

P R E S E N T A T I O N S

Cornell Startups

Orthogonal

Fox Holt, CEO

Orthogonal is exploiting a novel, patent-pending photoresist and process to manufacture organic electronics using the standard electronics manufacturing technology, photolithography. In creating this process, organic electronic production can leverage current production facilities unlike other organic electronic manufacturers. The initial focus of the company is to produce organic light emitting diodes (OLEDs), to compete with LCDs, for the \$100 billion display market.

ZetrOZ

Bryant Guffey, CEO

ZetrOZ's enabling technology, the OZ, is a pocket-sized, super efficient acoustic generating device which makes today's expensive, complex, and clumsy ultrasound tools portable, affordable, and easy to use. OZ products have the breakthrough capability of using rechargeable batteries without sacrificing power output or customizability. Due to its portability, OZ devices can just as easily operate in the emergency room as outside the hospital where standard ultrasound isn't available. OZ allows the creative use of ultrasound in a myriad of applications including pain therapy, drug delivery, minimally invasive surgery, food processing, and more.

Prendismo

Deborah Streecher, Co-Founder and Creator

Prendismo's website is home to a collection of digital video content on business, leadership and entrepreneurship. Founded in July 2008, Prendismo has developed innovative and provocative ways to share an extensive collection of over 13,000 videos and podcasts on business insight. In addition to being a business resource for entrepreneurs and small business owners, Prendismo's content is currently used by publishers and information companies to expand their existing asset bases and enliven print and web-based products.

Glycobia

Matthew Delisa, President

Protein-based therapeutics currently represent one in every four new drugs approved by the FDA. However, the vast majority of therapeutic proteins require additional modifications to attain their full biological and therapeutic function. Since the majority of bacteria do not glycosylate (biological process of adding a sugar or sugar chain to a protein) their own proteins, expression of most therapeutically relevant glycoproteins, including antibodies, is relegated to mammalian cells. Glycobia is developing "glyco-engineered" bacteria that are capable of attaching human or human-like sugars onto proteins. This technology offers a low-cost strategy for efficient production of authentic human glycoproteins in microbial cells with the potential to revolutionize the enterprise surrounding the manufacturing and engineering of therapeutic proteins.

Adenios

Charles Hamilton, Co-Founder and CEO

Adenios can precisely control the blood-brain barrier to improve the delivery and extend the patent life of existing drugs for brain-cancer, Alzheimer's, MS, Parkinson's, and other diseases. While the blood-brain barrier is a critical component of the central nervous system that prevents toxic substances from entering the brain, it also prevents over 98% of existing drugs from being delivered to the brain. Adenios is developing mechanisms to modulate blood-brain barrier permeability that both allow and prevent small-molecule, antibodies, and cells from entering the brain.

Vybion

Lee Henderson, CEO

Vybion is a development stage company with a broadly enabled platform technology, called ProCode, for human monoclonal antibody based drug discovery and development. ProCode is differentiated from competitors by the ability to optimize antibody binding affinity and stability simultaneously. This translates into dramatic cost reduction and better safety. Vybion is in partnering discussions currently with proof of concept and demonstrated scalability.



Emerging Technologies

Microfluidic Device for Study of Drugs

Michael Shuler, Biomedical Engineering

A newly designed microfluidic device allows for culturing of multiple cell lines in an environment, with the cell chambers connected in a manner mimicking blood circulation. The device eliminates air bubble formation, and enables high throughput implementation by eliminating an external pump. Applications include pharmacokinetic-based (the determination of the fate of substances administered externally to a living organism) platform for testing drug toxicity.

Beneficial Microorganisms as Signal Mediators

John March, Biological & Environmental Engineering

The intestinal tract is home to over 350 types of bacteria. Commensal bacteria or probiotics are live microorganisms that have co-evolved with their human host to provide nutrients, protect against pathogens and aid in intestinal development. The technology relates to the use of commensal bacteria that express specific signaling molecules that would allow for communication with either the host's own cells to control conditions such as diabetes, or with other bacteria that could be used to treat bacterially-based diseases such as cholera.

