



... for a brighter future

An Introduction to DOE Office of Science Laboratories

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U.S. Department
of Energy

UChicago ►
Argonne_{LLC}

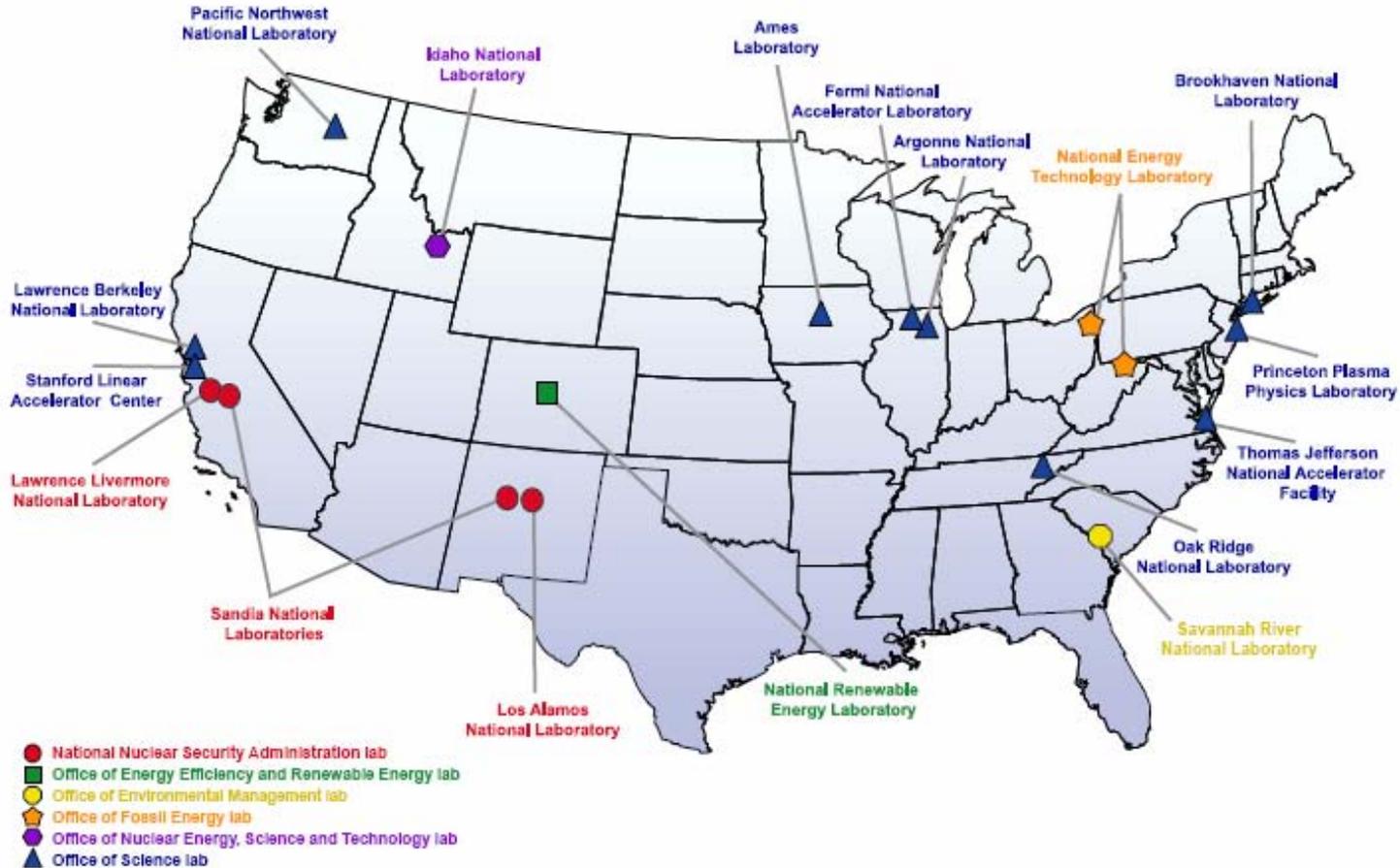


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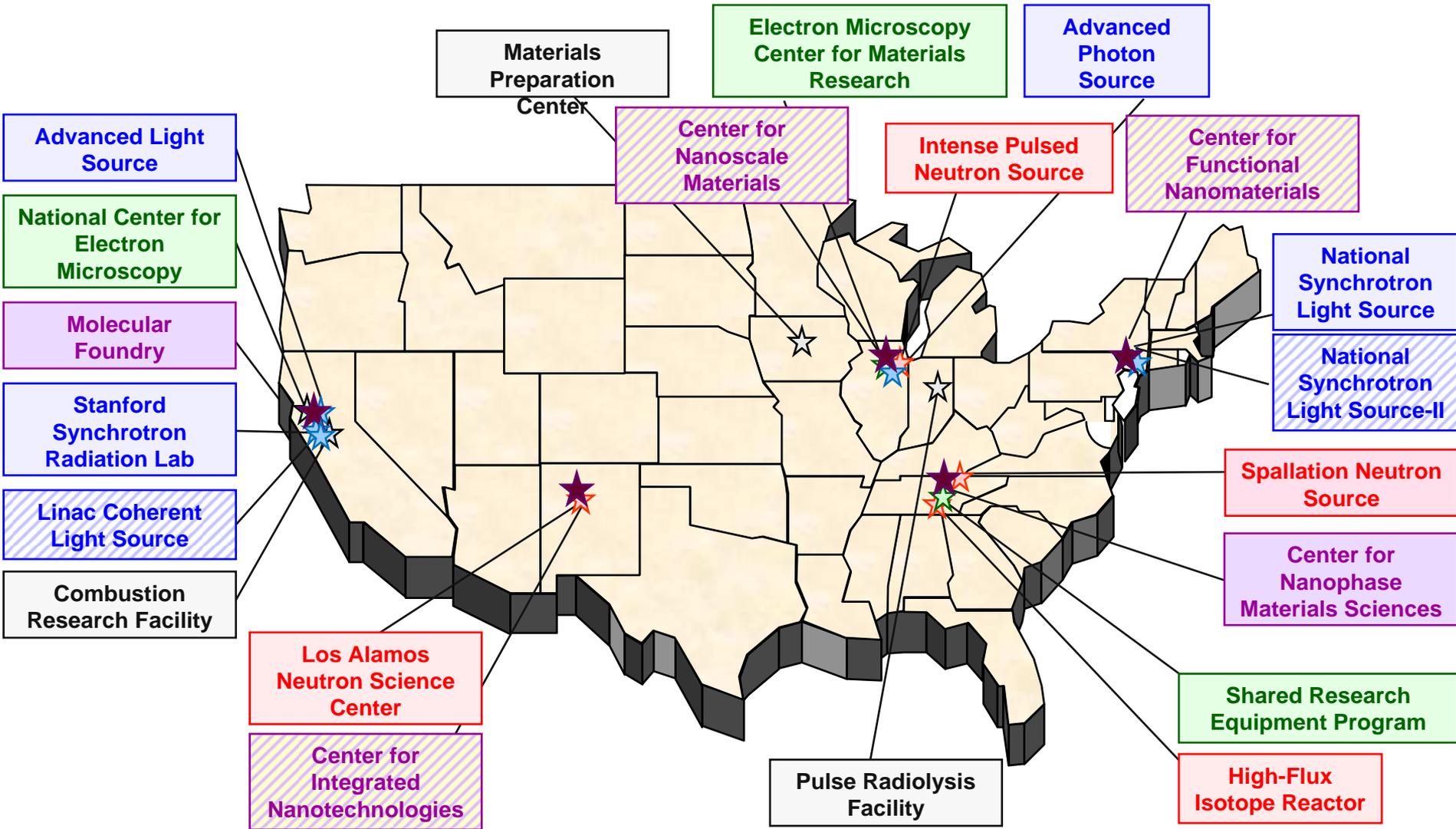


DEPARTMENT OF ENERGY NATIONAL LABORATORIES



(BES) Scientific User Facilities: Constructed to Serve the US Scientific Community

- 4 Synchrotron Radiation Light Sources
- Linac Coherent Light Source (Under construction)
- 4 Neutron Sources
- 3 Electron Beam Microcharacterization Centers
- 5 Nanoscale Science Research Centers (Under construction)
- 3 Special Purpose Centers





BES Scientific User Facilities

As part of its mission, the Office of Basic Energy Sciences (BES) plans, constructs, and operates major scientific user facilities (listed below) to serve researchers from universities, national laboratories, and industry. BES user facilities provide specialized instrumentation and expertise that enable scientists (i.e., users) to carry out experiments that could not be done in the laboratories of individuals. For approved, peer-reviewed experiments, operating time is available without charge to those scientists whose intent is to publish their results in the open literature. Proprietary research can be accommodated on a full-cost-recovery basis. In the last year, over [10,000 scientists](#) conducted experiments at BES user