 2005, they moved into the iCyt Building, expanded and added manufacturing and assembly operations in 2007. The company now has 44 full-time employees. iCyt founder and CEO **Gary Durack** continues to lead the new fully owned subsidiary of Sony Corp. of America (www.sony.com).

"The University, Research Park and community have all been very supportive of iCyt. They have helped us function like a big company and compete with big players in our industry," Durack said.

- Sony joins Research Park, Semprius **P.1**
- Research Park Update, Samsung , Corn Board, **P.2**
- IllinoisVENTURES, ANDalyze **P.3**
- Offices of Technology Management, Research Park at the University of Illinois **P.4**

"When Sony was evaluating our business, they appreciated the collaboration with the University and the facilities in the park that support our business. I am extremely thankful to the University, Fox/Atkins Development, our investors and the community for their support," he added. iCyt has collaborative research projects with the University of Illinois at Urbana-Champaign's College of Veterinary Medicine and its Institute for Genomic Biology with the Carle Foundation Hospital in Urbana-Champaign.

Avijit Ghosh, University of Illinois vice president for technology and economic development, said iCyt's fast progress is a 21st century prototype of starting with university-based research, growing the startup at the research park, making smart decisions about growth and taking products to market.

"Acquisition by Sony Corp. represents the next stage of iCyt's growth into a major biotech player," Ghosh said.

Local angel investors and **IllinoisVENTURES** (www.illinoisventures.com), the U of I's early-stage technology investment firm, provided early-stage funding for iCyt, and Open Prairie Ventures provided additional funding.

John Banta, CEO and Managing Director of IllinoisVENTURES noted, "We were pleased and privileged to have the opportunity to support the company. The transaction with Sony is an important achievement for the region, and reflects the significant efforts of the management, the employees and so many others in the community that contributed to the successful outcome."

**Q2 FY10
Research Park and
EnterpriseWorks
Updates**

**Research Park Tenants: 84
Student Interns: 408
Total Employees: 1,446**

State Farm celebrated its 10 year anniversary in the Research Park.

Chromatin signed a lease to “graduate” from EW and move into a long term custom constructed suite in the Research Park Graduation Building in April 2010.

Tetravite Biosciences now has 30 employees and is now the largest employer in EnterpriseWorks. They leased additional lab space in EW commencing in February.

EM Wave Technology is developing technology for the production of biofuels from biomass through the application of electro-magnetic waves (EM Waves) to facilitate the rapid and efficient conversion of biomass to ethanol and other fuels that use sugars as the feedstock.

ANDalyze (page 3) launched its first product in fall 2009- a handheld fluorometer that can detect lead in water. This portable instrument can do in 30 seconds what conventional technologies take 20 minutes to do.

University of Illinois Technologies and Companies in the Marketplace

Samsung and University of Illinois enter into IP license agreement

The University of Illinois has entered into a license agreement with **Samsung Electronics**. The patented technology covers the use of deuterium in semiconductor devices and provides a solution to hot-carrier effects, which are known to cause problems with device reliability.

Under the terms of the agreement, Samsung will be able to use the University’s patented technology for semiconductor devices through the lifetime of the patents.

Avijit Ghosh, the University’s vice president for technology and economic development, said: that “We are very pleased by this agreement and that research conducted at the University of Illinois is helping create the next generation of semiconductors.”

Ilesanmi Adesida, dean of the U of I College of Engineering said: “Technologies developed in our college have had a significant impact in making possible the information era that has changed the global society. We are proud that this tradition continues.”

The University owns five U.S. and one South Korean patent covering the use of deuterium in semiconductor devices.

The University’s Deuterium Patents

The named inventors on the University’s Deuterium patents are **Joseph Lyding**, **Karl Hess** and **Jinju Lee**.

Lyding is a professor in the University’s electrical and computer engineering department and a full-time faculty member in the

Nanoelectronics and Biophotonics Group. He is a Fellow of the American Vacuum Society and APS, a Senior Member of IEEE and recipient of the DARPA Award for Sustained Excellence.

Hess, now retired from the University, is also a distinguished scientist and has been recognized for his numerous achievements, including the Heinrich Welker Award, the J.J. Ebers Award (IEEE) and election to both the prestigious National Academy of Sciences and National Academy of Engineering.

Lee is currently a research scientist at Intel Corp. At the time of the invention, Lee was a post-doctoral researcher in Lyding’s laboratory.

Corn Board an environmentally friendly alternative

Once corn is harvested, leftover biomass is removed, bailed and left to decompose. This biomass, the leftover corn husks and stalks, represent over 340 billion pounds of waste material.

In response to this problem, UIUC inventors, **Nancy Sottos**, **Scott White** and **Thomas Mackin** developed a method to utilize this waste material. Their invention, a corn-based structural composite, is essentially a version of particle board that uses corn husk and stalk leftovers. The composite is prepared by mixing the fibrous corn component with a polymer matrix and then laminating the mixture. In contrast to traditional particle board, components of this composite are renewable, compostable and easily available.

