The mission of CCTEC is to partner with industry to develop Cornell technologies into products and services for the public good, leverage Cornell’s intellectual property to promote entrepreneurial opportunities and regional economic development, and provide technology transfer services to Cornell faculty and researchers.
A Message From the Vice Provost & Executive Director

Fiscal Year 2011 was another banner year for the Cornell Technology Transfer Program operated by the Cornell Center for Technology Enterprise & Commercialization (CCTEC). As the program continues to improve, its activities continue to soar in that:

- For the third year in a row, researchers at Cornell submitted more than 300 disclosures of new technologies and works of authorship to CCTEC. The 367 new disclosures made to CCTEC in FY 2011 represented the highest ever in Cornell history. This pattern demonstrates a sustainable cultural shift at Cornell. The university is becoming more progressive and engaging in new activities that advance its Land Grant missions. Of course, much of this is a result not only of the support and messages provided by the senior leadership at Cornell, but also the tireless outreach efforts of the entire CCTEC staff. Pages 16 and 17 provide a brief overview of CCTEC’s outreach activities in FY 2011;

- For the second year in a row, CCTEC granted more than 100 licenses to industry partners to commercialize results of Cornell research to benefit the public. The 162 licenses granted by CCTEC in FY 2011 also represented the highest ever in Cornell history. More significantly, 154 of these licenses were granted to industry partners in the United States, and 72 of them were to businesses in the state of New York (see page 19). The results of Cornell research will provide these businesses the opportunities to improve their products, expand their product lines and portfolios, and stay competitive in an increasingly global economy;

- For the second year in a row, a double-digit number of new businesses (10 in FY 2011; 12 in FY 2010) were founded on licensed Cornell technologies (see page 4 to 7 for a glimpse of them). This number suggests the development of a sustainable technology entrepreneurship culture at Cornell. Half of these new businesses were founded in the state of New York and will help to attract investment and other financial activities to enhance the economic vitality of the region; and

- CCTEC grossed the highest ever revenues in FY 2011 with much help from and thanks to The Office of University Counsel for its continuing support and advice.

Several of the new businesses founded on licensed Cornell technologies in previous years also experienced some exciting developments. I am sharing them with you on page 8.

I hope you enjoy reading about the progress the Cornell Technology Transfer Program has made in recent years and feel assured that the program is heading in the proper direction. I look forward to your feedback and continuing support.

Respectfully,

Alan Paau, MBA, PhD, CLP
Vice Provost & Executive Director
New Businesses

In FY 2011, CCTEC launched ten new businesses based on licensed Cornell technologies - five located in the state of New York.

Kphotonics, LLC
Tucson, AZ
www.kphotonics.com
Kphotonics, LLC, provides mode-locked fiber lasers to schools for research and educational purposes. Currently, these lasers are so expensive that many researchers and teachers cannot afford them. Based on technology invented by Professor Frank Wise, Department of Applied & Engineering Physics, Kphotonics is able to deliver robust, compact, and low cost ultrafast laser sources for use in areas such as optical, communication, biomedical, and micro-machining.

MADathletic, Inc.
Ithaca, NY
www.madathletic.com
MADathletic, Inc., is commercializing a device intended for contact sport training that could replace the current use of a "sled". The training device was invented by Assistant Cornell Football Coach, Pete DeStefano. Sleds are commonly used by football teams to train linemen, but are cumbersome and heavy. MADathletic's device, known as BearClaw™, not only is light and easy to transport, but also provides training for balance maintenance and proper hand positioning. Football teams of all ages could use the device to develop good blocking techniques and to strengthen essential muscles relevant to blocking. BearClaw™ also has uses in training for other activities that require balance maintenance and in rehabilitation.
Axium Nanofibers, LLC
Laguna Beach, CA
Axium Nanofibers, LLC, is commercializing a nanofiber technology for the production of air and water filter products. Axium’s technology, developed by Associate Professor Yong Joo, Department of Chemical & Biomolecular Engineering and Professor Anil Netravali, Department of Fiber Science & Apparel Design, uses renewable, inexpensive agricultural materials, such as proteins derived from soybeans, as the core component of the filters. Axium’s filters are biodegradable and bind to viruses that most high performance filters cannot eliminate.

