

Budgets and Some Laboratory Business

Community Advisory Council
June 14, 2018

David Manning • George Clark
Kevin Fox • Erick Hunt

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NATIONAL LABORATORY



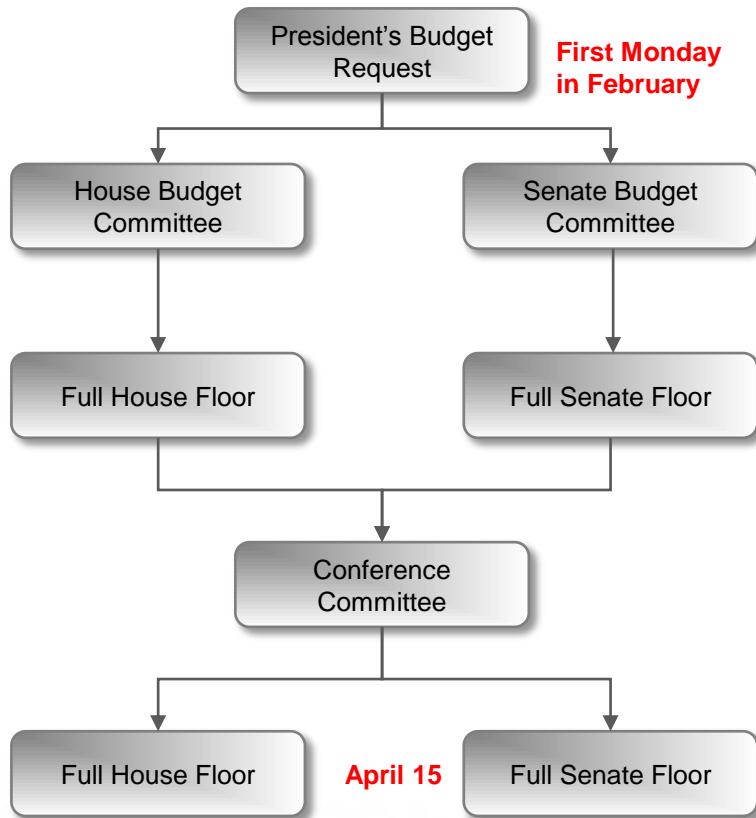
Agenda

- Overview of the Federal Budget Cycle: David Manning
- Budget Update: George Clark
- Procurement & Contracts: Kevin Fox
- Strategic Partnerships: Erick Hunt