facilities. Thousands of other researchers collaborate with these users and analyze the data from the experiments at the facilities to publish new scientific findings in peer-reviewed journals. [BES facilities brochures](#) are also available. For more information, also see the National User Facility Organization [website](#).

SYNCHROTRON RADIATION LIGHT SOURCES [lightsources.org](#) -- [Brief Descriptions](#) --

- ▶ Descriptions of [12 experimental techniques](#) conducted at these facilities.
- ▶ [National Synchrotron Light Source \(NSLS\)](#) at Brookhaven National Laboratory in Upton, NY
- ▶ [Stanford Synchrotron Radiation Laboratory \(SSRL\)](#) at Stanford Linear Accelerator Center in Stanford, CA
- ▶ [Advanced Light Source \(ALS\)](#) at Lawrence Berkeley National Laboratory in Berkeley, CA
- ▶ [Advanced Photon Source \(APS\)](#) at Argonne National Laboratory in Argonne, IL
- ▶ [Linac Coherent Light Source \(LCLS\)](#)—under construction at Stanford Linear Accelerator Center in Stanford, CA

HIGH-FLUX NEUTRON SOURCES -- [Brief Descriptions](#) --

- ▶ [High Flux Isotope Reactor \(HFIR\)](#) [Center for Neutron Scattering](#) at ORNL in Oak Ridge, TN
- ▶ [Intense Pulsed Neutron Source \(IPNS\)](#) at Argonne National Laboratory in Argonne, IL
- ▶ [Manuel Lujan Jr. Neutron Scattering Center \(Lujan Center\)](#) at Los Alamos National Laboratory in Los Alamos, NM
- ▶ [Spallation Neutron Source \(SNS\)](#) at Oak Ridge National Laboratory in Oak Ridge, TN