SafetyStratus, Inc.
Ithaca, NY
www.safetystratus.com
SafetyStratus, Inc., is a cloud computing company that distributes software on a subscription basis to research institutions. The company’s application, LabcliQ, is used for workflow and inspections. LabcliQ can advance the environmental health and safety programs at various sites. The application is hosted off-site and customers have no IT related costs or issues. The company is founded on technology invented by staff members of Cornell’s Environmental Health & Safety Department.
Glycobia, Inc.
Ithaca, NY
www.glycobia.com
Glycobia, Inc., is a biotechnology company based on the research of Associate Professor Matthew DeLisa, Department of Chemical & Biomolecular Engineering. Glycobia has a low-cost strategy for the efficient production of glycoproteins for biotherapeutics, which are gaining market share in the pharmaceutical industry. Their technology platform may revolutionize the multibillion-dollar manufacturing enterprise of biopharmaceuticals for the treatment of diseases ranging from cancer to multiple sclerosis. Glycobia’s microbial technology circumvents many problems associated with current production technologies.

BioPancreate, Inc.
Radnor, PA
BioPancreate, Inc., is a biopharmaceutical company established to develop new therapies that may prevent, reverse, or improve diabetes using genetically enhanced commensal bacteria that are based on the research of Associate Professor John March of Cornell’s Department of Biological & Environmental Engineering.

SaltCheck, Inc.
Boston, MA
www.saltcheck.com
SaltCheck, Inc., is developing and commercializing a new urine-based, salt intake monitoring system that does not require laboratory facilities. Regular monitoring of salt intake is an important factor in the control of hypertension and congestive heart failure. SaltCheck is developing a test kit for use in doctor offices, clinics, and at-home on a worldwide basis. This technology is based on research performed by Professors Samuel Mann and Linda Gerber of the Departments of Medicine and Public Health, respectively, at Weill Cornell Medical College.
Lucerna, Inc.
New York, NY
www.lucernatechnologies.com
Lucerna, Inc., is a biotechnology company founded on licensed Cornell technologies invented by Associate Professor Samie Jaffrey of the Department of Pharmacology at Weill Cornell Medical College. Lucerna is developing and commercializing nucleic-acid based fluorescent sensors and related reagents for point-of-care diagnostics, environmental biomonitoring, and research uses.

CEP Diagnostics, Inc.
Tamarac, FL
CEP Diagnostics, Inc., is founded on a discovery by Professors Lonny Levin and Jochen Buck of the Department of Pharmacology at Weill Cornell Medical College and Assistant Professor Jonathan Zippin of the Department of Dermatology of Weill Cornell Medical College, of a unique biomarker that is predictive of melanocyte proliferation which may cause various dermatological and clinical conditions. The company will commercialize early diagnostics for such conditions, as well as, research reagents.

Zuma BioSciences, LLC
Ithaca, NY
www.zumabio.com
Founded on research from the laboratory of Professor Richard Cerione, Zuma BioSciences, LLC, is combining advancements in the understanding of cellular metabolism with medicinal chemistry to enable powerful new approaches for disrupting cancer cell growth. The tremendous energy requirements to fuel oncogenesis is dependent in large part on the metabolism of glutamine and Zuma BioSciences is developing novel therapeutics that target the enzyme responsible for glutamine use to starve cancer cells.
Pacific Biosciences
Pacific Biosciences successfully completed its initial public offering of 12.5 million shares of its common stock at $16.00 per share on October 26, 2010, under the ticker symbol “PACB” on the NASDAQ Global Select Market. The company raised $200M. The initial focus of the company is on DNA sequencing, and it has introduced a novel third generation sequencing platform called the PacBio RS.

