The following list of instruments, facilities, shared cyberinfrastructure and centers provides an expanded view of NSF's investments in the nation's research infrastructure. Although comprehensive, this is not a complete list of all NSF-supported instruments, facilities, shared cyberinfrastructure and centers. But it is representative of the extensive range of investments we make. The agency is continually providing awards for new and innovative research tools that advance the frontiers of science and engineering research and education.

APPENDIX I: Expanded List of NSF-supported Instruments, Facilities, Shared Cyberinfrastructure and Centers

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
AIRCRAFT	**High-performance Instrumented Airborne Platform for Environmental Research (HIAPER)** A modified Gulfstream V jet equipped with advanced instrumentation for environmental research. For more information, see http://www.nsf.gov/news/news_summ.jsp?cntn_id=106708 .	Operated by NCAR
	Aircraft Specially Instrumented as Lower Atmospheric Observing Facilities NSF supports the following: • C-130Q, a versatile and capable research platform that carries a wide variety of scientific payloads, and L-188C, operated by NCAR/Earth Observing Laboratory. • KA B200T, a specially instrumented Raytheon King Air 200T (twin turbo-prop) designed and used for atmospheric research, managed by the University of Wyoming. • A T-28 instrumented research aircraft owned by the Institute of Atmospheric Sciences at the South Dakota School of Mines and Technology. For more information, see http://www.nsf.gov/geo/atm/ulafos/laof/.	NCAR, University of Wyoming and South Dakota School of Mines and Technology
VESSELS	**Academic Research Fleet** The Academic Research Fleet consists of 23 vessels in UNOLS. NSF owns seven of the research ships (listed below). For more information, see: http://www.unols.org/	
	R/V Marcus Langseth A 235-foot research vessel that can accommodate 35 researchers and a crew of 20. For more information, see: http://www.ldeo.columbia.edu/res/fac/oma/langseth/index.html	Operated by Lamont-Doherty Earth Observatory of Columbia University
	R/V Wecoma A 185-foot research vessel that can accommodate 18 researchers and a crew of 13. For more information, see http://www.shipops.oregonstate.edu/ops/wecoma/	Operated by Oregon State University's College of Oceanic and Atmospheric Sciences

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	R/V Endeavor A 185-foot ship that can accommodate 18 scientists (including a marine technician) and a crew of 12. For more information, see http://techserv.gso.uri.edu/	Operated by University of Rhode Island's Graduate School of Oceanography
	R/V Oceanus A 177-foot ship that can accommodate 19 researchers and a crew of 12. For more information, see: http://www.whoi.edu/page.do?pid=8158	Operated by Woods Hole Oceanographic Institution
	R/V Point Sur A 135-foot ship that can accommodate 13 researchers and technicians and a crew of 8. For day cruises, it has a capacity of 40 researchers. For more information, see http://marineops.mlml.calstate.edu/ptsur.html	Operated by Moss Landing Marine Laboratories for the San Jose State University Foundation
	R/V Cape Hatteras A 135-foot ship that can accommodate 14 scientists (including a marine technician) and a crew of 10. For more information, see http://www.nicholas.duke.edu/marinelab/facilities/hatteras/research.html	Operated by the Duke University/ University of North Carolina Oceanographic Consortium
	R/V Clifford A. Barnes A 66-foot ship that can accommodate six scientists and a two-person crew. For more information, see http://www.ocean.washington.edu/2004/services/vessels/cab/cab.html	Operated by the University of Washington's School of Oceanography
	Alaska Region Research Vessel (ARRV) -- *Proposed* A 242-foot ship designed to operate in seasonal sea ice and open regions near Alaska. The project is approaching final design review with ship construction expected to get underway in early 2010. For more information, see http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=0749590	Construction and operations to be managed by the University of Alaska, Fairbanks
	Integrated Ocean Drilling Program The Integrated Ocean Drilling Program is an international marine research program that explores Earth's history and structure as recorded in seafloor sediments and rocks. Japan and the U.S. are each providing a drillship. For more information, see http://www.iodp.org/	Led by NSF and MEXT of Japan

