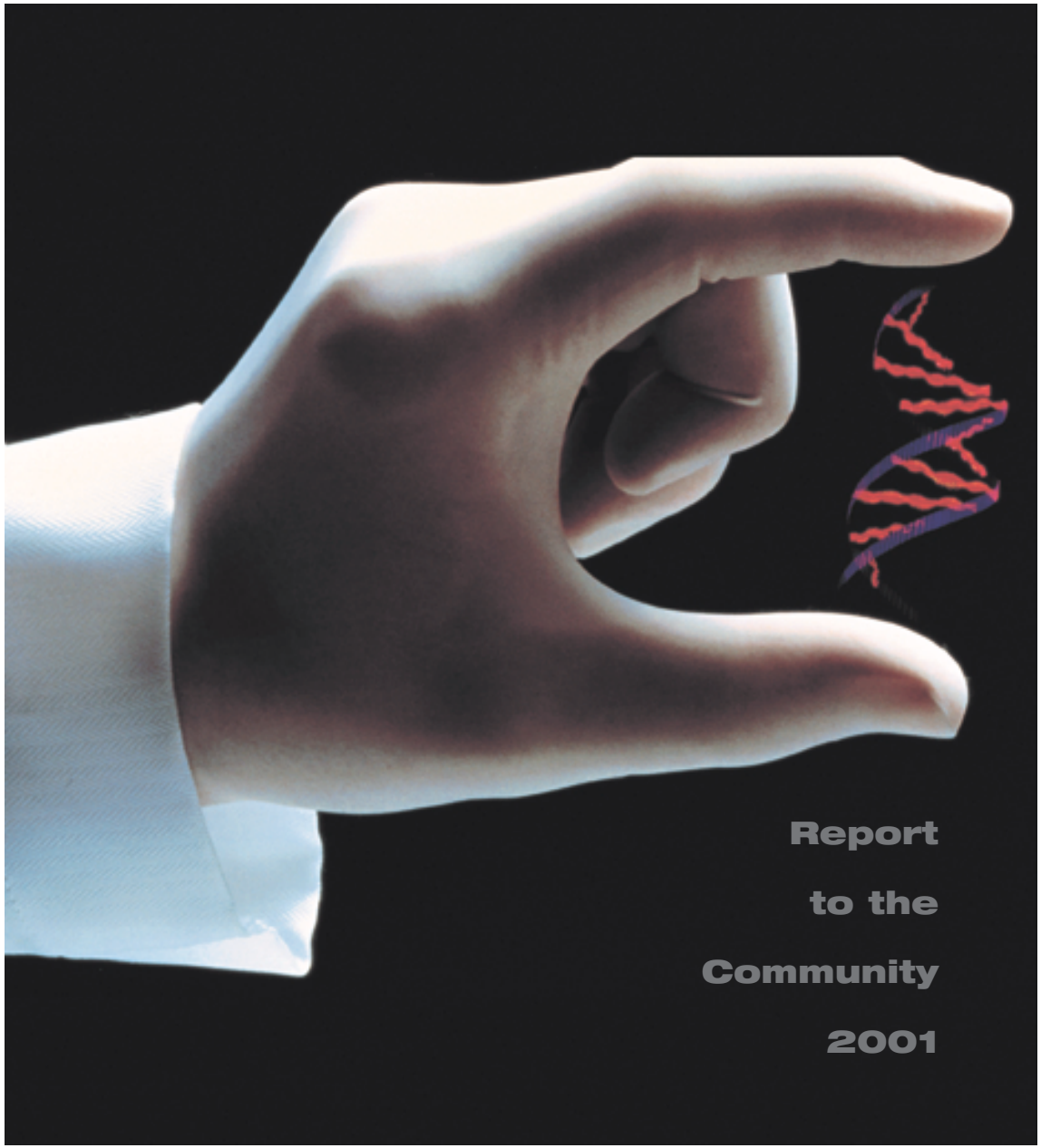


Report to the Community 2001

TRANSLATING

Good Science INTO GOOD BUSINESS

CENTER FOR BIOTECHNOLOGY

A New York State Center For Advanced Technology

ECONOMIC IMPACT SUMMARY 2000-2001

The year ending June 30, 2001 was one of significant accomplishment and expansion for the Center for Advanced Technology (CAT) in Medical Biotechnology. By all metrics, the CAT continues to have a positive impact on the New York State economy and on the growth of New York's bioscience industry.