Intelect Medical
Intelect Medical, a joint startup of Cornell and Cleveland Clinic, was acquired by Boston Scientific on January 5, 2011. The transaction values Intelect Medical at $78M. Intelect Medical is developing targeted neuromodulation technologies and therapies to improve treatment of chronic stroke patients and patients who have suffered traumatic brain injuries.

Achronix
Achronix, pioneer of the world’s fastest field programmable gate arrays (FPGAs), partnered with Intel to make programmable logic devices (PLDs) that are less expensive and more energy efficient. Intel is producing Achronix’s chips in its most advanced semiconductor factories.

Cornell Startups
Where Are They Now?

Ezra Pharmaceutical
Ezra Pharmaceutical, a company developing a preventive therapy for diabetes-related blindness, is collaborating with DSM, a global company based in the Netherlands. Ezra Pharmaceutical has formulated one of its repurposed drugs in DSM’s drug delivery platform; the lead product is a microfilament that can be injected into the eye every several months and will release drug in a controlled manner. DSM’s technology used by Ezra Pharmaceutical was also licensed from Cornell.

iFyber
iFyber, developer of nanoparticle coating technologies used to functionalize natural and synthetic fibers, received a Phase 1 Small Business Innovation Research Grant (SBIR) in November 2010 to further leverage the functionality of their coatings. iFyber is exploring the use of their antimicrobial coatings for tissue reconstruction in the medical industry.

ADispell
ADispell, a technology development company focused on creating solutions that address Alzheimer’s disease and other neurodegenerative disorders, received a $170,750 grant from the Alzheimer’s Drug Discovery Foundation to develop small molecule therapeutics.
NeuroFlo™
CoAxia, Inc.
Denise Barbut, Neurology, Weill Cornell Medical College
The NeuroFlo™ catheter channels blood flow to the brain, and in particular to the collateral blood vessels. NeuroFlo™ partially restricts blood flow in the descending aorta, diverting blood flow from the lower extremities to the cerebral collaterals. The NeuroFlo™ catheter itself is a unique, dual-balloon endovascular device. It is inserted through the femoral (leg) artery into the descending aorta and has independently inflatable balloons located immediately above and below the renal (kidney) arteries. The balloons are sequentially inflated to produce occlusions of approximately 70 percent.

Tissue Deformation Imaging Stage (TDIS™)
Harrick Scientific Products, Inc.
Itai Cohen, Physics
The Tissue Deformation Imaging Stage (TDIS™) is a micro-rheometer accessory for confocal and fluorescence inverted microscopes. Combined with other components in a complete TDIS™ System, the stage is capable of measuring the shear and compression properties of soft biological samples.
SulfaMaster
Terrenew, LLC
Gary Harman, Horticultural Sciences

SulfaMaster - Hydrogen Sulfide Removal Products are designed for removal of hydrogen sulfide from gases generated in waste water treatment, in bioenergy production, and in other sour gas applications. SulfaMaster reduces hydrogen sulfide (H2S) concentrations from 30,000 ppm to below detectable levels. SulfaMaster is composed of a dried organic waste in an iron mixture. Once used, the spent material can be disposed of by spreading on land. The organic waste is biodegraded releasing the sulfur and the iron as nutrients usable by plants and microbes in the soil.

JenLas® D2.fs
JENOPTIK Laser GmbH
Frank Wise, Applied & Engineering Physics

JenLas® D2.fs is a femtosecond laser with optimized performance features for medical applications including microsurgery and spectroscopy. Designed for operation at pulse repetition rates as high as 200 kHz combined with perfect beam characteristics, JenLas® D2.fs is capable of generating microstructures in organic tissue without causing any relevant thermic heat input.
ReproCHEK™ Canine Pregnancy Test
Synbiotics Corporation
George Lust, James A. Baker Institute for Animal Health
Female dogs and cats upon copulation, even if they are not impregnated, frequently display all the classic signs of pregnancy, both physically and physiologically. Pet owners frequently expend considerable time and expense to assure a safe, healthy birth experience, only to discover near the end of the term the dog was not pregnant. It has been discovered that relaxin is a definitive marker of real pregnancy in dogs and cats, but that contrary to many other biological changes, relaxin levels do not increase in pseudopregnancy. ReproCHEK™ is the first canine pregnancy test based on detection of relaxin. It allows for early detection of pregnancy and can monitor pregnancy throughout gestation.