ELECTRON BEAM MICROCHARACTERIZATION CENTERS -- [Brief Descriptions](#) --

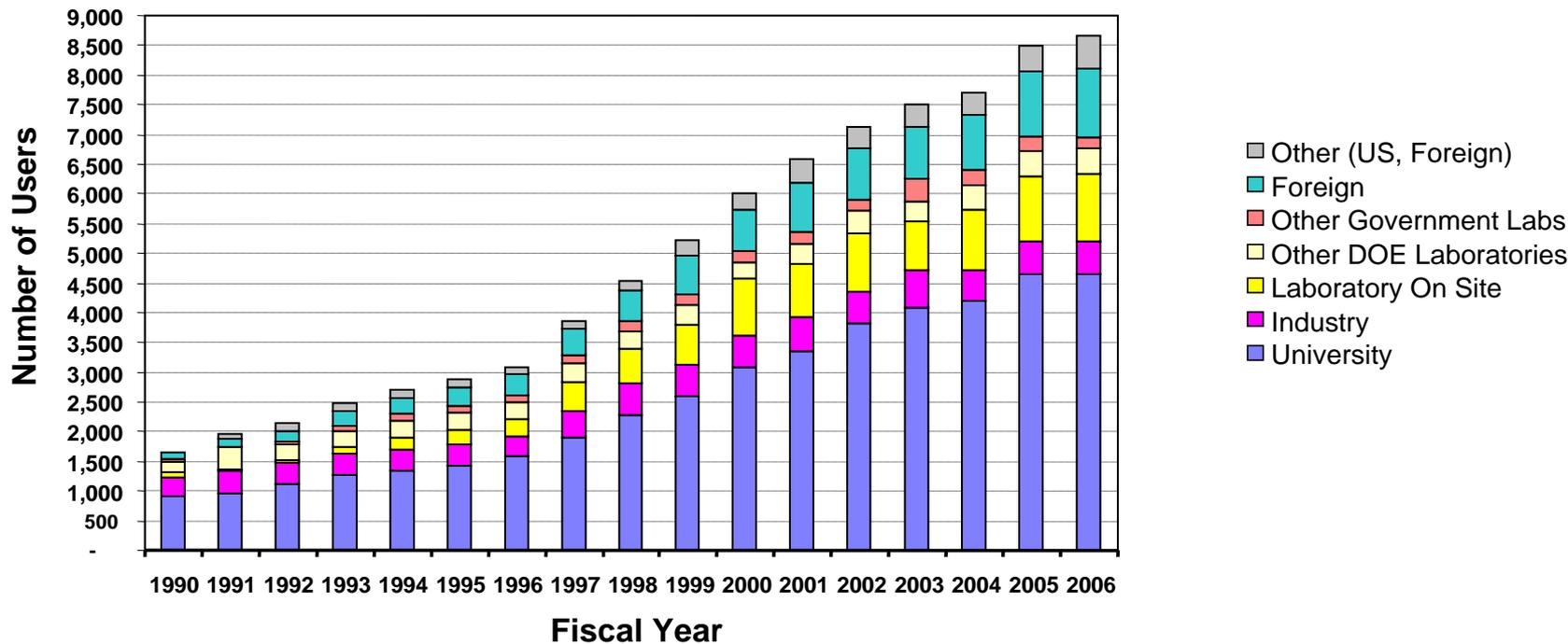
- ▶ [Electron Microscopy Center for Materials Research \(EMCMR\)](#) at Argonne National Laboratory in Argonne, IL
- ▶ [National Center for Electron Microscopy \(NCEM\)](#) at Lawrence Berkeley National Laboratory in Berkeley, CA
- ▶ [Shared Research Equipment \(SHaRE\) Program](#) at Oak Ridge National Laboratory in Oak Ridge, TN

NANOSCALE SCIENCE RESEARCH CENTERS [Approach to Nanomaterial ES&H](#) -- [Brief Descriptions](#) --

- ▶ [Center for Nanophase Materials Sciences](#) at Oak Ridge National Laboratory in Oak Ridge, TN
- ▶ [Molecular Foundry](#) at Lawrence Berkeley National Laboratory in Berkeley, CA
- ▶ [Center for Integrated Nanotechnologies](#) at Sandia National Laboratories and Los Alamos National Laboratory