The CAT is accomplishing its goals of fueling economic development in New York State through a multi-faceted economic development strategy that includes:

- Implementing initiatives targeted toward the discovery and development of academic technologies, leading to new company formation or the transfer of intellectual property to New York's existing bioscience industry
- Investing in the creation of infrastructure that supports the growth of the bioscience industry in New York State
- Developing programs designed to meet the education and training needs of New York's bioscience industry

2000/2001 HIGHLIGHTS

Gross corporate revenues directly related to the CAT's activities for fiscal year 2000/2001 approached $178M.

More than 139 new jobs were created during the year.

Research expenditures by New York companies on CAT-related research projects were $1.8M, with more than one third of the total in collaboration with small New York companies.

Corporate savings associated with the CAT were $5.1M.

TECHNOLOGY DEVELOPMENT INITIATIVE

The CAT's Technology Development Initiative (TDI) is designed to capitalize upon the tremendous research infrastructure resident within our host institution, Stony Brook University. With more than $120M in sponsored research expenditures annually, the University represents fertile ground for the translation of basic science into commercially promising technology

Goals:

- **Increase the number of income producing technologies resulting from the academic research enterprise**
- **Increase the value of this intellectual property through its development toward commercially relevant goals**
- **Capture the resulting economic benefit for New York State through the creation of new companies or by out-licensing to New York's existing bioscience industry**

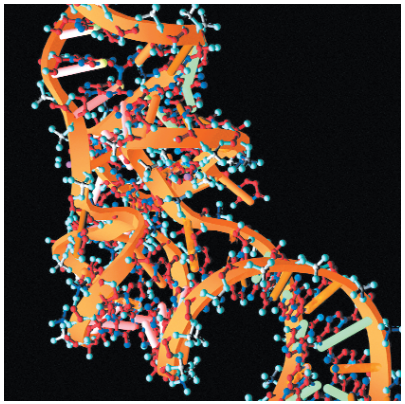
The CAT attains these goals by working proactively with the faculty to identify the commercially valuable aspects of their basic research programs. Ten novel projects were funded during the 2000/2001 fiscal year, contributing to a pipeline of more than forty technologies at various stages of development. Four of these current-year projects were conducted in collaboration with existing New York bioscience companies, and have resulted in the direct transfer of value and intellectual property to these companies. One current year project has resulted in the formation of a new company, Stony Brook Technology and Applied Research, Inc., and another has generated new intellectual property that is being evaluated by industry for licensing.

2001-2002 INNOVATIVE TECHNOLOGY DEVELOPMENT (ITD) AWARDS

Project Director	Project Title	Corporate Partner
Dhundale, Anil	HAS-2	Collaborative Group
Hadjiargyrou, Michael	Characterization of fracture repair novel genes	
Hsiao, Benjamin	Bioabsorbable membranes for prevention of post-operative adhesions	Stony Brook Technology & Applied Research (new company)
Khalsa, Partap*	Neural interface to peripheral nerves using a novel multi-electrode	
Kaufman, Arie	3D analysis of aortic aneurysm and stent grafts	Viatronix
Kwon, Chui-Hoon	Sulfur-containing amsacrine derivatives as novel anticancer agents with bio-reductive potential	
Malbon, Craig	Development of tissue procurement & genomic service system	Life Tree Technology (formerly Galaxy Technology)
Neiman, Aaron	Design of optimized yeast strains for wine production	
Qin, Yi-Xian**	Scanning confocal ultrasonic diagnostic system for bone quality	
Van Buskirk, Robert	Preservation of transplantable human pancreatic islets	BioLife Solutions