Blocking the Metastasis of Cancer

Xin-Yun Huang, Physiology, Weill Cornell Medical College

Suppression of a protein called fascin that is found in cancer cells has been shown by Cornell researchers to inhibit cancer cell migration and metastasis. The gene associated with fascin is known to be over-expressed in many types of metastatic tumors, and its elevated expression has been associated with the aggressiveness of tumors. For the first time, it has been demonstrated that inhibition of this gene's expression or activity blocks cancer metastasis. Specific inhibitors of fascin activities are potential chemotherapeutic agents for breast, prostate, ovary, colon, pancreas, esophagus, stomach, lung, and bladder cancers.

Nanoparticles for Less Invasive Prostate Cancer Therapy

Alexis Te, Urology, Weill Cornell Medical College

Transurethral microwave thermotherapy (TUMT) is a non-surgical, minimally invasive therapy that can be performed under a local anesthetic on an outpatient basis to treat lower urinary tract infections caused by benign prostatic hyperplasia (enlarged prostate). This invention uses nanoparticles to improve the effectiveness and reduce the side effects of TUMT. Also, this technology could ultimately make prostate cancer therapy much less invasive.

Scaling Video Games for Better Playing Experiences

Johannes Gehrke, Computer Science

The Entertainment Software Association estimated that U.S. computer and video game software sales grew six percent in 2007 to \$9.5 billion and sixty-five percent of American households played computer or video games. A key to developing rich playing experiences for video games is the creation of complex and interesting artificial intelligence (AI) for non-player characters - characters that are controlled by the game program and not by the individuals playing the game. Previously, there has not been a way to create AI programming that scales to a very large number of non-playing characters. This technology treats game AI as a data management problem and uses sophisticated query processing and indexing techniques to handle large numbers of scripts. This provides a framework for games with a huge number of complex non-player characters.

Please join us for the 2009
Technology Innovation Gala
Reception immediately
following today's events!



Cornell Startups

GeneWeave Biosciences

Jason Springs, CEO

GeneWeave Biosciences is designing rapid molecular diagnostic tests for infectious diseases that have 20x lower production cost than today's market standards. By using phages - viruses that only infect bacteria and are harmless to humans - GeneWeave can turn almost any antigenic test format into a rapid, simple, and accurate molecular diagnostic for drug-resistant or toxic bacteria.

InFlora, Inc.

Laura Cima, CEO

InFlora is a Cornell startup founded to commercialize a collection of unique, woody ornamental plants. Currently, the market demand is strong for new decorative plants. Woody ornamentals have a low capital investment, high turnover rate and high margins—typically 12% annual growth. InFlora's combination of new versions of proprietary plants coupled with quality genetics allow it to have a strong position in the marketplace. Currently, InFlora has several versions of plants that are ready for the market.

Reparo Therapy, Inc.

Liyan He

Reparo Therapy, Inc. is a Cornell start-up seeking development partners and investors to develop DNA repair enhancing consumer and clinical ingredients and products. These include DNA repair enhancing cream that treats sunburn and prevents skin cancer, DNA repair enhancing nasal spray for lung cancer prevention, and DNA repair enhancing anti-aging cosmeceuticals.

Emerging Technologies

Alternative Form of Treatment for Infections in Cows

Rodrigo Bicalho, Population Medicine & Diagnostic Sciences

During birth, the uterine lumen, which is normally sterile, almost invariably becomes contaminated with bacteria in cows. Very often these infections can cause subfertility and infertility, reduced milk yield, and sometimes death. This condition is usually treated with an antibiotic, but the growing concern of antibiotic resistance and the withdraw periods of cows on antibiotic treatment for milk and meat make alternative more effective forms of treatment, such as this one, highly desirable.

Assessing Anti-Cancer Drugs in 3-D Cell Model

Claudia Fischbach, Biomedical Engineering

This technology describes a 3D cell culture model that can mimic tissues and tumors more effectively than current 2D dish cultures. Using tissue engineering properties, Cornell inventors have developed biomimetic human tumors that not only recreate microenvironment, but also cell-cell interactions. This culture model provides a means to assess anti-cancer drugs for efficacy in a system that better recapitulates the human body and can be applied to high throughput screening.

Chip Image Sensor for Biomedical and Security Uses

Alyosha Molnar, Electrical & Computer Engineering

This invention describes a method for building a lens-less image sensor (imager) on a CMOS (complementary metal-oxide-semiconductor) chip that extracts the three-dimensional (3-D) structure of the light source it is imaging. Each pixel in the imager can detect both the intensity and incident angle of the light received by it through interference patterns. Besides full CMOS integration, a major standout of this invention is that the interference patterns can be created from incoherent (imaged) light as present in nature. Applications include biomedical imaging and security systems.