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Scientific Ocean Drilling Vessel The U.S.-provided Scientific Ocean Drilling Vessel is undergoing an extensive refitting and is scheduled to begin IODP operations in early 2009. For more information, see http://www.oceanleadership.org/	IODP
	Sentry A one-of-a-kind unmanned submersible vehicle (also called autonomous underwater vehicle or AUV) that can operate in rugged undersea environments without being tethered to a ship. Sentry's first research mission came in July-August 2008 when it mapped a section of the seafloor off the coast of Oregon and Washington. Sentry was built by Woods Hole Oceanographic Institution with funding largely from NSF. For more information, see http://www.nsf.gov/news/news_summ.jsp?cntn_id=112037	Woods Hole Oceanographic Institution
TELESCOPES, OBSERVATORIES		
	Gemini Observatory Twin 8-meter optical/infrared telescopes. Gemini South is located on a mountain in the Chilean Andes called Cerro Pachon, and the Frederick C. Gillett Gemini North Telescope is located on Hawaii's Mauna Kea, a long dormant volcano. For more information, see http://www.gemini.edu/public/	Built and operated by a partnership of seven countries: the U.S., United Kingdom, Canada, Chile, Australia, Brazil and Argentina
	National Astronomy and Ionosphere Center The National Astronomy and Ionosphere Center's principal observing facilities are located near the town of Arecibo in Puerto Rico and include a 305-meter, fixed spherical radio/radar telescope, the world's largest single radio wavelength reflector. For more information, see http://www.naic.edu/	Operated by Cornell University
	National Optical Astronomy Observatory (NOAO) Operating facilities, telescopes and supporting instrumentation (listed on following page). For more information, see http://www.noao.edu/	Operated by the Association of Universities for Research in Astronomy, Inc. (AURA)

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Kitt Peak National Observatory (KPNO) Near Tucson, Ariz. For more information, see http://www.noao.edu/kpno/	NOAO
	Cerro Tololo Interamerican Observatory (CTIO) Near La Serena, Chile. For more information, see http://www.ctio.noao.edu/	NOAO
	Gemini Science Center Located in Tucson. The center coordinates access for U.S. astronomers to the twin Gemini 8-meter telescopes. For more information, see http://www.noao.edu/usgp/	NOAO
	National Solar Observatory Operates the solar facilities listed below. For more information, see http://www.nso.edu/general/facilities.html	Operated by the Association of Universities for Research in Astronomy, Inc. (AURA)
	Dunn Solar Telescope Located on Sacramento Peak near Sunspot, N.M., the 76-centimeter telescope is the premier facility for high-resolution solar physics.	NSO
	McMath-Pierce Solar Telescope Located on Kitt Peak in Arizona, at an altitude of 2,096 meters, it is currently the largest unobstructed-aperture optical telescope in the world, with a diameter of 1.5 meters.	NSO
	Advanced Technology Solar Telescope (ATST) – *In Planning* A solar telescope facility to be built at the Haleakala High Altitude Observatory on the Hawaiian island of Maui.	NSO

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Global Oscillation Network Group GONG) GONG studies the internal structure and dynamics of the Sun by means of helioseismology--the measurement of acoustic waves that penetrate throughout the solar interior--using a six-station, world-circling network that provides nearly continuous observations of the Sun's "five-minute oscillations".	NSO
	Evans Solar Facility Located at Sacramento Peak, and consisting of two main telescopes: a 16-inch coronagraph and a 12-inch coelostat telescope. They are used to conduct observations of the Sun for both local staff and visiting scientists worldwide.	NSO
	Hilltop Dome Facility Located at Sacramento Peak, and housing an octagonal spar that allows several instruments to be operated simultaneously.	NSO
	Kitt Peak Vacuum Telescope (KPVT) Used to make daily maps of solar magnetic and Doppler fields, and intensity maps in several solar spectral lines.	NSO
	National Radio Astronomy Observatory (NRAO) Provides state-of-the-art radio telescope facilities (listed below) for use by the scientific community. For more information, see http://www.nrao.edu/	Operated by Associated Universities, Inc. (AUI)
	Green Bank Operating major radio telescopes at Green Bank, W.Va., including the Robert C. Byrd Green Bank Telescope (GBT), the most technically advanced, single dish radio telescope in the world. With a 100-meter by 110-meter dish, the telescope is also one of the largest moving structures on land. The GBT is a leader in the scientific study of pulsars, dense neutron stars that serve as laboratories in which astronomers study the physics of extreme states of matter and enormous magnetic fields. Other instruments include the Green Bank Interferometer.	NRAO