'Lamoka' Potato
Childstock Farms, Inc.
Walter De Jong, Plant Breeding & Genetics
‘Lamoka’ is a chipping potato variety that produces attractive potatoes with white flesh and light beige skin. The potatoes exhibit few external defects. This variety matures late in the season with good full season yield. ‘Lamoka’ is resistant to golden nematode race Ro1 and has good resistance to common scab.
Emerging Technologies

Custom Pattern Development for Garments
Susan Ashdown, Fiber Science & Apparel Design
This technology enables a reliable system for custom pattern development for garments. Based on three dimensional body scanning data and statistical analysis methods, the system uses multiple three dimensional measurements to categorize silhouette and profile views of the body simultaneously. It can be used to classify body shapes of particular target markets, including different age, sex, and ethnic groups. Furthermore, it can directly link the three dimensional body measurement analysis to the development of two dimensional garment patterns.

New Powdery Mildew Resistant Melon
Michael Mazourek, Plant Breeding & Genetics
‘Farmer’s Daughter’ Honeydew is a new powdery mildew resistant variety that is the result of six years of selection from crosses and disease resistant Cornell breeding lines. When the fruit is mature, the stem easily pulls off (also referred to as “slip”) signifying that the fruit is ripe, which normally happens in 80-85 days. The fruit has a crisp white flesh with an excellent pear-like flavor.
Single Molecule Drug Discovery Platform
Scott Blanchard, Physiology & Biophysics, Weill Cornell Medical College

This platform provides a new method using single-molecule fluorescence and fluorescence resonance energy transfer (smFRET) to enable the direct visualization of biological activity and in particular how such activities are regulated through binding interactions with other cellular components, small-molecule therapies and/or post-translational and post-transcriptional modifications that can be altered in the disease state. Using this technology one can, for example, monitor the dynamic properties of individual biological molecules required for cellular growth (e.g., an enzyme critical to growth of a specific pathogen) in the absence and presence of small-molecules to screen for those, which upon binding to the target alter the dynamic properties of system in ways that are desirable (e.g., inhibition or activation) irrespective of where on the target binding occurs. Finding compounds that act through such "allosteric" means is of great importance to pharma companies as they seek better ways to treat disease as such effectors can be highly specific (e.g., competitive inhibitors of a signaling kinase tend to inhibit all kinases). Cornell's smFRET platform consists of analytical software, novel reagents, including longer-lasting fluorophores, and equipment.

Heart Rhythms: VF Onset Prediction
Robert Gilmour, Physiology

Pharmacological approaches for preventing Ventricular Fibrillation (VF) have been largely unsuccessful due to an inability to reliably predict VF for timely treatment. As a result, VF continues to be the major cause of the 335,000 sudden cardiac deaths annually in the United States alone. A protocol to induce VF in adult beagle dogs that closely approximates the clinical situation in humans has been validated at Cornell. Based on this protocol, a computer model has been developed to monitor the heart for electrical activity that is predictive of VF onset. This computer model can be incorporated into implantable devices to enable timely electrical or pharmacological intervention.
Database Updates Coordinator
Johannes Gehrke, Computer Science
A growing number of database applications need to support coordination and collaboration between users. However, database systems do not provide adequate support for this functionality forcing today’s developers to rely on ad-hoc and error-prone solutions. This technology uses an SQL DML statement in which updates are decorated with post-conditions that can refer to the database changes made by other updates. Coordination is achieved through an execution model in which such “entangled” updates execute together if their joint execution causes all their post-conditions to be satisfied, even if there is no way of serially executing the updates one by one while satisfying the post-conditions.

