

“Technology Transfer Opportunities”

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What is Technology Transfer?

The process of bringing the inventions and discoveries of scientist, engineers, and other researchers to benefit society

- **Protect Intellectual Property**
- **License for Development and Commercialization**

Why is Technology Transfer Important?

- Discoveries may benefit the public.
- Patents, and other protection provide exclusivity funders need to protect their investments.
- Investment is required to complete development and to commercialize discoveries.

**“Next came the Patent Laws...
Before then any man might instantly
use what another had invented ...
The patent system changed this,
secured to the inventor, for a limited
line, the exclusive use of his
invention’; and thereby added the fuel
of interest to the fire of genius, ...”**

A. Lincoln

UB STOR Services

- Intellectual property protection and licensing
- Business incubation and support
- Funding to bridge the “Valley of Death” eg. STOR Product Development Fund and WNYBDF

UB Technology Incubator
Baird Research Park
1576 Sweet Home Road
Amherst, NY 14228



UB STOR Process

- New Technology Disclosure (100 per year from UB faculty and students)
- Assessment by STOR Staff
 - Intellectual Property and Market Opportunity
- File for Patent or Other Protection of IP
- Commercialization Pathway (eg. Licensing - Start-Up or Existing Company)

Technology Transfer Assessment

Lab to Market



Strength of intellectual property protection

- Novelty, non-obviousness, enablement
- Type: Composition of Matter (drugs), Devices, or Process

Commercial opportunity

- Solves a significant problem in the market
- Sustainable competitive advantages
- Size and growth of the potential market

Stage of development

- Investment and risk



Impact For UB Inventors...

Impact the public good

Royalty share (40%)

Sponsored research grants

Collaborations and contacts

Personal satisfaction

You set your future
research direction

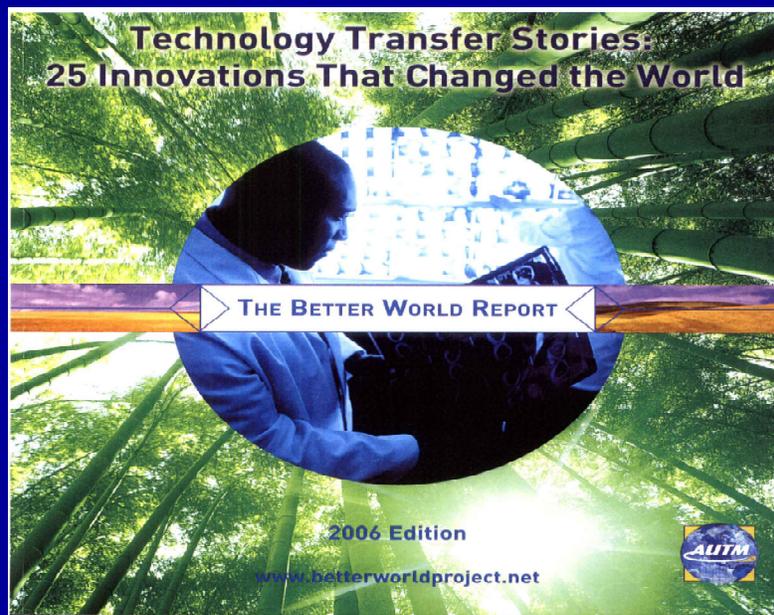
You control
experiments and
publications

UBs Recent Record (2002-2009)

Inventions (disclosures)	703
Licenses or options	105

Startup companies	53
UB Incubator "Graduates" Company	71
COE Starting Companies (RPCI)	7

Total Startup Companies	131
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University Based Innovations that Changed the World

- Nicotine Patch
- The PSA Test
- Lung Surfactants for Infants
- Google
- Cochlear Implant
- Taxol

Licensed Technologies “Updates”



Lipid Nanoparticles



- Major Biopharmaceutical Company
- Worldwide Field-of-Use Option and License Agreement
- Lipid nanoparticle platform
- Dr. Sathy Balu-Iyer (Pharmacy)