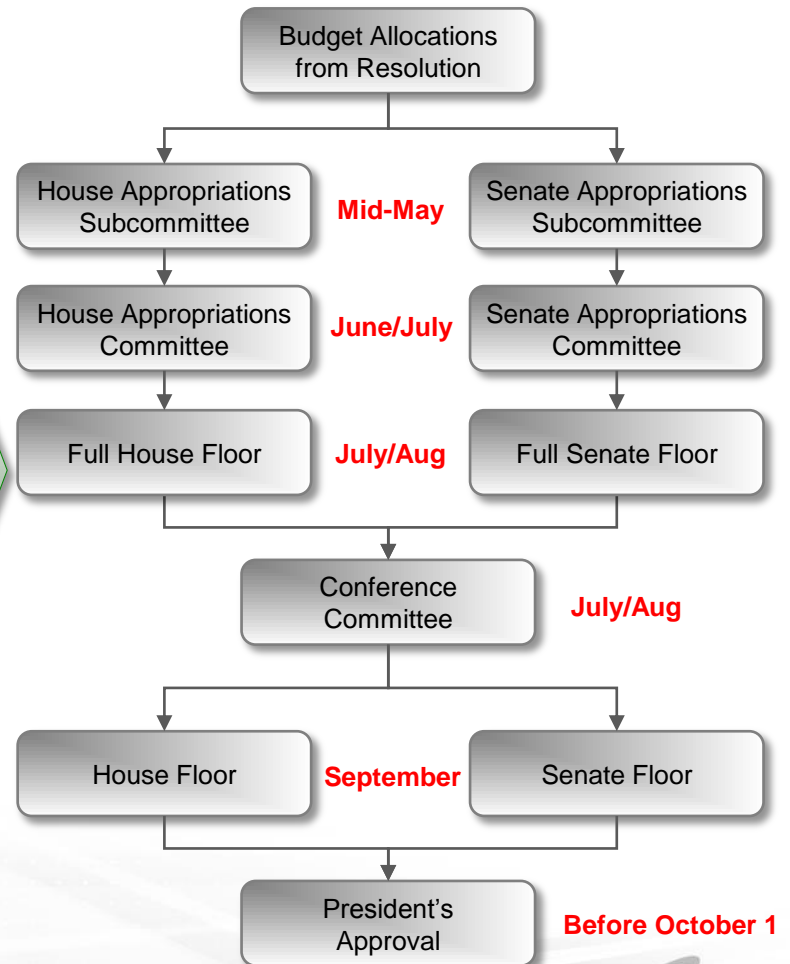


The Federal Budget Process

Budget 'Resolution' Process
(sets budget direction)



Budget 'Appropriations' Process
(yields a budget, signed into law)



Primary Budget-process Influencers

**DOE Leadership
(Secretary, CFO, others)**

**Assistant Secretaries and
Deputy Assistant Secretaries**

**White House
Political Office**

DOE Program Managers

President

**Office of
Management &
Budget Leadership**

Vice President

**Office of
Management &
Budget Analysts**

Congressional Members

Congressional Committees

Congressional Staff

Budget Update

George Clark

Chief Financial Officer,
Associate Lab Director
for Business Services

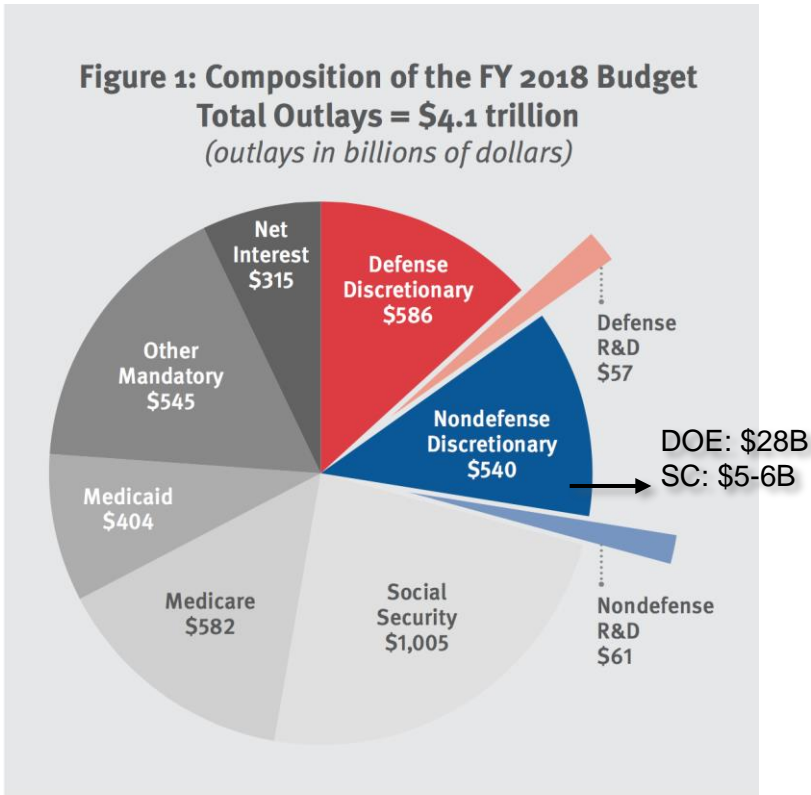
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Congressional Budget Process