Compilation Framework for Continuous Query Processing

Christoph Koch, Computer Science

Yanif Ahmad, Computer Science

This invention comprises aggressive compilation techniques that turn database queries into lean, highly-tuned query processors. Our techniques produce code that incrementally maintains query results and which are particularly well suited for stream processing applications such as high-frequency algorithmic trading and for online data warehousing. Our techniques provide game-changing efficiency improvements of four orders of magnitude and more in these domains.



Device and Method for Mechanical Biopsy of Soft Tissue

Jonathan Butcher, Biomedical Engineering

Current methods to thoroughly examine soft tissue for disease require invasive removal or must be inferred from a superficial analysis. Diseased and normal tissue can be accurately discerned by differences in the local tensile and/or compressive properties, but quantifying these in vivo is challenging. Cornell researchers have developed a minimally invasive device which measures local tissue biomechanics and integrates this with impedance mapping for rapid diagnosis of biological condition based on established benchmarks. This system can be used in a variety of biopsy applications, most notably in cancer diagnosis and margin detection.

Novel Approach for Alzheimer's Treatment

Linda Nicholson, Molecular Biology & Genetics

According to the National Institute on Aging, recent estimates show that as many as 2.4 to 4.5 million Americans are living with Alzheimer's disease. Currently, there are no disease-modifying drugs available to treat Alzheimer's. This invention introduces a novel approach to discover and develop new treatments for this disease.

Protein Expression System Boosts Immune Response

Bettina Wagner, Population Medicine & Diagnostic Sciences

A system and method of using interleukin 4 (IL-4) as a tag on recombinant proteins to generate highly specific antibodies against targets for which good antibodies have thus far been proven difficult to develop. The IL-4 fusion protein system represents a simple and superior method of eliciting a robust immune response to proteins in their native form. Potential applications include development of monoclonal antibodies as potential therapeutics, development of superior monoclonal antibodies as research reagents for difficult to express and/or target proteins, and a vaccine component.

Radiotherapy Sensitizer for Cancer Treatment

Leandro Cerchiatti, Medicine, Weill Cornell Medical College

Radiation therapy uses x-rays, electron beams or radioactive isotopes to target and destroy cancer cells. Radiation therapy, however, can damage normal cells as well. Researchers at Weill Cornell discovered that a known compound can significantly improve the effect of radiation therapy when it is administered to the patients at a certain dosage and a certain time prior to radiation therapy. This compound has curative and palliative treatment applications in many types of cancer, including breast, lung, head and neck, cervical, colorectal, brain, and lymphomas.

Self-Assembled Intervertebral Disc

Lawrence Bonassar, Mechanical & Aerospace Engineering

This invention relates to a tissue-engineered intervertebral disc that mimics the native biological disc and can be used for spinal disc replacement. Unlike current solutions, which use metal and plastic implants or merely attempt to repair damaged discs, this disc is formed through a self-assembly process of collagen gel and collagen fibrils. With tests showing good toleration of the discs in animals (no signs of inflammation or foreign body response), the technology holds great promise for treatment of spinal disorders.

Starve Cancer Cells by Disrupting Their Metabolism

Kristin Wilson Cerione, Molecular Medicine

Rick Cerione, Molecular Medicine

Decades of research on complex tumor signaling has shown that many of these signals target the metabolism of cancer cells. This insight is leading to a new strategy in the war against cancer - disrupt the metabolic function of cancer cells. Cornell researchers have identified a critical enzyme in this process called mitochondrial glutaminase C, as well as specific inhibitors that show great promise in validating this new strategy and target for treating cancer.

Transgenic Rodent Models of Parkinson's Disease

Chenjian Li, Neurology, Weill Cornell Medical College

Parkinson's disease (PD) is a degenerative disease of the brain that often impairs motor skills, speech, and other functions. PD is both chronic and progressive. Currently there is no cure, and animal models for studying the disease are poor. A few years ago, investigators learned that a certain protein, leucine-rich repeat kinase2 (LRRK2), is mutated in a large set of inherited cases of PD. Researchers have generated mice and rats that contain the mutated, human LRRK2 gene. These animals faithfully reproduce the hallmarks of human PD, including drug response, making them excellent models for testing drugs to treat PD.