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Very Large Array (VLA) Located near Socorro, N.M., and consisting of 27, 230-ton, 25-meter diameter dish antennas that together comprise a single radio telescope system. The VLA has made key observations of black holes and protoplanetary disks around young stars that may be signs of planet formation.	NRAO
	Expanded VLA Project (EVLA) A project to refurbish and update the VLA's receivers. By 2012, new state-of-the-art electronics and software will have completely transformed the VLA into the EVLA, a research tool with more than ten times the VLA's sensitivity.	NRAO
	Very Long Baseline Array (VLBA) Consists of 10, 240-ton, 25-meter diameter dish antennas spread across the Western Hemisphere, from Hawaii to St. Croix, Virgin Islands. These ten antennas work together to produce the VLBA's sharp radio "vision."	NRAO
	Atacama Large Millimeter Array (ALMA) The giant international observatory under construction in the 5,000-meter high Atacama Desert in northern Chile. It will include at least 66 radio telescopes and open a new window on one of astronomy's last frontiers – the millimeter and sub-millimeter wavelength.	NRAO is the North American implementing organization for the international group
	Laser Interferometer Gravitational-Wave Observatory (LIGO) The most sensitive gravitational wave detector built to-date, LIGO consists of three Michelson interferometers located at Hanford, Wash., and Livingston, La. For more information, see http://www.ligo.caltech.edu/	Operated by the California Institute of Technology and Massachusetts Institute of Technology
	Advanced Laser Interferometer Gravitational Wave Observatory (AdvLIGO) The project will improve by a factor of 10 the sensitivity of the Laser Interferometer Gravitational-Wave Observatory (LIGO).	California Institute of Technology and the Massachusetts Institute of Technology
	Pierre Auger Cosmic Ray Observatory Located in western Argentina, the international Pierre Auger Observatory was developed to provide a window on the universe's highest energy cosmic rays. NSF, DOE and the Grainger Foundation are the U.S. funding agencies. For more information, see: http://www.auger.org/observatory/	Universities Research Association (URA) is the sponsoring organization for U.S. participants

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	IceCube Neutrino Observatory The world's first high-energy neutrino observatory is under construction deep in the clear ice at the South Pole. For more information, see http://icecube.wisc.edu/	Under construction, led by University of Wisconsin (for U.S.) IceCube is a multi-national, multi-institutional project
	South Pole Telescope (SPT) A 10-meter telescope to study phenomena such as the formation and evolution of the early universe and the formation and evolution of solar systems like our own. For more information, see http://pole.uchicago.edu/	SPT Collaboration (University of Chicago, University of California, Berkeley, University of Illinois at Urbana-Champaign, Case Western Reserve University, Jet Propulsion Laboratory, Harvard-Smithsonian Center for Astrophysics, McGill University, University of Colorado at Boulder, and University of California, Davis)
HIGH ENERGY PHYSICS FACILITIES	**Cornell Electron Storage Ring (CESR)** An electron-positron collider with a circumference of 768 meters that provides important knowledge of the properties of the b-quark. For more information, see http://www.lns.cornell.edu/public/lab-info/cesr.html	Cornell University (phasing out)
	National Superconducting Cyclotron Laboratory (NSCL) A world leader in rare isotope research and nuclear science education operating two superconducting cyclotrons. For more information, see http://www.nscl.msu.edu/	Michigan State University
	Large Hadron Collider (LHC) The high-energy accelerator located at CERN in Geneva, Switzerland, will be the world's premier facility for research in elementary particle physics. NSF, with the DOE, supports the construction, maintenance and operation of two detectors: A Toroidal LHC ApparatuS (ATLAS) and the Compact Muon Solenoid (CMS). For more information, see: http://public.web.cern.ch/public/en/LHC/LHC-en.html	U.S. LHC Collaboration
GEOSCIENCE AND ECOLOGICAL OBSERVATORIES	**EarthScope** An integrated facility for observing Earth's systems, made up of USArray, the Plate Boundary Observatory, and the San Andreas Fault Observatory at Depth (SAFOD). For more information, see http://www.earthscope.org/	Constructed, operated and maintained as a collaborative effort with the University NAVSTAR Consortium, Inc. (UNAVCO), IRIS, and Stanford University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	National Ecological Observatory Network (NEON) -- *Proposed* Planned as a cutting edge, regional-to-continental scale research platform consisting of geographically distributed infrastructure for ecological research that is networked via state-of-the-art communications technology. For more information, see http://www.neoninc.org/	Construction and operations plan under development
	Ocean Observatories Initiative (OOI) -- *Proposed* Preconstruction planning underway to develop an integrated observatory network that will provide the oceanographic research and education communities with continuous, interactive access to the ocean. For more information, see http://www.oceanleadership.org/ocean_observing	OOI Project Team
	Incorporated Research Institutes for Seismology (IRIS) A university research consortium dedicated to exploring the Earth's interior through the collection and distribution of seismographic data. For more information, see http://www.iris.edu/hq/	IRIS Consortium
	National Center for Atmospheric Research (NCAR) A focal point for research in the field of atmospheric sciences, making available to university and other scientists world-class supercomputing services, research aircraft, airborne and portable ground-based radar systems, and atmospheric sounding and other surface sensing systems. For more information, see http://www.ncar.ucar.edu/	Managed by UCAR under a cooperative agreement with NSF
	Critical Zone Observatories (CZO) Field sites operating at the watershed scale to significantly advance understanding of the integration and coupling of Earth surface processes as mediated by the presence and flux of fresh water. For more information, see http://www.czen.org/	CZEN.org
	Consortium for Materials Properties Research in Earth Science (COMPRES) COMPRES scientists seek to develop an understanding of the phenomena, processes and state of the Earth by studying the spectrum of materials (rocks, minerals, fluids, vapors, volatile rich zones, dry sintered regions, molten iron and solid iron alloys) that comprise the Earth. For more information, see http://www.compres.stonybrook.edu/	State University of New York at Stony Brook