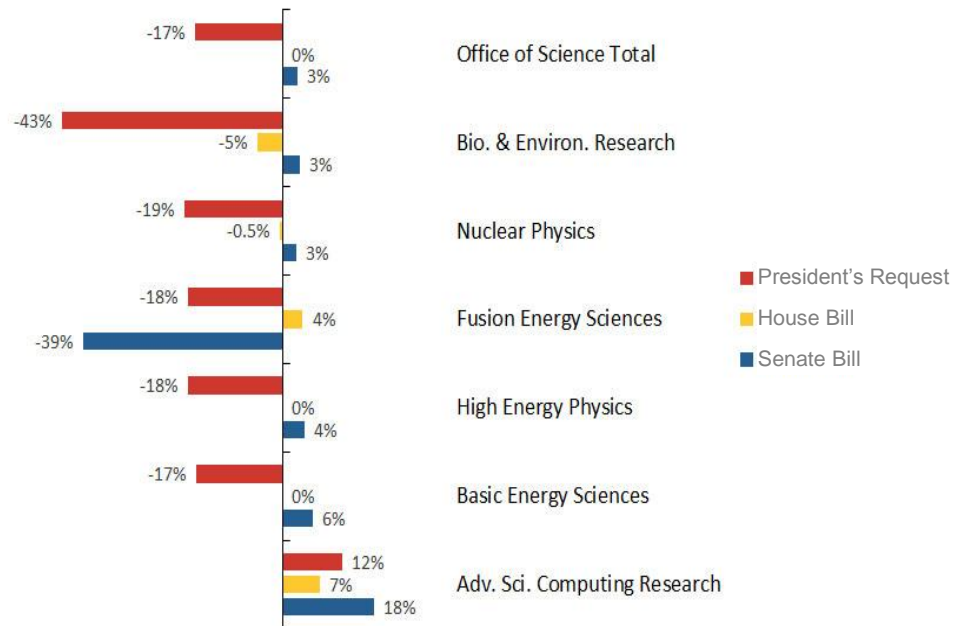
(Includes President's Budget Request)

Figure 1: Composition of the FY 2018 Budget
Total Outlays = \$4.1 trillion
(outlays in billions of dollars)



Source: Budget of the United States Government FY 2018. © 2017 AAAS

DOE Office of Science FY18 Budget Proposals
 (% change from FY17 enacted)



American Institute of Physics | aip.org/fyi

Current Status

FY 2018 Congressional budget and funding update

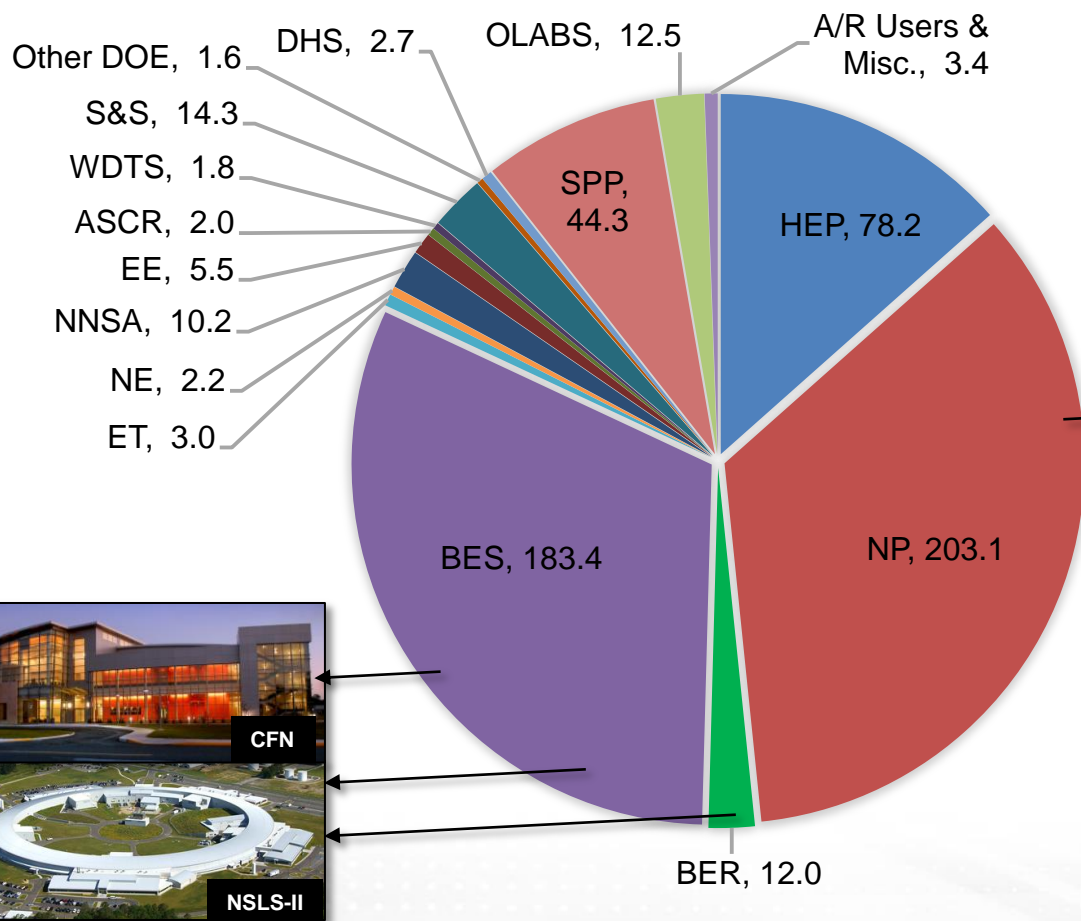
- House and Senate passed a federal funding bill and the President signed into law the Omnibus bill in March 2018, avoiding a government shutdown, and funding the government through September 2018.
- Omnibus bill language increases DOE Office of Science's budget to \$6.2B (+15%) and contained increases for Brookhaven—a welcomed relief versus initial Presidential Budget Request reductions of -15% to -17%.
 - Nuclear Physics: +\$13M.
 - High Energy Physics: +\$3M.
 - Basic Energy Sciences funding includes Center for Functional Nanomaterials (\$21M) and long-term stewardship (\$7M) support.
 - Infrastructure (GPP and SLI) funding:
 - Funding for biolabs \$4.9M, B801 hot cells \$8.5M, core facility revitalization \$30M.