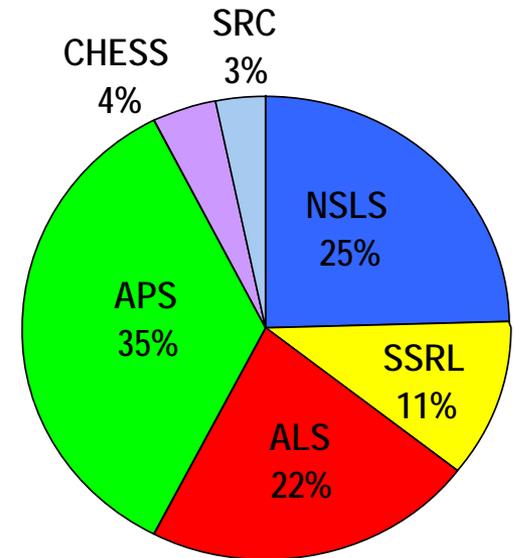
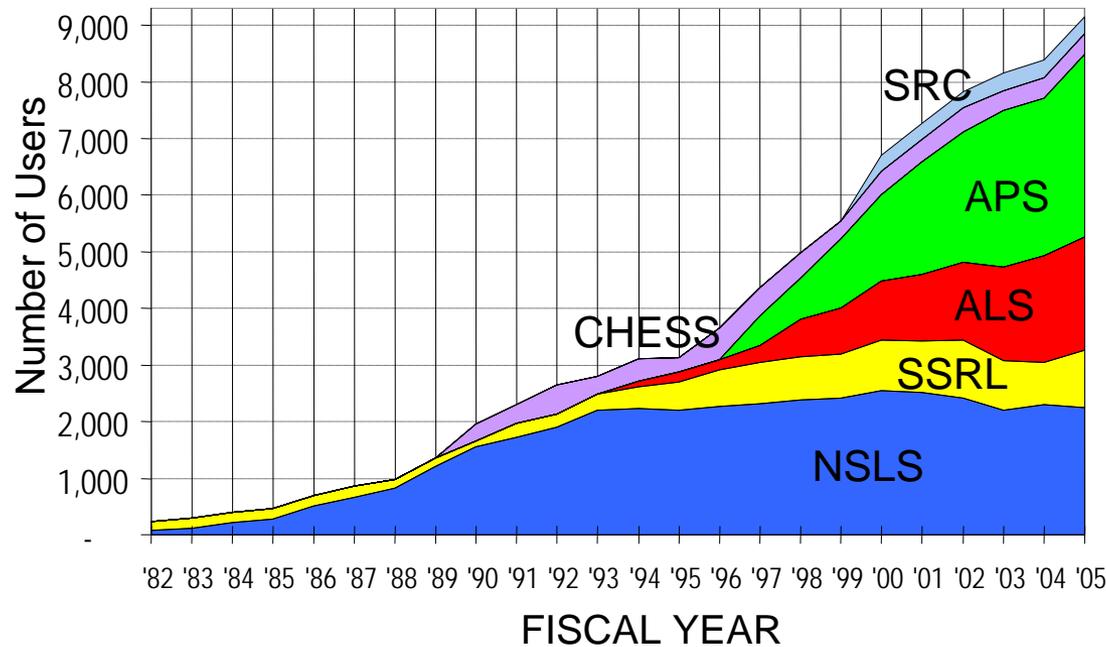
Basic Energy Sciences (BES) budget within DOE

- FY07 BES budget:
 - \$523 allocated to “programmatic” research (material science, engineering, chemistry, biology)
 - \$848 allocated to facilities (operations, construction, equipment)
- BES and the Office of Science have constructed these facilities for YOUR use