* Co-sponsored by the CAT in Sensor Technology

** Co-sponsored by the Strategic Partners for Industrial Resurgence (SPIR)



TRANSLATING SCIENCE

2000 INTO 2001

TECHNOLOGY

COMMERCIALIZING ACADEMIC SCIENCE

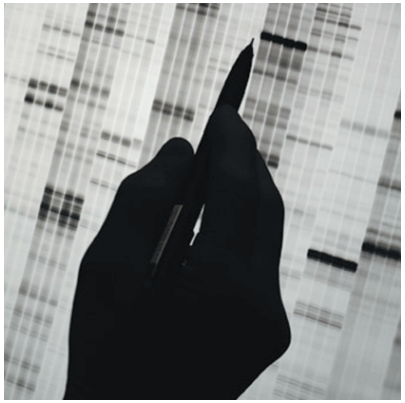
The CAT's Technology Development Initiative emphasizes the long-term economic benefit of fostering new company formation around platform technologies that can be developed in New York State. The CAT has played a significant role in the formation of several new companies in fiscal year 2000/2001.

Cornerstone Pharmaceuticals, a development stage biopharmaceutical company, was created by the CAT in 2001 to develop a novel anti-cancer agent that targets the altered energy metabolism of cancer cells. This novel mode-of-action may be paradigmatic of a new class of agents that can target tumor specific energy metabolism. Approximately $1.5M from federal and private sources has been invested in the development of the company's technology platform to-date, and a $5M financing is underway. The company maintains offices in NYC and laboratory facilities at the Long Island High Technology Incubator. Cornerstone employs four full-time employees and expects to double employment in the first quarter of 2002.

AcousticScan was established by the CAT in 2001 to commercialize a Scanning Confocal Acoustic Diagnostic System (SCAD) for the detection and evaluation of osteoporosis. The development of this technology had been supported by the CAT in fiscal years 1998-1999, 1999-2000 and 2000-2001. The technology is capable of detecting bone mass as well as bone quality using ultrasonic attenuation and velocity scanning. This platform technology also has the ability to determine the mass, quality and strength of industrial materials, making it applicable to other markets in addition to healthcare. The CAT is currently assisting the company in evaluating financing options.

A unique electrospinning technique has been developed, with partial support from the CAT in the 2000/2001 fiscal year, to produce bioabsorbable polymer membranes for use in the prevention of post-operative adhesions. This has resulted in two patent applications and the formation of **Stony Brook Technology and Applied Research, Inc.** The company has recently been awarded a $400,000 SBIR award to continue in-vivo studies and collaboration with the CAT continues as new markets for the technology are explored.

The CAT also played a significant role in the formation of **Vitatex** in 2001, a company based on technology that shows the potential to rapidly analyze the invasive phenotype of human carcinoma cells. In addition to providing financial support in the development of the technology, the CAT provided guidance that significantly accelerated its development toward commercial goals. The company is now a tenant in the Long Island High Technology Incubator program. The CAT has also facilitated two industrial research contracts on behalf of the company.



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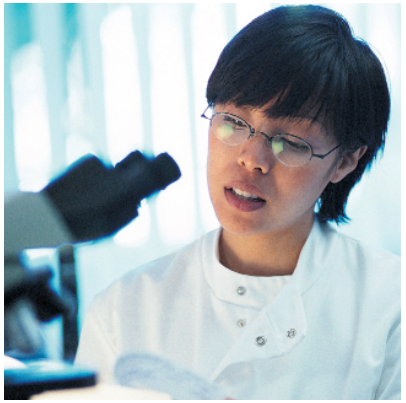
In addition to facilitating the formation of new companies, the CAT invests significant resources in adding value to technologies that will be out-licensed or that can be developed collaboratively with New York State companies. In November 2000, **Viatronix**, a company created to develop a technology that was supported by the CAT in 1997 and 1998, received FDA permission to go to market with an innovative, non-invasive and comfortable technique for performing colonoscopies. The Viatronix v3D is a state-of-the-art, computer-based, volumetric rendering tool that can display a patient's anatomy as a virtual computer model. The system uses digital data generated by existing imaging equipment, such as Computed Tomography (CT) scans, to create the high-resolution image models displayed on a computer screen. The company is a resident of the Long Island High Technology Incubator and employs more than 50 people. The CAT continues to collaborate with Viatronix on next generation products, including the application to detect aortic aneurysms.

