

The FACES & PLACES

of Great Science and
Innovation in the US

National User Facilities Support Science,
Jobs, and Growth in Every State



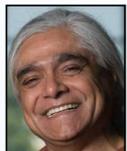
Joe Fisher, Oregon State University, has collaborated with EMSL researchers to study whether nanoparticles are toxic to living cells by tracking how they move in the embryos of zebrafish. The data gleaned could be used to inform public health toxicology and help to design exposure and manufacturing guidelines for various engineered nanomaterials.



Eva Top, a Professor in the Department of Biological Sciences at the University of Idaho, uses the DNA sequence information from the DOE Joint Genome Institute to understand the diversity bacteria in soils and wastewater treatment systems to develop bioremediation applications, such as for the biodegradation of chlorinated organic compounds.



Yves Izderda, Professor of Physics at Montana State University, has used the NSLS, SSRF, and the ALS to characterize magnetic materials essential for improving high-speed communications and information technologies.



Sanjib Mishra, professor at the University of South Carolina, has worked for more than 25 years with the Department of Energy's Fermilab on particle physics experiments. At present, he and his students and postdocs are working on new experiments that aim to revolutionize our understanding of the role that neutrinos play in the evolution of the universe. The group is involved in the NOvA experiment, which is under construction both at Fermilab and in northern Minnesota, and it is advancing the technology for a new kind of neutrino detector to be built in South Dakota.



Iowa State University physics professor James Vary, who uses the ALCF, OLCF, and NERSC to study nuclear structure and function, aims to achieve a comprehensive description of nuclei and their reactions.



Nora Berrah, Distinguished professor at Western Michigan University uses the LCLS to investigate the interaction of ultra-intense and ultrafast photon pulses with molecules and nanosystems to understand radiation damage.



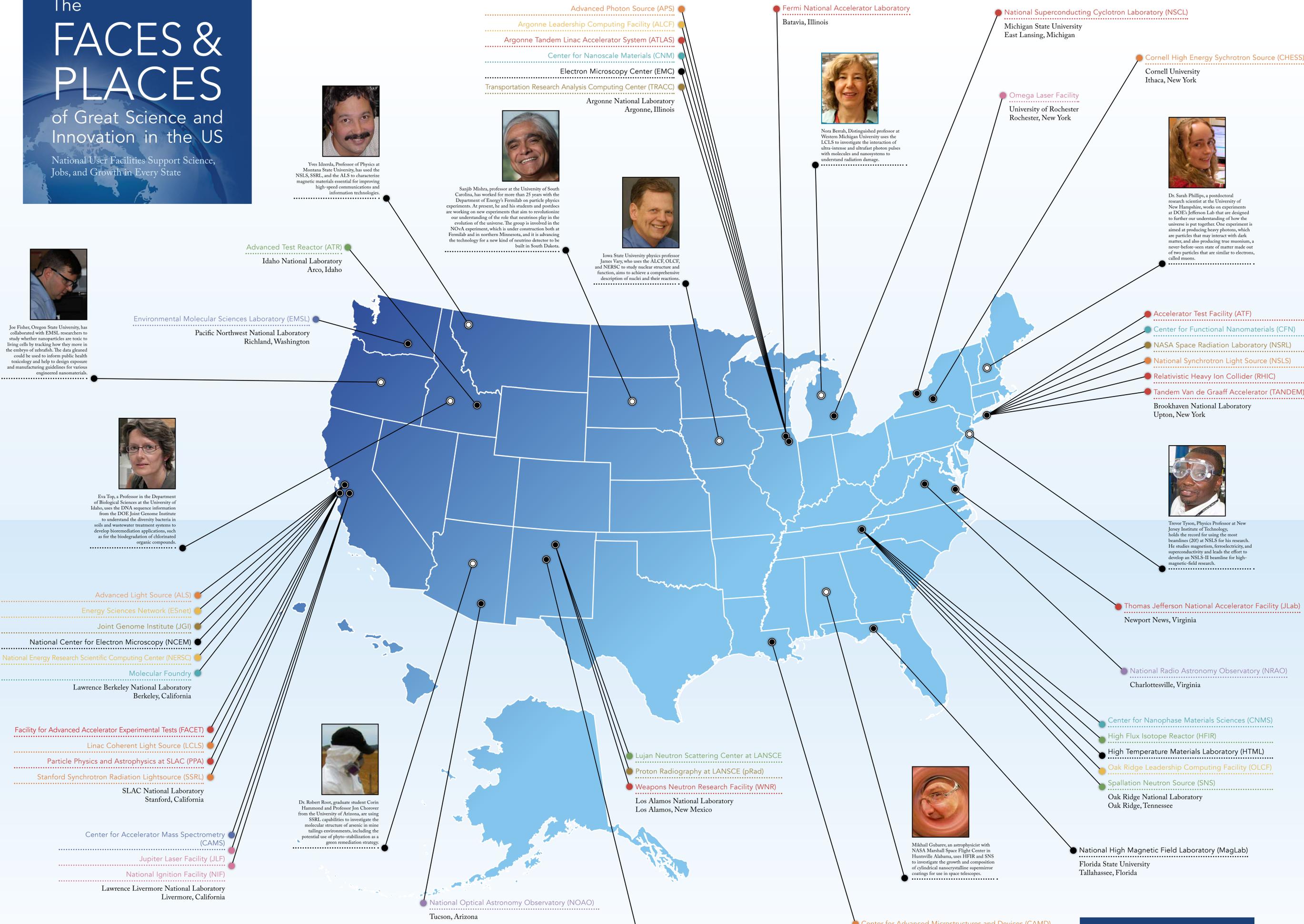
Dr. Sarah Phillips, a postdoctoral research scientist at the University of New Hampshire, works on experiments at DOE's Jefferson Lab that are designed to further our understanding of how the universe is put together. One experiment is aimed at producing heavy photons, which are particles that may interact with dark matter, and also producing true muonium, a never-before-seen state of matter made out of two particles that are similar to electrons, called muons.