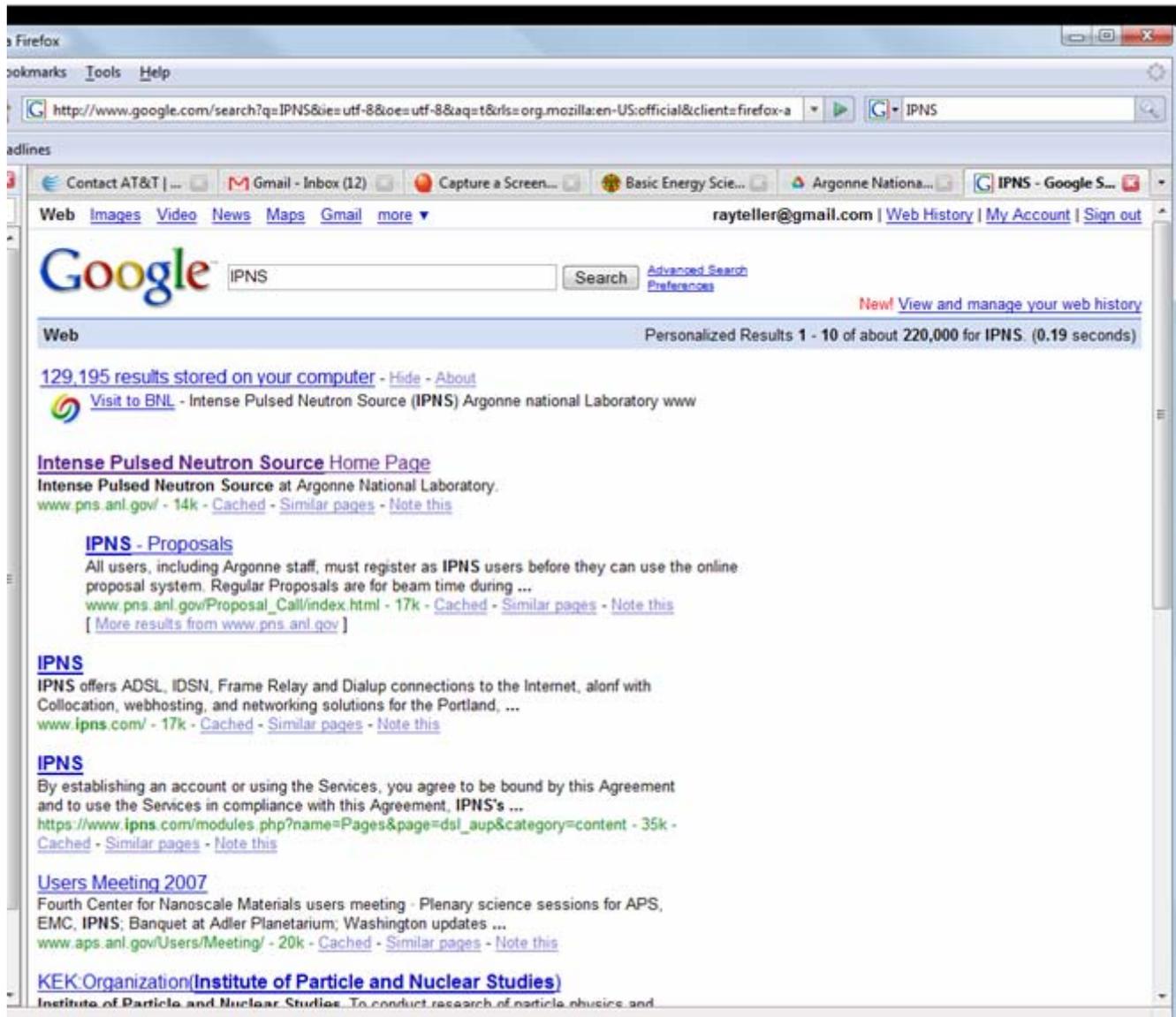


Users of Photon Sources in the US

- Photon Users exceeded 9000 in FY07
- Neutron Users: < 1000, but significant growth expected



Accessing BES User Facilities (ex.: IPNS)



The screenshot shows a Firefox browser window with a Google search for "IPNS". The search results are displayed on the page, including a link to the Intense Pulsed Neutron Source (IPNS) website and information about proposals and users.

Firefox
Bookmarks Tools Help
http://www.google.com/search?q=IPNS&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a IPNS

Web Images Video News Maps Gmail more
rayteller@gmail.com | Web History | My Account | Sign out

Google IPNS Search Advanced Search Preferences
New! View and manage your web history

Web Personalized Results 1 - 10 of about 220,000 for IPNS. (0.19 seconds)

129,195 results stored on your computer - Hide - About
Visit to BNL - Intense Pulsed Neutron Source (IPNS) Argonne national Laboratory www

Intense Pulsed Neutron Source Home Page
Intense Pulsed Neutron Source at Argonne National Laboratory.
www.pns.anl.gov/ - 14k - Cached - Similar pages - Note this

IPNS - Proposals
All users, including Argonne staff, must register as IPNS users before they can use the online proposal system. Regular Proposals are for beam time during ...
www.pns.anl.gov/Proposal_Call/index.html - 17k - Cached - Similar pages - Note this
[More results from www.pns.anl.gov]

IPNS
IPNS offers ADSL, IDSN, Frame Relay and Dialup connections to the Internet, along with Collocation, webhosting, and networking solutions for the Portland, ...
www.ipns.com/ - 17k - Cached - Similar pages - Note this

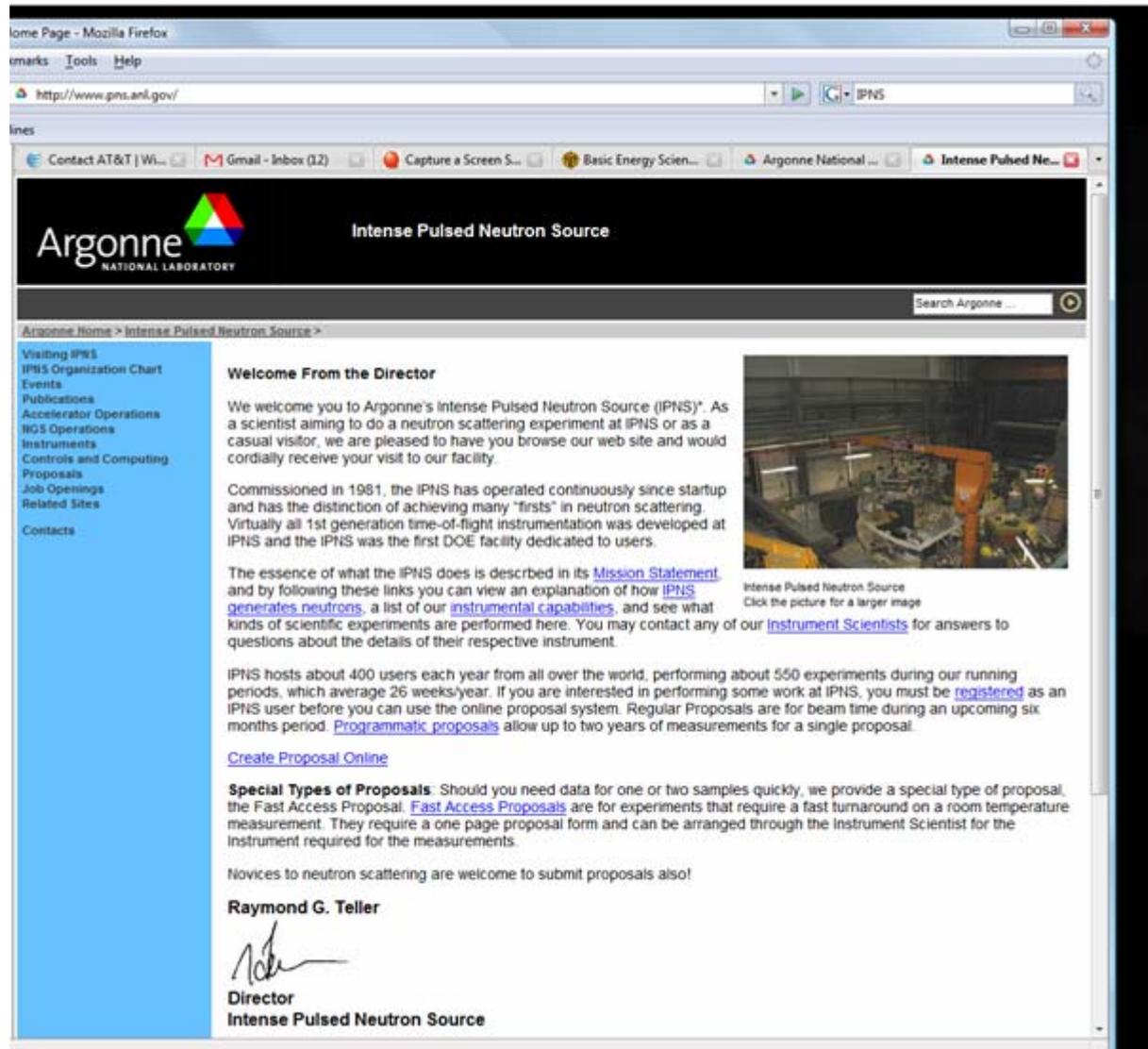
IPNS
By establishing an account or using the Services, you agree to be bound by this Agreement and to use the Services in compliance with this Agreement. IPNS's ...
https://www.ipns.com/modules.php?name=Pages&page=dsl_aup&category=content - 35k - Cached - Similar pages - Note this