P O S T E R S



Ithaca Office
 395 Pine Tree Road, Suite 310
 Ithaca, NY 14850
 P: 607-254-4698
 F: 607-254-5454
New York City Office
 418 East 71st Street, Suite 61
 New York, NY 10021
 P: 212-746-6186
 F: 212-746-6662
www.cctec.cornell.edu
 e: cctecconnect@cornell.edu

WHO WE ARE
 The Cornell Center for Technology Enterprise and Commercialization (CCTEC) is responsible for the management of Cornell University's technology. CCTEC supports Cornell's land-grant mission by leveraging Cornell's innovations to promote regional economic development to benefit the public.

WHAT WE DO

- Partner with industry to develop Cornell's technologies into products and services for public good.
- Promote beneficial interactions between Cornell researchers and industry.
- Leverage Cornell's intellectual property to promote entrepreneurial opportunities and regional economic development.

HOW WE DO IT

- By protecting and managing intellectual property that arises from Cornell research.
- By providing outreach and communication to connect internal and external stakeholders.
- By increasing awareness on campus of Cornell's values and issues around intellectual property.

CCTEC IN ACTION

- Receive over 200 new disclosures.
- Secure over 100 patents on Cornell inventions.
- Execute over 400 agreements.
- License over 80 innovations.
- Host over 20 business networking and marketing events.
- Assist in the formation of new businesses based on Cornell innovations.

CCTEC CORNELL CENTER FOR TECHNOLOGY ENTERPRISE AND COMMERCIALIZATION

Cornell Technology Venture Forum

October 22, 2009
 East Hill Office Building
 Cornell University, Ithaca NY



Attendee Bags

Tompkins Trust Company
 Tompkins Trust Company is a community bank with 15 offices in the Ithaca, Cortland, and Auburn areas. Services include complete lines of consumer deposit accounts and loans, business accounts and loans, as well as trust and investment services and leasing. Insurance services are offered through Tompkins Insurance Agencies, which is also part of Tompkins Financial Corporation.

Marjama Muldoon Blasiak & Sullivan LLP
 Marjama Muldoon Blasiak & Sullivan LLP is an intellectual property practice located in Syracuse, New York. The firm provides worldwide procurement, maintenance, licensing, and enforcement of patents, trademarks, copyright, and trade secrets. They have clients located across the United States ranging from Fortune 500 companies to individual inventors.

Clark & Elbing LLP
 Clark & Elbing LLP is an intellectual property law firm dedicated to serving its clients. They are a team of standout scientists and accomplished attorneys who are as passionate about science as they are about the law. By focusing on biotechnology, medicine, and chemistry, they deal daily with the most complex intellectual property issues in these disciplines. The firm's extensive experience in these areas enables them to maximize the intellectual property rights in these areas for their clients across the U.S. and around the world.

Cayuga Venture Fund
 Cayuga Venture Fund is based in Ithaca, New York. Since 1994, it has worked to create and establish a thriving community of leading edge, high tech start-up companies in Ithaca and upstate New York by providing the necessary capital and other resources they need to grow and prosper. CVF has a history of opportunistic investing across a wide variety of industry sectors and many of its companies have a strong Cornell University technology connection.

Bacon & Thomas, PLLC
 Bacon & Thomas, PLLC has been serving innovators around the world for many clients. In 2009, the firm is again recognized on the "Bar Register of Preeminent Attorneys."



Gold



Platinum

SPONSORS



SCULLY SCOTT MURPHY & PRESSER PC
 Founded in 1973, Scully, Scott, Murphy & Presser PC is a preeminent law firm exclusively dedicated to Intellectual Property. Comprised of highly skilled attorneys with strong technical backgrounds, SSMF confidently sits at the crossroads of cutting edge science, technology and law where it offers detailed, insightful opinions and secures and enforces intellectual property for its clients. *Intellectual Property Today* ranked SSMF 41st out of 357 of nationally surveyed Intellectual Property firms, 5th in New York State and 1st on Long Island.

We continue to grow in the areas of biotechnology, chemistry, electronics, electrical engineering, computer science, internet, business methods, mechanical arts, nanotechnology, pharmaceuticals and material science. For more information, please visit our website www.ssmf.com or call 516-742-4343.



400 Garden City Plaza, Ste. 300 | Garden City, New York 11530 | USA
www.ssmf.com | info@ssmf.com | 516.742.4343