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	GeoSoilEnviroCARS (GSECARS) A synchrotron-based research facility at the Advanced Photon Source in Argonne, Ill., dedicated to state-of-the-art research on earth materials and open to the entire scientific community.	University of Chicago
	Purdue Rare Isotope Measurement Laboratory (PRIME Lab) A dedicated research and service facility for accelerator mass spectrometry (AMS). AMS is an ultra-sensitive analytical technique for measuring low levels of long-lived radionuclides and rare trace elements. PRIME Lab is funded by NSF, NASA, NIH and the Indiana 21st Century Research and Technology Fund.	Purdue University
	NSF-University of Arizona Accelerator Mass Spectrometry (AMS) Laboratory Primarily used to provide radiocarbon measurements. For more information, see http://www.physics.arizona.edu/physics2006/research.php?page=accelerator_mass	University of Arizona
	Institute for Rock Magnetism A national multi-user facility whose core mission is to serve the greater geomagnetic community by providing free-of-charge access to state-of-the-art facilities and technical expertise. For more information, see http://www.irm.umn.edu/IRM/Home.html	University of Minnesota
	University of Texas High-Resolution X-ray Computed Tomography Facility Located at the University of Texas at Austin, this shared, multi-user facility offers researchers access to a completely nondestructive technique for visualizing features in the interior of opaque solid objects, and for obtaining digital information on their 3D geometries and properties. For more information, see http://www.ctlab.geo.utexas.edu/	University of Texas at Austin
	UCLA SIMS Laboratory UCLA SIMS (secondary ion mass spectrometry) laboratory for *in situ* microscale isotopic analyses of geologic materials. The ion microprobe has become one of the most potent tools for isotope geochemistry and cosmochemistry due to the instrument's ability to reveal isotopic and elemental heterogeneity at the micro-scale. For more information, see http://sims.ess.ucla.edu/nsf_facility/index.php	University of California, Los Angeles