Current Status (continued)

Latest News: Draft FY 2019 House spending bills boost DOE budget

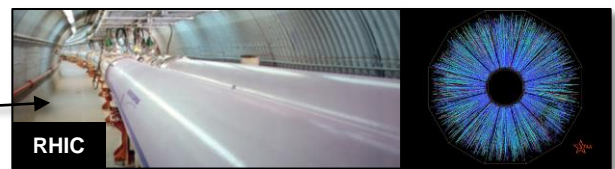
- Draft spending bills advanced recently in the House, offering initial indications of the outlook for federal science funding in FY 2019.
- The picture emerging is largely positive, with House Appropriators seeking increases for the DOE Office of Science.
- Proposed increase: 5% to \$6.3 Billion.
- Note: Design funding for Science and User Support Center (SUSC) of **\$2M**.

FY 2017 Funding Profile



Key figures
 Lab Operating Funding: \$581.7M
 DOE Funding: \$517.3M
 DOE as %Total Lab Funding: ~ 89%
 SPP (Non-DOE/Non-DHS) Funding: \$45.9M
 DHS Funding: \$2.7M
 SPP/DHS as %Total Lab Funding: ~ 8%

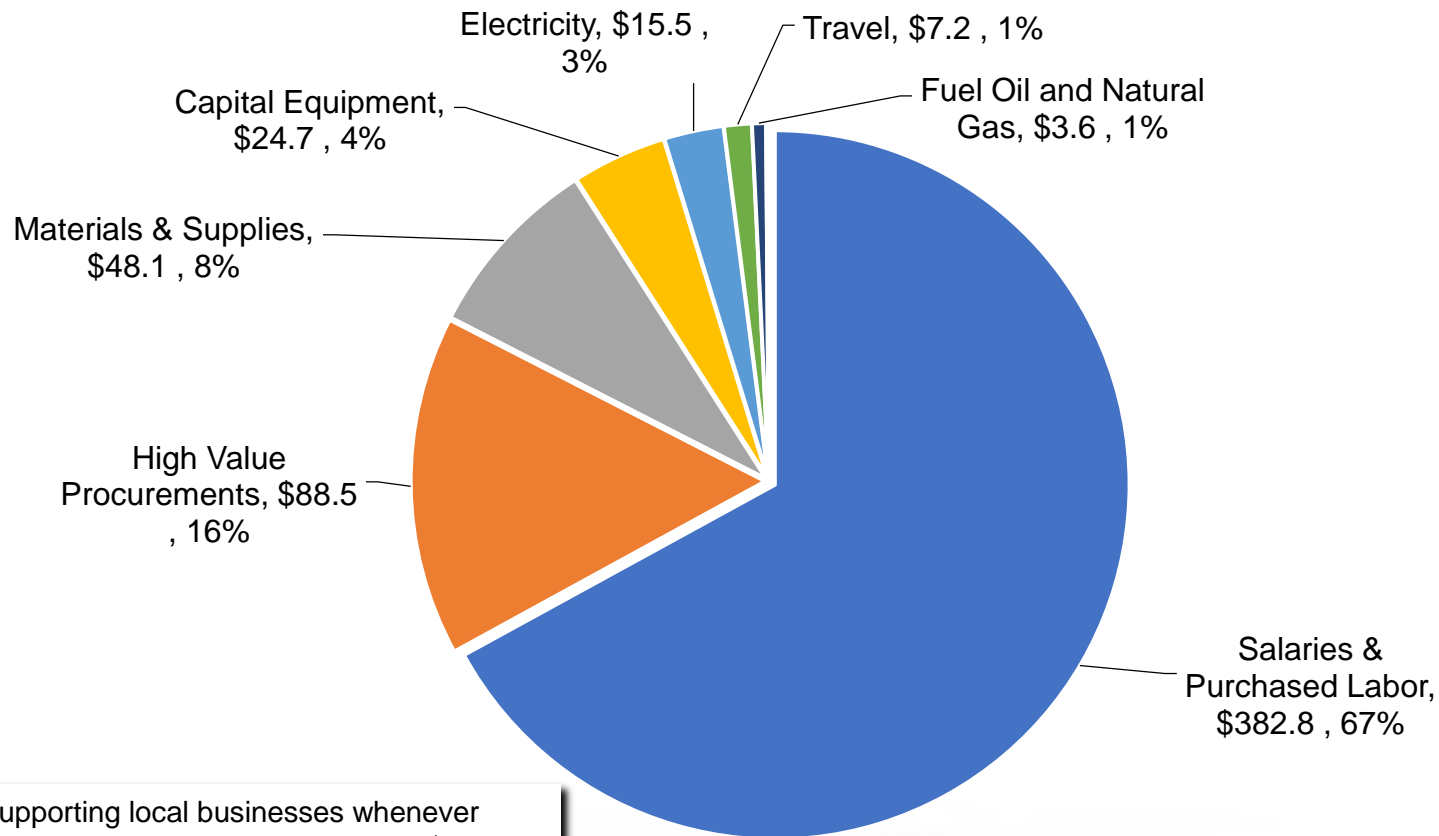
BNL is primarily funded—approximately 85%—by the Office of Science