The CAT has also been instrumental in supporting the clinical development of Cordase™ in collaboration with **Biospecifics**, a New York-based biopharmaceutical company focused on wound healing and tissue remodeling. The product has successfully completed Phase II clinical trials for the treatment of Dupuytren's disease, a genetic disorder that causes large deposits of collagen to build up in the palm or fingers resulting in progressive contraction. Phase III clinical trials are expected to begin shortly.

In collaboration with **Life Tree Technology** (formerly Galaxy Technology) the CAT has helped modify a novel internet platform for clinical trial management for its use as a secure database/digital archive solution that would enable labs to track tissue specimens and obtain specimen relational data over the internet. Proof of concept testing was completed in 2001. Life Tree Technology is a graduate of the Long Island High Technology Incubator and is currently located in Great River, New York. The company employs 25 full time employees.

Incorporated in March 1998, **BioLife Solutions Inc.** develops and markets innovative cold storage solutions for the preservation of cell, tissue and organ systems. The CAT has collaborated on research projects with BioLife to develop specialized HypoThermosol® preservation solutions for the viable storage of pancreatic islet cells, a task that previously has proven to be extremely difficult. With support from the CAT, BioLife has drastically increased the storage time of such cells, fueling the possibility for transplant into patients.

The CAT has extensive collaborative relationships with New York's bioscience industry. In fiscal year 2000/2001, the CAT entered into research collaborations with eighteen different New York State bioscience companies on twenty-seven different projects representing $1.8M in sponsored research expenditures.



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LONG ISLAND LIFE SCIENCES INITIATIVE (LILSI)

Consistent with the CAT's strategy to invest in the establishment of infrastructure that will support industry growth and have broad-based economic impact, the CAT has devoted considerable energy to the advancement of the Long Island Life Sciences Initiative (LILSI). The CAT played a similar role in the establishment of the Long Island High Technology Incubator program and the New York Biotechnology Association. The primary objective of LILSI is to focus the collective energies of the pharmaceutical, biotechnology, medical device, and life systems technology sectors on issues of strategic importance to the growth and prosperity of the life sciences community on Long Island. These issues include:

- Establishing a supportive public policy structure
- Investing in the life science academic research infrastructure
- Transferring commercially promising research discoveries to the commercial sector
- Developing a well-educated and well-trained workforce
- Identifying desirable sites for industry expansion and relocation
- Improving access to capital
- Promoting LI globally as an epicenter for life sciences research and commerce

WORKFORCE DEVELOPMENT INITIATIVES

Workforce development has become an increasingly important component of the CAT's activities to foster the growth of the bioscience industries in New York State. The CAT's comprehensive Workforce Development Initiative has begun to address both the current and future education and training needs of New York's bioscience industry.

The most important aspect of the CAT's workforce development plan has been the establishment of a strategic alliance with the recently designated Department of Biomedical Engineering at Stony Brook University. This interdisciplinary program will promote the integration of the physical sciences with life sciences and expand significantly the CAT's expertise in imaging, bioinformatics, biomaterials, instrumentation, biomechanics and functional genomics. Building upon these resources, the CAT has initiated several programs to address the workforce needs of the bioscience industry:

- Education and vocational training programs at the undergraduate and graduate levels
- Graduate industry fellowship programs
- Careers in the Bioscience Industry seminar series and annual conference

Corporate **OUTREACH**

Strategically Targeted Academic Research Center

STAR Center in Biomolecular Diagnostics and Therapeutics

In May 2001 Stony Brook University received notification of its designation as a Strategically Targeted Academic Research (STAR) Center in Biomolecular Diagnostics and Therapeutics from the New York State Office of Science, Technology and Academic Research. The designation includes a grant of $15.7M to assist in the construction of a multi-disciplinary research center focused on the development of new diagnostic and therapeutic strategies. The foundation of the STAR Center will be created through the interdisciplinary collaborations of the Center for Biotechnology, the Department of Biomedical Engineering, and the Center for Sensor Systems.