- Coagulation Therapies
 - e.g.) Factor VIII
 - Drug class sales exceeded \$3B in 2006
- Increases drug **circulation time**
- Decreases **immunogenicity**
- Readily “absorbs” drug
- Drug **activity** is retained
- Potential to switch from IV to **SQ**

Sleep Diagnostic



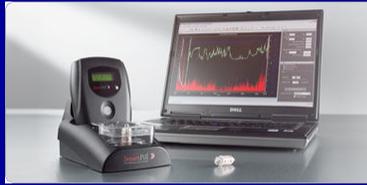
Sleep Solutions, Inc.
Pasadena, Maryland

Privately held operating company specializing in home testing and evaluation of sleep disorders

Investors: J&J, MedVentures Assoc.

- Obstructive Sleep Apnea (OSA) afflicts 18 million Americans, only 5% diagnosed
- Standard diagnosis is overnight polysomnography (PSG) @ \$1,000 to \$2,500 per night
- Fourier transform of pulse oximetry readings correlated to PSG (patents and software)
- Physician prescribed in-home delivery of pulse oximeter, results sent to physician
- 510K submitted (study requested)

SmartPill



SmartPill Corporation
Buffalo, NY
Venture funded

Evaluation of motility disorders, such as Gastroparesis.

Ingestible, wireless capsule that measures pressure, pH and temperature.

Gastric emptying time, combined small and large bowel transit time, total transit time, pressure contraction patterns from the antrum and duodenum and motility indices.

July 2006 - FDA 510K release

Jan 2007 - Product Launch

“Best Electronic Design” – Electronic Design magazine.

Kinase Inhibitors



Target	Programs Indication	Discovery	Research	Pre-Clinical	Clinical Trials
Src	Cancer				Q2 2007
Src	Hearing Loss			•	
Src	Osteoporosis		•		
Src	Myocardial Ischemia				
EGFr	Cancer	•			
PDGF	Restenosis	•			
LCK	Immunology	•			
ZAP70	Arthritis	•			
PTP 1B	Diabetes	•			

Kinex Pharmaceuticals

Inventor – Dr. David Hangauer, Sr. VP, R&D

WNY BDF Seed Round

Method of synthesis, class of compounds and uses.

Non-ATP competitive inhibitors of tyrosine kinase/phosphatase

KX2-391 in pre-clinical found to be broad spectrum, very potent, synergistic in combination

7/19/07 Notification of approval to proceed with clinical trials. Presently in Phase I trials.

5/2009 – Present Phase I Trial results at cancer meeting.

UB and Kinex Sign Agreement for Anti-Cancer Drug Development



Barnett and Genco sign license agreement.

Kinex Pharmaceuticals, a pharmaceutical company located in Buffalo, has signed an exclusive license with the University at Buffalo to develop drugs for the treatment of cancer, osteoporosis, and ischemic disorders.

David Hangauer, Ph.D., associate professor in the Department of Chemistry in the UB College of Arts and Sciences, who also is Kinex senior vice president for research and development, has developed a method for designing and synthesizing a series of anti-cancer compounds called protein kinase inhibitors that shrink tumors and prevent metastases with minimal side effects. These inhibitors have the potential to become a multi-billion dollar market.

"Kinex is targeting src ("sark") kinase and two series of inhibitors have been developed," said Allen Barnett, Ph.D., Kinex CEO. "We feel that by the end of 2004, we'll have a lead compound selected and ready for application as an Investigational New Drug with the FDA."

Barnett and Genco sign license agreement.

What Opportunities are There for UB Students to Participate in Technology Transfer?

- 1) Investors or co-investors with faculty, and other students (www.stor.buffalo.edu)
- 2) Business Plan – Panasci Technology Entrepreneurship Competition (<http://mgt.buffalo.edu/entrepreneurship/cel>)
- 3) Credit Bearing Internship with STOR (Kimberly Rohring, Business Manager, krohring@buffalo.edu)
- 4) Work with Baird Research Park Incubator Companies (Kimberly Rohring, Business Manager, krohring@buffalo.edu)

Thank You!