Trevor Tyson, Physics Professor at New Jersey Institute of Technology, holds the record for using the most beamlines (20) at NSLS for his research. He studies magnetism, ferroelectricity, and superconductivity and leads the effort to develop an NSLS-II beamline for high-magnetic-field research.



Mikhail Gubarev, an astrophysicist with NASA Marshall Space Flight Center in Huntsville, Alabama, uses HFIR and SNS to investigate the growth and composition of cylindrical nanocrystalline supermirror coatings for use in space telescopes.



- Advanced Photon Source (APS)
- Argonne Leadership Computing Facility (ALCF)
- Argonne Tandem Linac Accelerator System (ATLAS)
- Center for Nanoscale Materials (CNM)
- Electron Microscopy Center (EMC)
- Transportation Research Analysis Computing Center (TRACC)

- Fermi National Accelerator Laboratory
- Batavia, Illinois

- National Superconducting Cyclotron Laboratory (NSCL)
- Michigan State University
- East Lansing, Michigan

- Cornell High Energy Synchrotron Source (CHESS)
- Cornell University
- Ithaca, New York

- Omega Laser Facility
- University of Rochester
- Rochester, New York

- Advanced Test Reactor (ATR)
- Idaho National Laboratory
- Arco, Idaho

- Environmental Molecular Sciences Laboratory (EMSL)
- Pacific Northwest National Laboratory
- Richland, Washington

- Accelerator Test Facility (ATF)
- Center for Functional Nanomaterials (CFN)
- NASA Space Radiation Laboratory (NSRL)
- National Synchrotron Light Source (NSLS)
- Relativistic Heavy Ion Collider (RHIC)
- Tandem Van de Graaff Accelerator (TANDEM)
- Brookhaven National Laboratory
- Upton, New York

- Thomas Jefferson National Accelerator Facility (JLab)
- Newport News, Virginia

- National Radio Astronomy Observatory (NRAO)
- Charlottesville, Virginia

- Center for Nanophase Materials Sciences (CNMS)
- High Flux Isotope Reactor (HFIR)
- High Temperature Materials Laboratory (HTML)
- Oak Ridge Leadership Computing Facility (OLCF)
- Spallation Neutron Source (SNS)
- Oak Ridge National Laboratory
- Oak Ridge, Tennessee

- National High Magnetic Field Laboratory (MagLab)
- Florida State University
- Tallahassee, Florida

- Center for Advanced Microstructures and Devices (CAMD)
- Louisiana State University
- Baton Rouge, Louisiana

- Center for Integrated Nanotechnologies (CINT)
- Sandia National Laboratory
- Albuquerque, New Mexico

- National Optical Astronomy Observatory (NOAO)
- Tucson, Arizona

- Lujan Neutron Scattering Center at LANSCE
- Proton Radiography at LANSCE (pRad)
- Weapons Neutron Research Facility (WNR)
- Los Alamos National Laboratory
- Los Alamos, New Mexico

- Center for Accelerator Mass Spectrometry (CAMS)
- Jupiter Laser Facility (JLF)
- National Ignition Facility (NIF)
- Lawrence Livermore National Laboratory
- Livermore, California

- Advanced Light Source (ALS)
- Energy Sciences Network (ESnet)
- Joint Genome Institute (JGI)
- National Center for Electron Microscopy (NCEM)
- National Energy Research Scientific Computing Center (NERSC)
- Molecular Foundry
- Lawrence Berkeley National Laboratory
- Berkeley, California

- Facility for Advanced Accelerator Experimental Tests (FACET)
- Linac Coherent Light Source (LCLS)
- Particle Physics and Astrophysics at SLAC (PPA)
- Stanford Synchrotron Radiation Lightsource (SSRL)
- SLAC National Laboratory
- Stanford, California

Global Facilities

- Atmospheric Radiation Measurement Climate Research (ARM) Global Network
- U.S. Large Hadron Collider Program (LHC)
- National Astronomy and Ionosphere Center (NAIC)
- CERN Switzerland
- Arecibo, Puerto Rico