Acronyms decoded
 ASCR: Advanced Scientific Computing Research
 BES: Basic Energy Sciences
 BER: Biological & Environmental Research
 DHS: Department of Homeland Security
 DOE: Department of Energy
 EE: Efficiency and Renewable Energy
 HEP: High Energy Physics
 NE: Office of Nuclear Energy
 NNSA: Nonproliferation & National Security
 NP: Nuclear Physics
 S&S: Safeguards and Security
 SPP: Strategic Partnership Projects
 WDTS: Workforce Development for Teachers and Scientists

FY 2017 Cost Categories (\$M)

(How we spend our funding)



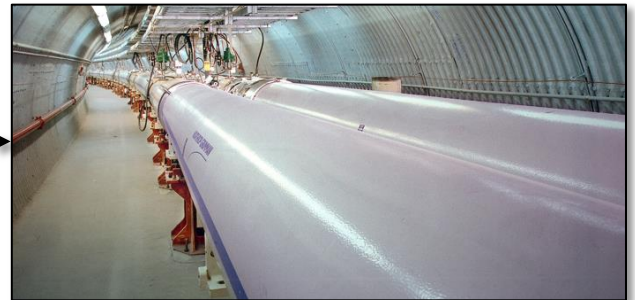
Supporting local businesses whenever possible, the Lab spent more than \$119M in FY 2017 on goods and services; \$13.5M of that with Long Island companies.

Note: Not included in chart is DOE FCR of \$700K—the fee DOE charges other agencies and companies for use of its facilities

New York State Support

Research & Development at Brookhaven: \$80M

- National Synchrotron Light Source II
 - High-energy X-ray (HEX) Beamline: \$25M
 - Cryogenic Electron Microscope (CryoEM): \$15M
- RHIC and Electron Ion Collider
 - Cornell-Brookhaven Energy-Recovery-Linac Test Accelerator (CBETA): \$25M
- Computational Sciences Initiative
 - Center for Data-Driven Discovery (C3D): \$15M



Other Positive News:

- Brookhaven Train Station: \$20M

Summary: Significant Impacts For the Local Community

- The Lab strengthens Long Island's position as a center of innovation in sustainable energy, biotech, and other fields crucial to the growth of New York State's economy.
- Lab employee salaries, wages, and fringe benefits accounted for approximately \$375 million, or 66% of its total budget.
- Supporting local and state businesses whenever possible, the Lab spent more than \$119 million in 2017 on goods and services, including \$13.5 million with Long Island companies.