Villous Scaffold Structure
John March, Biological & Environmental Engineering
This technology teaches the fabrication of artificial villous structures and their uses. The villous structures can be used as housing for epithelial, stem, or endothelial cells, and for growing mesenchymal cells for permeability studies. By simulating small intestine villi, this artificial villous scaffold provides a range of modeling capabilities, owing to its three dimensional structure. Applications for this technology include compound or nutrient permeability studies and/or mimicking the intestinal environment for pharmaceutical and biotechnology laboratories, as well as, a research tool.
Transforming Waste Heat into Energy
Richard Robinson, Materials Science & Engineering
Combining thermoelectrics with nanomaterials can provide enormous efficiency increases and pave the way for new devices that can turn waste heat into useful energy. Nanosheets that are only three to 100 nm thick with a width to height ratio as high as one million to one have been fabricated at Cornell. Due to their nano-thickness dimensions, the nanosheets have lower thermal conductivity that renders them orders of magnitude more efficient in their thermoelectric properties. With such new properties, devices that could harness waste heat from sources such as automobile engine blocks or power plant exhaust, and transform it into useful energy are possible.

New Tools for Drug Screening
Hening Lin, Chemistry & Chemical Biology
Human cells so far have seven known sirtuins, which have been shown to regulate a variety of biological processes such as aging, transcription, and metabolism. While there is good current understanding about the activities of sirtuins one through three, less is known about the functions of sirtuins four through seven. Cornell researchers have now shown sirtuin 5 (SIRT5) and sirtuin 6 (SIRT6) to have unique enzymatic activities and have developed specific inhibitors for such activities. Based on this discovery, new fluorogenic assays have been developed for research and for screening of new drugs.
JULY 10
Alan Paau, Vice Provost, hosted and presented to a visiting South Korean Delegation of University Research Managers in Ithaca, NY
Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY
Hosted Inventions Roundtable in Ithaca, NY
Alan Paau, Vice Provost, spoke on a panel at a “Healthcare Innovation Through Technology Transfer: The Promises & Challenges in NYC” event in New York, NY

AUGUST 10
Booth presentation at Empire Farms Days in Seneca Falls, NY
Organized and taught a two week Technology Management Summer Boot Camp for graduate students from Hongik University in Seoul, South Korea
Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY

SEPTEMBER 10
Alan Paau, Vice Provost, spoke on a panel at BIOSpain, on “Biotech Next Big Thing – Blooming Technologies & Biotechnological Applications” in Pamplona, Spain
Hosted IP & Pizza at Cornell Athletics
Seminar & Social Hour at CCTEC with Johnson School MBAs
Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY
Organized and co-sponsored Drug Development Boot Camp with Speid & Associates in New York, NY
Attended Licensing Executives Society Annual Meeting in Chicago, IL
Attended reception at Chinese Embassy in New York, NY
Alan Paau, Vice Provost, spoke at the Clean Energy Summit: Reimagining Upstate New York’s Energy Future, on “State of Clean Energy Research” at Ithaca College in Ithaca, NY

OCTOBER 10
Organized annual Cornell Technology Venture Forum in Ithaca, NY
Seminar & Social Hour at CCTEC with Johnson School MBAs
Hosted the annual BayHelix Reception at the Cornell Club in New York, NY
Organized a Patent Writing Workshop in Ithaca, NY
Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY
Booth presentation at the Finger Lakes Entrepreneurs’ Forum Member Expo
Organized and attended a visit by the Federal Reserve Bank of New York President to Cornell Startup, Kionix, Inc., in Ithaca, NY
Attended IvyTech Annual Conference in Philadelphia, PA
Attended an Angels Networking Reception in Ithaca, NY organized by Seed Capital of Central New York and Cayuga Venture Fund
Participated in NYC Emerging Technologies Summit on “Opportunities in Oncology” in New York, NY