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	National Center for Airborne Laser Mapping National Center for Airborne Laser Mapping supports the use of airborne laser mapping technology in the scientific community.	Operated jointly by the Department of Civil & Coastal Engineering, College of Engineering, University of Florida and the Department of Earth and Planetary Science, University of California, Berkeley
	Amino Acid Geochronology Laboratory The laboratory is dedicated to estimating the ages of Quaternary deposits by analyzing the extent of racemization in amino acids preserved within carbonate fossils.	Northern Arizona University
	Drilling, Observation, and Sampling of the Earth's Continental Crust, Inc. A not-for-profit corporation whose mission is to provide leadership and technical support in subsurface sampling and monitoring.	
	Arizona LaserChron Center A multi-user facility that generates uranium-thorium-lead geochronologic information by Laser Ablation-ICP Mass Spectrometry.	University of Arizona
	Arizona State University SIMS Laboratories A multi-user facility for conducting research in the general fields of quantitative secondary ion mass spectrometry.	Arizona State University
	University of Wisconsin SIMS Lab A national facility enabling *in situ* analysis of stable isotope ratios at the scale of 1 to 10 micrometers.	University of Wisconsin
RADAR FACILITIES AND INSTRUMENTATION	**Advanced Modular Incoherent Scatter Radar (AMISR)** A solid-state, phased array incoherent scatter radar for measuring basic properties of the upper atmosphere and ionosphere with unprecedented versatility and power. AMISR systems are deployed at Poker Flat, Alaska, and Resolute Bay, Canada. For more information, see http://isr.sri.com/iono/amisr/	SRI International

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Millstone Hill Incoherent Scatter Radar Facility A facility for studying the Earth's upper atmosphere and ionosphere, it features a fully steerable, 46-meter antenna and 67-meter fixed zenith pointing dish. For more information, see http://www.haystack.mit.edu/obs/mhr/index.html	Massachusetts Institute of Technology
	Sondrestrom Radar Facility Located north of the Arctic Circle and 100 kilometers inland from the west coast of Greenland, the instruments are used to study upper atmospheric physics. For more information, see http://isr.sri.com/	SRI International, in cooperation with Denmark's Meteorological Institute
	Arecibo Observatory The 305-meter telescope is used as an incoherent scatter radar to measure with extremely high accuracy the basic properties of the ionosphere, including electron density and temperature, ion temperature, and plasma drift velocity. For more information, see http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=0630533	Cornell University
	Jicamarca Radio Observatory Large, incoherent scatter radar facility for studying the Earth's upper atmosphere. For more information, see http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=0432565	Cornell University
	Super Dual Auroral Radar Network (SuperDARN) An international network of radars—currently 9 in the northern hemisphere and 6 in the southern hemisphere--for studying the Earth's upper atmosphere, ionosphere, and connection into space. For more information, see http://superdarn.jhuapl.edu/	Johns Hopkins University Applied Physics Laboratory
	Atmosphere Surface Turbulent Exchange Research Facility (ASTER) A micrometerology facility with fast-response sensors for multi-site measurements of surface momentum, heat, water vapor fluxes, and surface energy balances. ATD/Surface and Sounding Systems Facility (SSSF) operates (1) ASTER consisting of a base station and several tower-based sensor arrays.	NCAR Atmospheric Technology Division (ATD)
	Cross-chain Loran Atmospheric Sounding System (CLASS) Balloon sounding system that supports Loran-C and Omega navigational winds and includes surface meteorological measurements. ATD/SSSF operates (5) trailer-based and (1) van-based mobile CLASS.	NCAR/ATD

