Technology Transfer at Brookhaven

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BROOKHAVEN NATIONAL LABORATORY
a passion for discovery

U.S. DEPARTMENT OF ENERGY | Office of Science

Outline

- Role of the DOE National Labs
- Technology Transfer Overview
- Capture & Protect
- Commercialize
- Licensing
- Success Stories

Role of the DOE National Laboratories

- Maintain U.S. leadership in science and engineering
- Solve important problems in fundamental science, energy, and national security
  - Develop a 21st century energy system to meet the nation's need for new clean-energy technologies
- Address long-term national issues
- Deliver rapid response for events such as September 11th, Gulf oil spill, Fukushima, provide safeguard and security of international nuclear materials, and more
- Provide industrial and academic researchers access to major research capabilities too costly to build privately

- **Promote innovation, move new technologies into the marketplace**

DOE Mission

Discover the Solutions that Power and Secure America's Future

BNL Approach

Create discovery to deployment impact from interdisciplinary research

RHIC I, II | CFN | NSLS II | NY Blue

Facilities

Core programs

Interdisciplinary team-oriented research

Science Challenges

- Energy Security
- Climate Change
- Origins of the Universe
- Accelerator Science / Detectors
- Human Health / Environment
- National Security

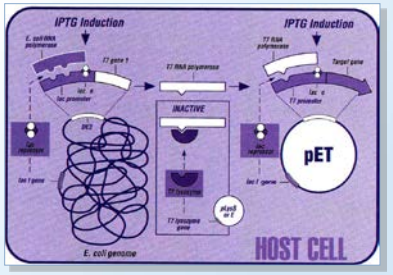
Collaborators, Users

Moving Discoveries to Deployment

BNL Inventions - Changing the World

- World's First Video Game
- MAGLEV Transportation
- PET reagent ^{18}FDG – Millions of health diagnoses per year

- L-DOPA – Used in the treatment of Parkinson's Disease
- High Temperature Superconductors - YBCO Fabrication
- T7 Protein Expression System for Biotech
- Integrated Positron Emission Tomography + Magnetic Resonance Imaging for medical diagnostics

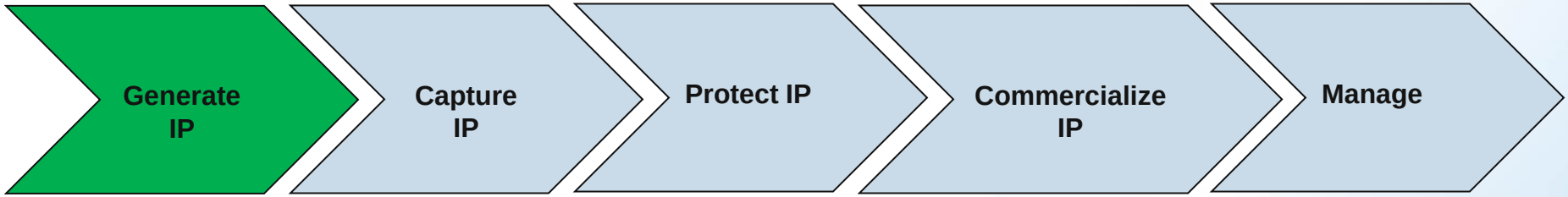


- Small Animal Imaging Systems for health research
- RadioTin systems for Cancer Therapy
- Thermoelectric Power Generators (TEP)
- Core-Shell Electrocatalysts for Fuel Cells, Automotive and Chemical Process …and many more!

Technology Transfer Overview

Generate IP

Technology Transfer Overview



Capture & Protect

Any researcher/ staff member can be an inventor

- file an ROI or copyright disclosure

http://www.bnl.gov/techtransfer/inventors.php

We work with attorneys to protect IP through patents, copyrights and trademarks

Commercialize

"Commercialization" is the way we move technology from the lab to the market

The Office of Technology Commercialization and Partnerships (OTCP):

- **identifies market needs** that fit with technology BNL researchers invent;
- **seeks out industrial partners** to develop the technology into products and services; and
- puts in place **legal and technical agreements** that facilitate the successful transfer of what BNL knows about the technology and the market to the industrial partner.

We work with patent attorneys on patent protection that is meaningful to our industry partners.

We work with the sponsored research group on CRADAs, SPP(formerly WFO), and ACT to transfer technology.

Licensing Overview

Brookhaven can license copyrights, trademarks, patents, and patent applications.

- A commercial license is the most common type of license agreement we use.
  - Under certain circumstances we'll offer an option to negotiate a license for a technology within a period of time.

- Research licenses are available for technologies still in the R&D phase.

Start-Ups

- **SynchroPET, LLC**

  - Long Island based start-up formed to commercialize the Positron Emission Tomography (PET) Technology.
  - The first BNL start- up under the DOE Startup America program.

- **Green Sulfcrete, LLC**

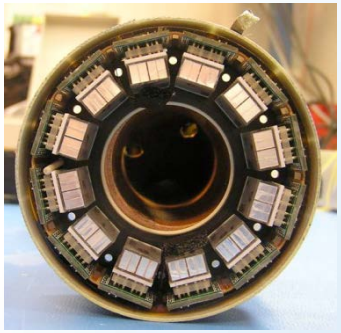
  - Long Island based start-up formed to commercialize the sulfur concrete products.
  - A green company!

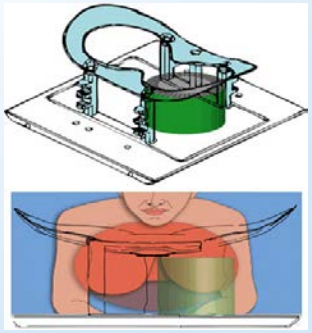
Both companies have successfully raised capital!
Both companies are working with BNL through further sponsored research

SynchroPET, LLC

- The first BNL start-up under the DOE Startup America program.

- Technology can be used to build both preclinical and clinical imaging products.



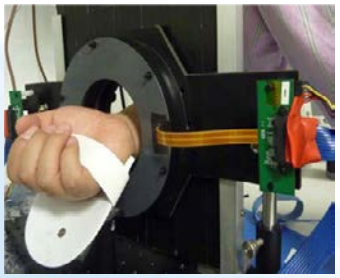


- **Examples of preclinical imaging devices:**

  RatCAP - *Awake animal imaging*
  Mini PET - *Small animal imaging*
  PET/MRI Insert - *Dual imaging*

- **Examples of clinical imaging devices:**

  Wrist Detector - *Quantitative PET*
  Breast PET/MRI insert – *Dual breast imaging*



Green Sulfcrete, LLC

- A BNL start- up under the DOE Startup America program.

- A green company.
  - Recycling industrial by-products generated from the production of oil and gas.
  - No water required.

- Technology can be used for production of cost-effective sulfur polymer cement.
  - Example: Production of pre-cast and poured concrete products that can be used in construction, highway infrastructure, paving, pipes, marine bulk heads etc.

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