The UIUC OTM has executed an option to **Carbon Stalk LLC**, and the license is in final negotiation. Carbon Stalk LLC, has begun making prototypes of the corn-based structural composite, which they label Corn Board. The product can be manufactured into three different densities, allowing for a variety of applications. Due to this flexibility, Corn Board can

be used in products such as office partitions, door cores, an alternative particle board, skateboards, furniture and cabinets. The tangible products are not the only benefits associated with Corn Board. When biomass leftovers from the corn harvest decompose, the CO₂ previously captured and consumed by the growing plant is released back into the atmosphere. Conversely, when the husks and stalks are appropriated into Corn Board, the CO₂ is “trapped” in the material. Sequestering CO₂ in Corn Board would partially alleviate the decomposing biomass contribution towards rising CO₂ in the atmosphere.

Corn Board would also provide an alternative to wood products, thereby reducing the demand on a less renewable resource. According to Carbon Stalk LLC, just 15 acres of leftover biomass would produce enough Corn Board to build a two story house supplying the roof, flooring and inner walls.

Within the next couple years, Corn Board should be on the market.

UIC Inventor’s Idea Keeps Your Toes Warm While Waiting for the Train

Standing on a cold, icy platform waiting for the train may be a thing of the past if a pair of UIC inventors have their way. The researchers from UIC’s Department of Chemical Engineering, **Sohail Murad** and **Said Al-Hallaj**, have developed a combined geothermal and phase change material (PCM) system for heating and cooling of train platforms. The inventors disclosed their invention to the OTM and are now working on convincing the Chicago Transit Authority to install a pilot system on a platform. The OTM is working to protect the invention with a patent and identify other potential commercialization opportunities.

Traditional geothermal heat pump systems actively pump heat to or from the shallow ground using the earth as either a source of heat in the winter or as a coolant in the summer. This design takes advantage of moderate temperatures in the shallow ground to boost efficiency and reduce operational costs. While this provides an environmentally

friendly heating and cooling system, it is not necessarily efficient. The current systems require heating surfaces directly, and continuously, requiring a near constant source of heat.

Dr. Murad, Department Head, and Dr. Al-Hallaj, Adjunct Professor, realized there was the potential to use geothermal heat pump systems together with PCMs to create a merged system that would increase the efficiency. Using PCMs as a storage medium for energy eliminates the need to apply heat to the surface constantly via the geothermal heat pump, rather it could be applied intermittently to the PCM which would supply a continuous source of heat. This could greatly increase the efficiency of the geothermal system.

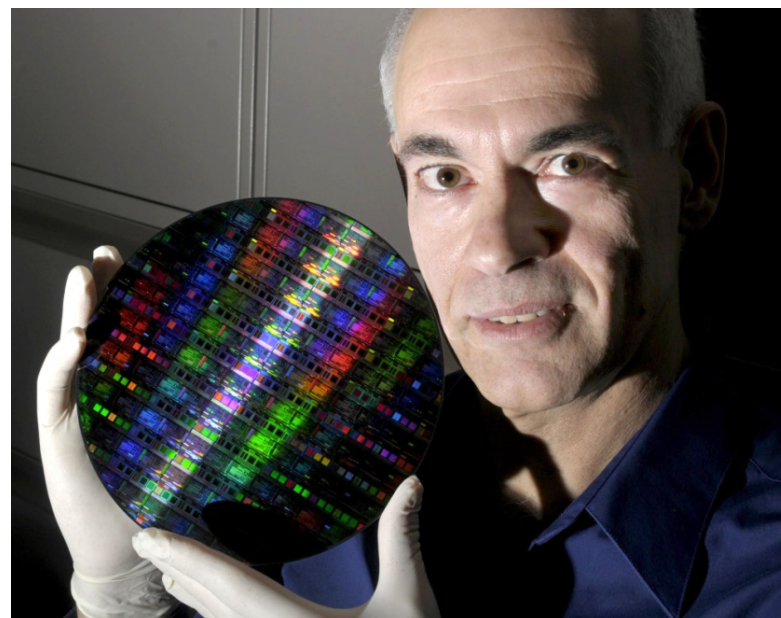


A Breakthrough in On-site Detection and Analysis of Heavy Metals and Organic Compounds

A new DNAzyme technology is now available that meets the pollution control industry’s need to assess the urgent risks in community water supplies on the front line. **ANDalyze, Inc.** has developed a DNA sensor technology combined with a hand-held fluorometer platform that tests water samples within two minutes giving results at the push of a button. This breakthrough DNAzyme technology enables water testing and reporting to be accomplished in a fraction of the time *and* cost of traditional testing methods, and requires no particular skill set or knowledge of chemistry.

The core research, on which this technology is based, was developed in Dr. Yi Lu’s lab at the University of Illinois. From this science, and with the support of supplemental grant funding from US Environmental Protection Agency, engineers at ANDalyze have created a product for detecting and quantifying heavy metals in water based on the recent discovery of these catalytic properties of DNA.

Professor Joseph Lyding, Photo courtesy of The News Gazette



IllinoisVENTURES, LLC

- Total funding to date now over \$28.8 million with approximately 13:1 “leverage” of third-party investor and grant funding.
- Actively investing second fund.

Summary	Total (Since January 2003)	
Clients:	Engaged Consultatively	1524
	Receiving Developmental Funding	63
*Funding:	Dollars Approved	\$29.0M
	Dollars Funded*	\$28.8M
Additional 3 rd Party Co-Investments, Grant Funding		\$364M