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Integrated Sounding System (ISS) A container-based multi-platform system that combines a balloon-borne Radiosonde Navaid (Loran or Omega) Sounding System, an enhanced surface observing station, a 915-MHz Doppler clear-air Wind Profiling Radar, a Radio Acoustic Sounding System (RASS) and communication, data processing and display infrastructure. ATD/SSSF operates (4) ISS.	NCAR/ATD
	Portable Automated Mesonet (PAM III and Flux PAM) A network of remote surface meteorology stations. ATD/SSSF operates (3) PAM III stations, all with flux measurement capability.	NCAR/ATD
	S-POL Radar A highly-portable, S-band dual-polarization Doppler radar with improved signal processing and polarization capabilities.	NCAR/ATD
	CHILL Radar An 11-centimeter wavelength Doppler system with dual polarization capability.	Colorado State University
	P3Dora Radar (ELDORA) An airborne X-Band Doppler radar that produces dual-Doppler data from vertical scans of two fixed-plate antennas with fore and aft orientations. It is installed on the Naval Research Laboratory P-3 (NRL P-3) aircraft.	NCAR/ATD
NETWORKS, OTHER FACILITIES	**George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES)** NEES is a shared national network of 15 experimental facilities, collaborative tools, a centralized data repository, and earthquake simulation software, all linked by the ultra-high-speed connections of NEESgrid. For more information, see http://www.nsf.gov/news/special_reports/nees/index.jsp and http://www.nees.org/	
	Large-Scale Structural Lab One of the NEES program's seven large-scale testing facilities, Cornell University's Large Displacement Facility can test the structural integrity of underground pipelines as well as surface level structures. For more information, see http://nees.cornell.edu/index.htm	Cornell University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Large-Scale Structural Lab One of the NEES program's seven large-scale testing facilities, Lehigh University specializes in fast hybrid testing that combines real-time physical experiments with computer-based simulation for evaluating the earthquake performance of structural components and systems. For more information, see http://www.nees.lehigh.edu/	Lehigh University
	Tsunami Wave Basin Oregon State University's Tsunami Research Facility is the world's largest facility for studying the effects of large waves. It provides testing capabilities and experimental data to tsunami researchers around the world. For more information, see http://nees.orst.edu/	Oregon State University
	Geotechnical Centrifuge Lab The NEES Program has two geotechnical centrifuge facilities. The centrifuge machine at Rensselaer Polytechnic Institute is an Acutronic Model 665-1 constructed to Rensselaer's specifications. It has an in-flight platform radius of 3.0m and can test a payload of 1 ton at 100g (or 0.5 ton at 200g). For more information, see http://www.nees.rpi.edu/	Rensselaer Polytechnic Institute
	Shake Table and Large-Scale Structural Lab One of three NEES equipment sites equipped with shake tables, the University at Buffalo has two relocatable shake tables that may be moved up to 200 feet apart. Researchers explore the use of real-time dynamic hybrid testing, where shake table tests of structural components are combined in real-time with computer simulations of the remainder of the structure. This provides a more complete picture of how earthquakes would affect large structures, such as buildings and bridges, without the need to physically test the entire structure. For more information, see http://nees.buffalo.edu/	University at Buffalo
	Large-Scale Structural Lab One of the NEES program's seven large-scale testing facilities, the University of California, Berkeley designed its Reconfigurable Reaction Wall-Based Earthquake Simulation Facility to support the development of a new generation of hybrid testing methods that smoothly integrate physical testing with simulations. For more information, see http://nees.berkeley.edu/	University of California, Berkeley

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Geotechnical Centrifuge Lab The NEES Program has two geotechnical centrifuge facilities. The centerpiece of the University of California, Davis equipment site is a 9-m, 80 g centrifuge that can spin and shake models of soil layers and soil-structure systems. For more information, see http://cgm.engineering.ucdavis.edu/index.php	University of California, Davis
	Mobile Field Testing Equipment The NEES program has three equipment sites providing field and mobile facilities. The University of California, Los Angeles' mobile lab can conduct testing on full-scale structural and foundation systems. For more information, see http://nees.ucla.edu/	University of California, Los Angeles
	Shake Table Lab One of three NEES equipment sites equipped with shake tables, the University of California, San Diego boasts the largest outdoor shake table in the U.S. For more information, see http://nees.ucsd.edu/	University of California, San Diego
	Instrumented Field Sites The NEES program has three equipment sites providing field and mobile facilities. The University of California, Santa Barbara, in partnership with the University of Southern California and Brigham Young University, has established a permanent field-testing site in the seismically active area of Garner Valley. For more information, see http://nees.ucsb.edu/	University of California, Santa Barbara
	Large-Scale Structural Lab One of the NEES program's seven large-scale testing facilities, the University of Colorado at Boulder specializes in fast hybrid testing that combines real-time physical experiments with computer-based simulation for evaluating the earthquake performance of structural components and systems. For more information, see http://nees.colorado.edu/	University of Colorado at Boulder
	Large-Scale Structural Lab One of the NEES program's seven large-scale testing facilities, the University of Illinois at Urbana-Champaign has created a physical-analytical simulation environment whereby multi-axial full-scale models can be subjected to complex testing conditions, representing earthquake ground motion. For more information, see http://nees.uiuc.edu/	University of Illinois at Urbana-Champaign