NOVEMBER 10
Attended Tompkins County Area Development Marketing & Development Meeting
Attended Tompkins County Area Development Board Meeting
Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY
Co-sponsored Entrepreneurship Seminar on “Finding the Perfect Home for Your Business” in Ithaca, NY
Hosted and presented at SUNY BEST Committee Meeting in Ithaca, NY
Hosted IP & Pizza at the College of Veterinary Medicine Seminar & Social Hour at CCTEC with Johnson School MBAs
Scott Macfarlane, Senior Technology Commercialization & Liaison Officer, presented Cornell technologies at NeTEC Conference on Aerospace and Defense Technologies in Windsor, CT
Alan Paau, Vice Provost, spoke at the 2nd China Jiangsu Conference for International Technology Transfer & Commercialization on “Cornell Technology Transfer and Technology Opportunities” in Nanjing, China

DECEMBER 10
Attended Cornell Center for Materials Research JumpStart Board Meeting
Attended Tompkins County Climate Protection Initiative Meeting
Attended Tompkins County Area Development Board Meeting
Attended Agribusiness Economic Outlook Conference
Alan Paau, Vice Provost, spoke at China International Medical Expo, on “Technology Development & Trends: New Medical Research Approaches Create Challenges & Opportunities” in Taizhou, China

JANUARY 11
Attended Grants for Growth Advisory Committee Meeting in Syracuse, NY
Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY
Attended “Building a Marketing and Analytics Infrastructure for Academic Technology Transfer” at Columbia University in New York, NY

FEBRUARY 11
Hosted IP & Pizza at the School of Applied & Engineering Physics Seminar & Social Hour at CCTEC with Johnson School MBAs
Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY
William Hopewell, Intellectual Property Services Manager, spoke on a panel at the Association of University Technology Managers Annual Meeting in Las Vegas, NV
Attended New York City Investment Fund Annual Meeting
Attended Licensing Executives Society Winter Meeting in San Jose, CA

MARCH 11
Hosted Inventions Roundtable in Ithaca, NY
Hosted IP & Pizza with the Graduate School
Co-hosted a Mini Boot Camp on “Bringing Your Startup to Life” with NYC Tech Connect in New York, NY
Attended a discussion, led by SUNY Chancellor Nancy Zimpher, on the role of SUNY in helping to stimulate economic recovery and workforce development at TC3 in Dryden, NY
Attended Tompkins County Area Development Board Meeting
Attended Groundbreaking Ceremony for expansion at Transonic Systems, Inc., in Ithaca, NY
Alan Paau, Vice Provost, spoke at Intellectual Property Conference, on “Roles of Universities in Commercializing Research” at Hongik University in Seoul, South Korea
Alan Paau, Vice Provost, spoke at Intellectual Property Forum, on “Strategy and Vision of Startups” at Korea Research Foundation in Deajeon, South Korea
Organized and hosted a visit by Stanford University Office of Technology Licensing

APRIL 11
Organized and hosted annual CCTEC New Business & Emerging Technology Showcase at Entrepreneurship@Cornell Celebration
Booth presentation at Technology Business & Resource Expo at Entrepreneurship@Cornell Celebration
Hosted IP & Pizza at the College of Agriculture & Life Sciences Seminar & Social Hour at CCTEC with Johnson School MBAs Hosted IP & Pizza at Weill Cornell Medical College Hosted Inventions Roundtable in New York, NY Attended CenterState CEO Annual Meeting in Syracuse, NY Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY Joined Tompkins County and Ithaca City Officials for a Tompkins County Area Development Collaborative Meeting Participated in Pre-Seed Workshop in Ithaca, NY Co-hosted Upstate New York Biocareer Connection in Ithaca, NY Co-sponsored Entrepreneurship Seminar on “Energy and Clean Technologies” in Ithaca, NY Alan Paau, Vice Provost, spoke at Biopharma Licensing Congress, on “Organization Models to Consider When Sourcing New Licensing Opportunities” in Philadelphia, PA
Alan Paau, Vice Provost, spoke at BayHelix Annual Meeting, on “Biotech Opportunities Beyond Pharma” in Shanghai, China
Attended Cleantech Dinner hosted by Braemar Energy Ventures and New York City Investment Fund in New York, NY