Users Meeting 2007
Fourth Center for Nanoscale Materials users meeting - Plenary science sessions for APS, EMC, IPNS; Banquet at Adler Planetarium; Washington updates ...
www.aps.anl.gov/Users/Meeting/ - 20k - Cached - Similar pages - Note this

KEK Organization(Institute of Particle and Nuclear Studies)
Institute of Particle and Nuclear Studies. To conduct research of particle physics and

One Click Brings you to the IPNS website

- Use the “Proposal” shortcut
- Instructions include proposal requirements and how to gain access to Argonne
- Links to other Argonne user facilities are included (Advanced Photon Source, Electron Microscopy Center, Center Nanophase Materials)



Home Page - Mozilla Firefox
marks Tools Help
http://www.pns.anl.gov/ IPNS

Argonne NATIONAL LABORATORY Intense Pulsed Neutron Source

Argonne Home > Intense Pulsed Neutron Source >

Visiting IPNS
IPNS Organization Chart
Events
Publications
Accelerator Operations
NGS Operations
Instruments
Controls and Computing
Proposals
Job Openings
Related Sites
Contacts

Welcome From the Director

We welcome you to Argonne's Intense Pulsed Neutron Source (IPNS)*. As a scientist aiming to do a neutron scattering experiment at IPNS or as a casual visitor, we are pleased to have you browse our web site and would cordially receive your visit to our facility.

Commissioned in 1981, the IPNS has operated continuously since startup and has the distinction of achieving many "firsts" in neutron scattering. Virtually all 1st generation time-of-flight instrumentation was developed at IPNS and the IPNS was the first DOE facility dedicated to users.

The essence of what the IPNS does is described in its [Mission Statement](#) and by following these links you can view an explanation of how [IPNS generates neutrons](#), a list of our [instrumental capabilities](#), and see what kinds of scientific experiments are performed here. You may contact any of our [Instrument Scientists](#) for answers to questions about the details of their respective instrument.

IPNS hosts about 400 users each year from all over the world, performing about 550 experiments during our running periods, which average 26 weeks/year. If you are interested in performing some work at IPNS, you must be [registered](#) as an IPNS user before you can use the online proposal system. Regular Proposals are for beam time during an upcoming six months period. [Programmatic proposals](#) allow up to two years of measurements for a single proposal.

[Create Proposal Online](#)

Special Types of Proposals: Should you need data for one or two samples quickly, we provide a special type of proposal, the Fast Access Proposal. [Fast Access Proposals](#) are for experiments that require a fast turnaround on a room temperature measurement. They require a one page proposal form and can be arranged through the Instrument Scientist for the instrument required for the measurements.