The facility will house new and expanded research programs in the areas of functional genomics instrumentation, gene discovery, bioinformatics, drug design and delivery, and smart micro and nano based biomaterials and biosensors, with an emphasis on translating basic science into commercially valuable technology. The Center for Biotechnology's Applied Bioscience Laboratory will play a key role in this effort, providing a vital link between the STAR Center and New York's life science industries.

Further strengthening this initiative, the Department of Biomedical Engineering (BME) has been awarded a $3M Development award from the Whitaker Foundation to establish a research and education focus in Molecular Bioengineering.

STAR Center-affiliated faculty will also benefit greatly from collaboration with Cold Spring Harbor Laboratory and Brookhaven National Laboratory's Nanoscale Science Research Center in Functional Materials. This collaboration will extend the capabilities of the STAR Center in areas such as microelectronics, nanoelectronics and nanomaterials.

Corporate PARTNERSHIPS

Acoustic Scan
Stony Brook, NY

Advanced Immuni-T
Stony Brook, NY

AGI Dermatics
Freeport, NY

Altaire Pharmaceuticals
Holbrook, NY

Bausch & Lomb
Rochester, NY

Biospecifics
Lynbrook, NY

BioPhotonics
Stony Brook, NY

Bristol-Myers Squibb
Syracuse, NY

Brook Biotechnologies
Stony Brook, NY

Ceptor, Inc.
Roslyn, NY

Chembio Diagnostics
Medford, NY

Chem-Master International
Stony Brook, NY

Church & Dwight
New York, NY

Clairol
Syracuse, NY

Clear Solutions Biotech
Stony Brook, NY

The Collaborative Group
Stony Brook, NY

Collagenex Pharmaceuticals
Stony Brook, NY

Cornerstone Pharmaceuticals
Brooklyn, NY

Cosper Environmental
Bohemia, NY

Curative Health Services
Hauppauge, NY

Del Laboratories
Stony Brook, NY

Eastern Holistic Nutrition Group
Stony Brook, NY

EELE Laboratories
Stony Brook, NY

Expitaxial Laboratory
Stony Brook, NY

Exogen
Piscataway, NJ

Ericsson Inc.
New York, NY

Estèe Lauder
Melville, NY

E-Z-EM
Westbury, NY

Garnett McKeen
Stony Brook, NY

GenPak
Stony Brook, NY

Life Tree Technology
Stony Brook, NY

IFOSYS
Stony Brook, NY

Ingenious Targeting
Stony Brook, NY

Millennium Pharmaceuticals, Inc.
Cambridge, MA

Institute of Human Genetics
New York, NY

Integument Technologies
Jamestown, NY

Nanoprobes
Stony Brook, NY

Interstate Drug Exchange (IDE)
Amityville, NY

Ion Focus Laboratories
Stony Brook, NY

Matrix Biotechnologies
Melville, NY

Nastech
Hauppauge, NY

Nuclear Associates
Carle Place, NY

Omnicorder Technologies
Stony Brook, NY

Omnipharm
Buffalo, NY

Ortek Therapeutics
Garden City, NY

OSI Pharmaceuticals
Uniondale, NY

Perlucid
Nesconset, NY

Pfizer
New York, NY

Prodel
New York, NY

PowerCom Technologies
Nesconset, NY

Unilever
New York, NY

Redox Pharmaceutical
Greenvale, NY

Vasomedical
Westbury, NY

Selftest
Stony Brook, NY

Wyeth Ayerst
Pearl River, NY

Stony Brook Surgical
Stony Brook, NY

Trinity Biotech
Jamestown, NY

Tularik
Greenlawn, NY

Upstate Biotechnologies
Lake Placid, NY

Viatronix
Stony Brook, NY

Wastewater Biological Solutions
Stony Brook, NY

Zeptometrix
Buffalo, NY

CENTER FOR BIOTECHNOLOGY
A New York State Center For Advanced Technology

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NYSTAR New York State Office of Science, Technology & Academic Research

STONY BROOK STATE UNIVERSITY OF NEW YORK