Fast Facts

- The only multidisciplinary national lab in the Northeast
- One of New York State's largest scientific research institutions
- More than 2,500 employees
- 3,000 visiting facility users
- 2,000 guest researchers
- Fiscal year 2017 budget of \$582M

Procurement & Contracts

(Doing Business with Brookhaven)

Kevin Fox

Procurement & Property Management
Interim Division Head

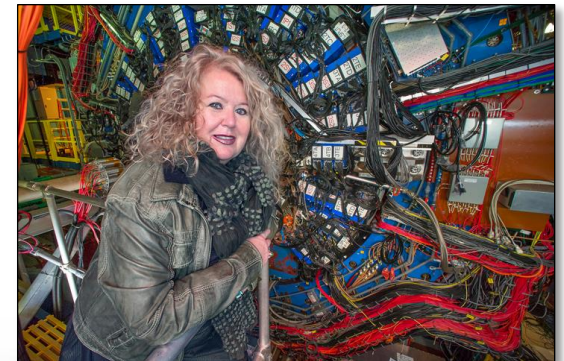
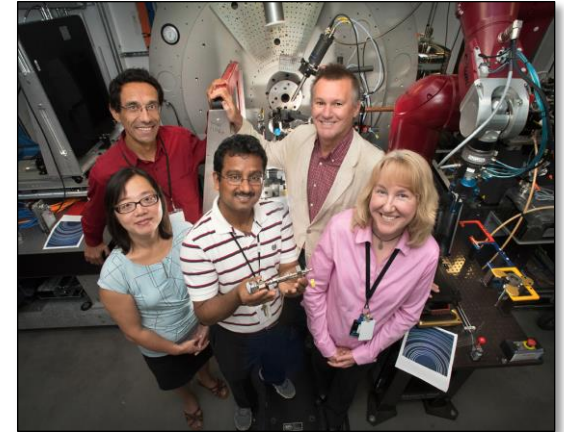
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Business Volume

FY 2017 Procurement Commitments

| | |
|----------------------|----------------|
| Total | \$ 119,192,187 |
| Total New York State | \$ 26,079,345 |
| Nassau County | \$ 1,507,402 |
| Suffolk County | \$ 12,045,559 |



What Does Brookhaven Buy?

Brookhaven buys almost anything a small town buys—and scientific equipment too:

- High-tech scientific equipment (microscopes, beamlines)
- Apparel/safety/misc. equipment
- Audio-visual equipment
- Chemicals
- Communications equipment
- Computers & peripherals—all types
- Construction, paving
- Copier maintenance
- Document shredding
- Electronics equipment
- Janitorial/plant equipment
- Service, maintenance equipment
- Hardware, tools, and fasteners
- Office furniture
- PC boards, printed circuit boards, electronics fabrication
- Raw metals
- Laboratory, medical, and office supplies
- HVAC, electrical, and carpentry supplies
- Wireless (RF) equipment

Note: We rarely buy some services.

- Advertising and public relations
 - Insurance services
 - Automotive vehicles
 - Legal and medical services
 - Food
 - Military products/services
 - Healthcare services
 - Photography services
 - Illegal products
 - Printing
 - Information technology services
 - Web design and hosting
- We have some of these capabilities in house, others we don't buy at all.

What Do I Do Next?

Sign up for FedBizOpps “Watch List”

- Automatic notifications of government and BNL solicitations www.fedbizopps.gov
(Note: You can filter notifications for Brookhaven only)

Brookhaven Lab Contact

- David Paveglio, Deputy Manager,
Procurement & Property Management
Division
dpaveglio@bnl.gov

Monitor

- BNL Small Business website
(<http://www.bnl.gov/ppm/SDB/>)

If you know someone who may be interested in these opportunities, please pass on this info (and feel free to take a picture of this slide).