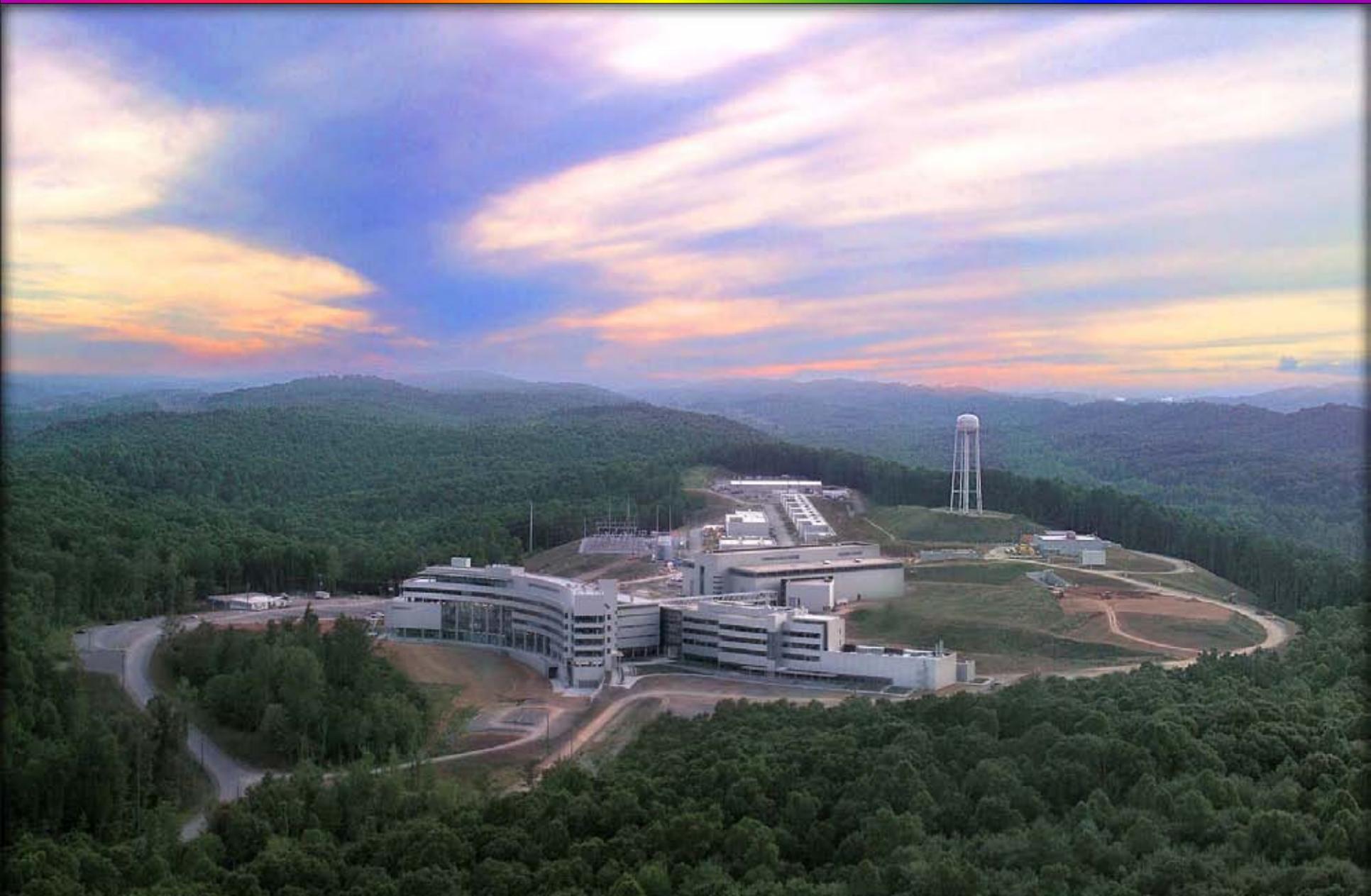
Novices to neutron scattering are welcome to submit proposals also!