MAY 11
Attended Tompkins County Area Development Annual Meeting
Participated on a committee with regional officials to create a vision for Tompkins County
Attended 2011 SmartStart UNYTECH Venture Forum in Albany, NY
Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY

JUNE 11
Organized and hosted Startup Boot Camp in Ithaca, NY
Organized and hosted a breakfast with the Faculty Entrepreneurs Group at CCTEC
Attended BIO International Convention in Washington, DC
Organized and hosted a breakfast meeting for a visiting delegation from the Taizhou China Medical City to meet with representatives of the New York, NY biomedical research institutions
Hosted Economic Development Community Roundtable with individuals from central NY involved in economic development activities in Ithaca, NY
Attended a Schools, Business, and Economic Development event organized by Tompkins County Area Development at the Country Club of Ithaca
Attended State of Upstate New York Conference in Syracuse, NY
Booth presentation at Cornell University Reunion
In FY 2011, CCTEC completed a total of 616 agreements (excluding amendments to existing agreements) related to technology management.

Technology transfer activity metrics may be different from those reported in previous reports due to minor post-report adjustments.
U.S. Licensing by State
Total - 154

Regional Impact
N.Y. Licensing by County
Total - 72
In FY 2011, CCTEC received 367 disclosures for 20 copyrights, 66 plants, and 281 inventions.

### Intellectual Property Disclosures

![Bar chart showing disclosures over years]

In FY 2011, CCTEC filed 165 U.S. provisional patent applications, 118 U.S. nonprovisional patent applications, and 262 international patent applications. Cornell was issued a total of 194 patents - 82 U.S. and 112 international.

#### Patents

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Updated 10/21/13
Expenses

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<td>$31,866,615</td>
<td>$67,902,539</td>
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*Extraordinary expenses include expenses for litigation.

As of the end of FY 2011, Cornell holds private equity in 29 companies with licensed Cornell technology, the value of which cannot be reliably estimated at this time. Cornell holds promissory convertible notes in the principal amount of $2,628,851.

Revenue

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*Extraordinary income includes non-recurring items such as sale of equity and dispute settlements.

Mandatory Distributions

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<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>5-YR TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventor-Author Share</td>
<td>$1,612,688</td>
<td>$1,846,799</td>
<td>$1,948,911</td>
<td>$3,064,194</td>
<td>$13,468,127</td>
<td>$21,940,719</td>
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<tr>
<td>Joint Titleholders Share</td>
<td>$130,197</td>
<td>$236,481</td>
<td>$142,066</td>
<td>$1,048,195</td>
<td>$4,666,829</td>
<td>$6,223,768</td>
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<tr>
<td>Research Labs/Dept/College Share</td>
<td>$600,769</td>
<td>$1,045,720</td>
<td>$1,740,795</td>
<td>$1,931,131</td>
<td>$1,962,641</td>
<td>$7,281,056</td>
</tr>
<tr>
<td>CRF-University Share</td>
<td>$2,065,950</td>
<td>$2,308,536</td>
<td>$1,865,224</td>
<td>$5,091,074</td>
<td>$3,798,871</td>
<td>$15,129,655</td>
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<tr>
<td>TOTAL</td>
<td>$4,409,604</td>
<td>$5,437,536</td>
<td>$5,696,996</td>
<td>$11,134,594</td>
<td>$23,896,468</td>
<td>$50,575,198</td>
</tr>
</tbody>
</table>

*Extraordinary expenses include expenses for litigation.
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