Partnering with Brookhaven

Erick Hunt

Manager, Research Partnerships

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NATIONAL LABORATORY

 U.S. DEPARTMENT OF
ENERGY

Two Ways to Partner With Brookhaven

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Contract

Partner leverages BNL to develop its own IP, technology or product

(contact: Erick Hunt,
ehunt@bnl.gov)

License

Partner develops BNL IP into product

(contact: Poorni Upadhy)

Types of Partnering Agreements

**Cooperative Research
And Development
Agreement (CRADA)**

**Funds-In
Agreement
Strategic
Partnerships
Projects (SPP)**

**Technical Services
Agreement (TSA)**

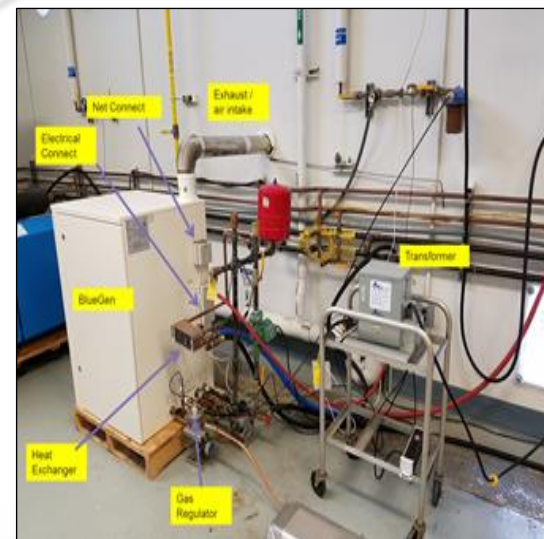
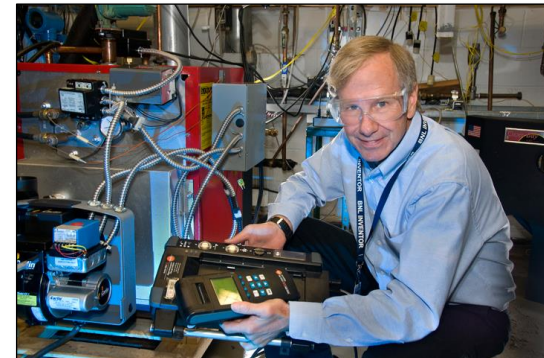
Interagency Agreement (IAG)

**Agreements for
Commercializing
Technology**

Fuel Cell Testing

Funding for Testing of Solid Oxide Fuel Cells

- Setup testbed for EU fuel cells (extreme high efficiency 60% fuel to electricity)
 - Short term working with: BlueGen, HPEnergy, Con Edison (Microsoft)
 - Long-term potential on performance testing for residential/commercial/data center applications/military facilities (Con Edison, NYSEERDA, National Grid & DoD)



Same person!

Newsday Sept. 27, 2015

LI BUSINESS

Brookhaven Lab's ENERGY WIZARD

Tom Butcher's decades of research revolutionized home heating systems

ENERGY from A33

Tom Butcher is the longtime leader of Brookhaven National Laboratory's energy conversion group.

He has very quietly been responsible for more technological innovations than anyone over the course of 30 years ... and has saved consumers a tremendous amount of money!

— Kevin Rooney, chief executive of the Oil Heat Institute of Long Island

LI BUSINESS

Brookhaven Lab's energy conversion group has been quietly revolutionizing home heating systems for decades. In the late 1970s, heating systems weren't much more efficient than a pot of water. But Butcher, who has worked at Brookhaven since 1971, saw the potential for a more efficient system. He led a team of scientists to develop a solid oxide fuel cell (SOFC) system that could be used in an existing home heating system. The result was a more efficient, quieter, and more reliable system. Today, Brookhaven's SOFC system is used in homes across the country. It has also been used in power plants and industrial settings. Butcher's work has saved consumers billions of dollars in energy costs. He has also helped to reduce greenhouse gas emissions. His research has been recognized by the National Science Foundation, the Department of Energy, and the National Academy of Sciences. Butcher is a member of the National Academy of Sciences and the American Academy of Arts and Sciences. He has received numerous awards and honors, including the National Medal of Science and the National Energy Research Award. Butcher is a past president of the American Nuclear Society and the International Atomic Energy Agency. He is also a member of the National Academy of Engineering and the National Academy of Sciences. Butcher is a past president of the Brookhaven National Laboratory and the American Nuclear Society. He is also a member of the National Academy of Sciences and the National Academy of Engineering.

Butcher conducts a lot of the...
 ...
 ...



The Bottom Line

- The federal budget process is complex and two-fold, with “resolution” and “appropriations” processes.
- Our prospects for FY 2018 and FY 2019 are brighter (and we continue to monitor).
- The Laboratory purchased \$13.5 million in goods and services from companies on Long Island in FY 2017. There are several ways to explore opportunities to do business with Brookhaven.
- Thanks to several processes, the Lab is open for partnering on select research efforts.