Raymond G. Teller

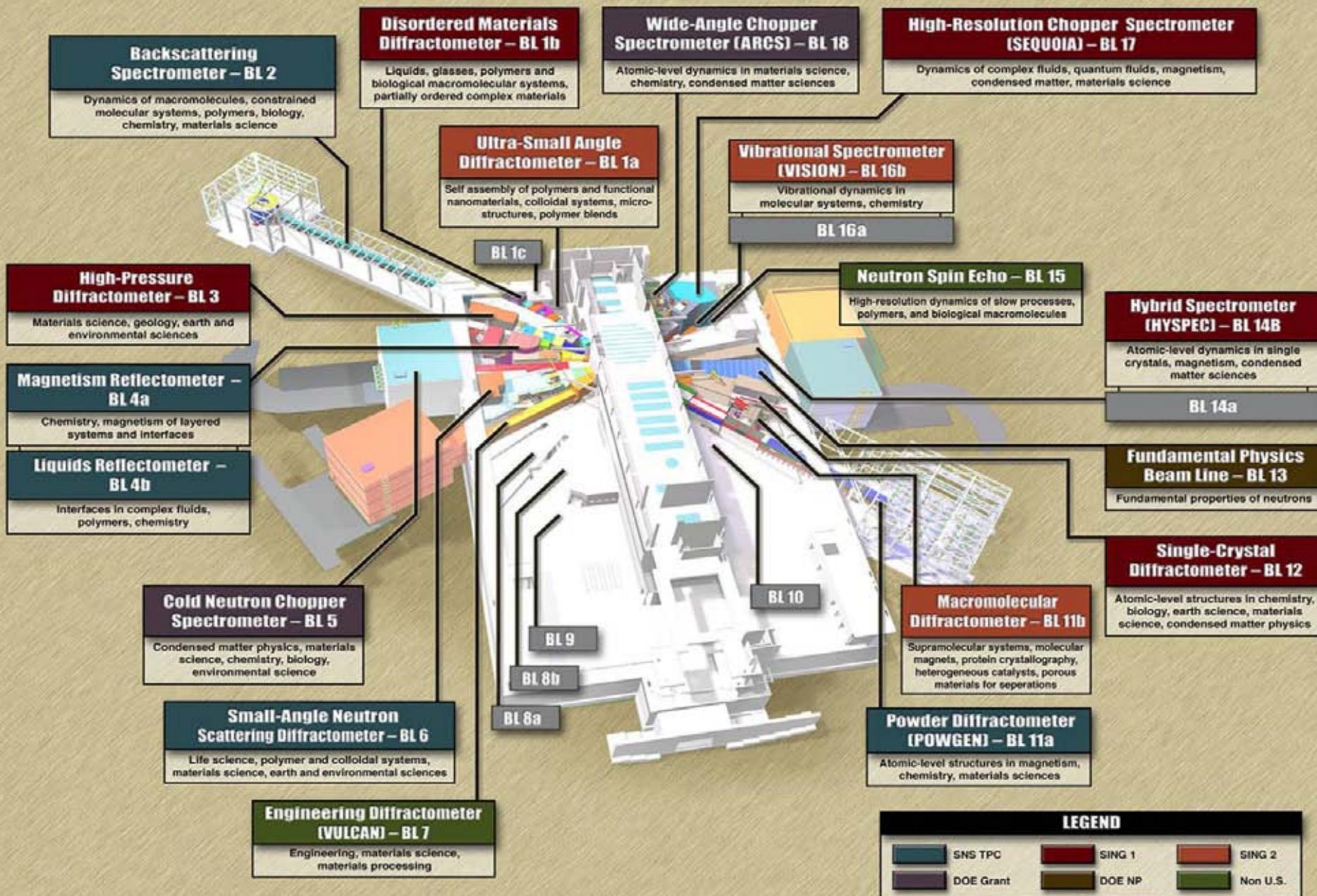
Director
Intense Pulsed Neutron Source

Intense Pulsed Neutron Source
Click the picture for a larger image

SNS at ORNL Will Revolutionize Neutron Scattering

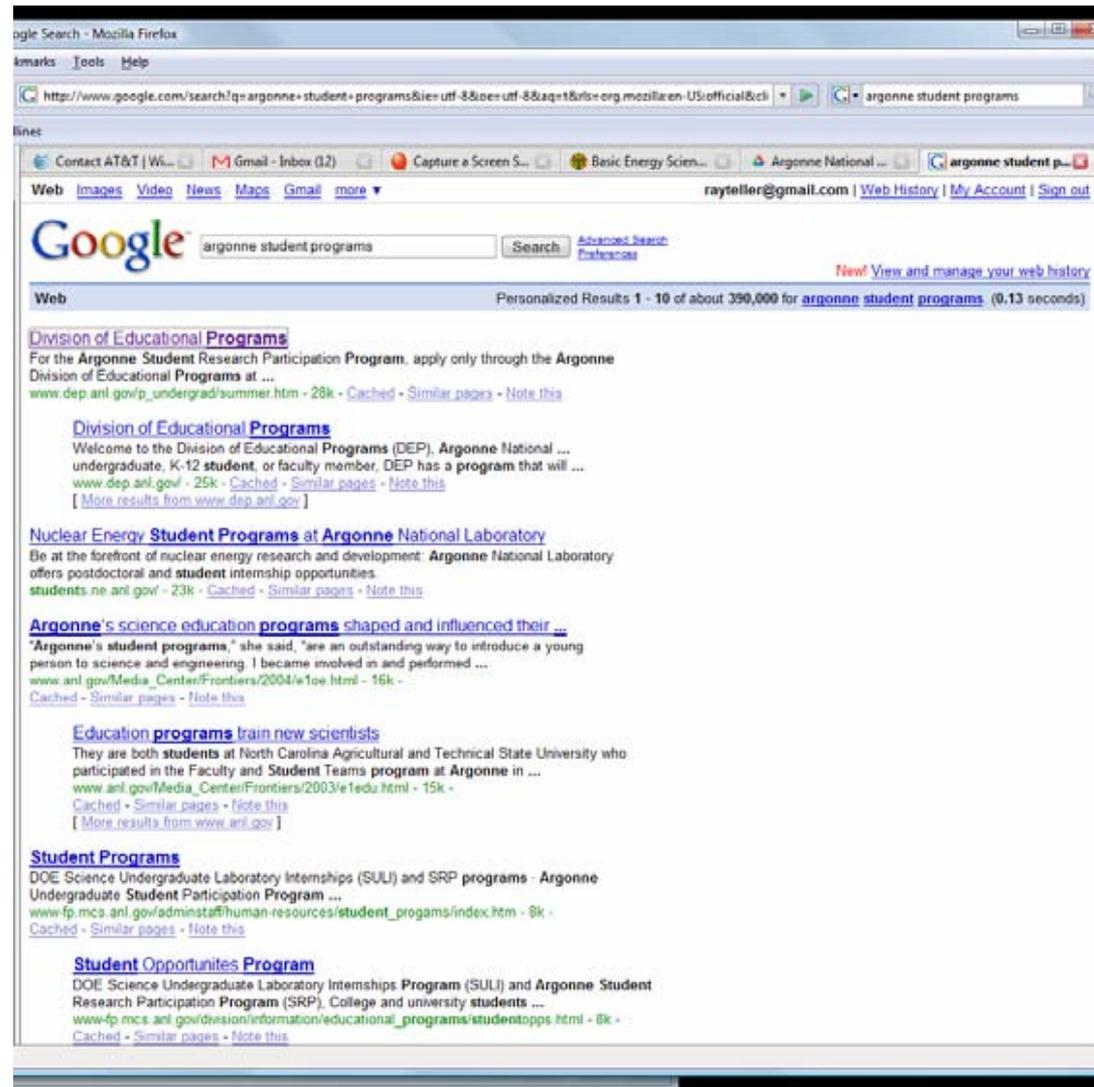


24 Instruments wil Eventually be Built



Workforce Development at DOE Labs: Programmatic Research Opportunities

- Student programs
- Career Development for University PIs
- Postdocs are a key to Argonne's technical success
- Argonne Statistics
 - Faculty – 63
 - Graduate Students - 319
 - Undergraduates – 798
 - Postdocs - 175



Conclusions

- DOE- BES has made large investments (>\$1.4B/year) in facilities and programmatic research
- The success of these programs is heavily dependent upon university participation
- Each lab has a robust program to promote and nurture university collaborations

- *With Google – all things are possible*