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Large-Scale Structural Lab One of the NEES program's seven large-scale testing facilities, the University of Minnesota facility supports multi-axial subassemblage testing, which can be used to investigate the effects of earthquakes, high winds and other extreme events on structures several stories tall. Structures up to 29 feet tall can be placed on a testing platform and subjected to heavy loads by hydraulic arms that mimic the conditions of extreme events. The arms can simulate vertical forces of 1.32 million pounds and horizontal forces of 800,000 pounds. For more information, see http://nees.umn.edu/	University of Minnesota
	Shake Table Lab One of three NEES equipment sites equipped with shake tables, the University of Nevada at Reno has three bi-axial shake tables, which can function in unison or independently. For more information, see http://nees.unr.edu/	University of Nevada, Reno
	Mobile Field Testing Equipment The NEES program has three equipment sites providing field and mobile facilities. The University of Texas, Austin has three mobile, large-scale shakers with diverse force and frequency capabilities. For more information, see http://nees.utexas.edu/Home.shtml	University of Texas at Austin
OTHER RESEARCH INFRASTRUCTURE	**National High Magnetic Field Laboratory (NHMFL)** The only facility of its kind in the U.S., it develops and operates state-of-the-art, high-magnetic-field facilities and is among the preeminent facilities in the world for researchers and engineers studying superconductivity and other materials research. For more information, see http://www.magnet.fsu.edu/	Florida State University, University of Florida, Los Alamos National Laboratory
	National Nanotechnology Infrastructure Network (NNIN) The National Nanotechnology Infrastructure Network is an integrated partnership of thirteen user facilities (listed on next page), providing unparalleled opportunities for nanoscience and nanotechnology research. For more information, see http://www.nnin.org/nnin_about.html	

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Cornell Nanoscale Facility The facility enables researchers from universities and companies across the country to access state-of-the-art fabrication and characterization tools, and learn to use them with the help of a knowledgeable technical staff. For more information, see http://www.nnin.org/nnin_cornell.html	Cornell University
	Stanford Nanofabrication Facility The facility is a state-of-the-art, shared-equipment, open use resource. This laboratory serves academic, industrial and governmental researchers. For more information, see http://www.nnin.org/nnin_stanford.html	Stanford University
	Microelectronics Research Lab The facility emphasizes the application of nanofabrication to bioengineering and biomedicine. For more information, see http://www.nnin.org/nnin_georgiatech.html	Georgia Tech
	Center for Nanotechnology - Nanotech User Facility The facility's objectives are educating the nanotechnology workforce of tomorrow and providing access to nanoscale tools with an emphasis on the applications of nanotechnology in biology and life sciences. For more information, see http://www.nnin.org/nnin_washington.html	University of Washington
	Michigan Nanofabrication Facility The facility is one of the leading centers worldwide on MEMS and microsystems. It provides facilities and processes for the integration of silicon integrated circuits and MEMS with nanotechnology, with applications in biology, medical systems, chemistry and environmental monitoring. For more information, see http://www.nnin.org/nnin_michigan.html	University of Michigan
	Minnesota Nanotechnology Cluster The node includes three partners--the Nanofabrication Center hosting a full suite of processing tools for building micro and nano devices; the Characterization Facility offering a wide suite of electron beam, ion beam, x-ray, optical and proximal probe tools; and the Particle Technology Lab that has a wide variety of instrumentation. For more information, see http://www.nnin.org/nnin_minnesota.html	University of Minnesota

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Penn State Nanofabrication Facility The facility enables advanced interdisciplinary academic and industrial research and development in the semiconductor electronic and optoelectronic, micro- and nanoelectromechanical systems, materials, biological and pharmaceutical fields. For more information, see http://www.nnin.org/nnin_psu.html	Penn State University
	Nanotech The facility's strengths include leading expertise in compound semiconductors, photonics, quantum structures and expertise with non-standard materials and fabrication processes. For more information, see http://www.nnin.org/nnin_ucsb.html	University of California, Santa Barbara
	Microelectronics Research Center The facility provides opportunities to perform research in novel materials of interest to the integrated circuits industry, optoelectronics and nanophotonics, novel electronic devices and nano-structures, and interconnects and packaging. For more information, see http://www.nnin.org/nnin_texas.html	University of Texas-Austin
	Nanoscience @UNM The facility, distributed across three locations of the UNM, provides rapid access for academia and industry to high technology cleanroom, advanced lithography, and characterization equipment as well as to quantum nanostructure growth facilities. For more information, see http://www.nnin.org/nnin_newmexico.html	University of New Mexico
	Center for Nanoscale Systems The facility emphasizes the areas of 1) soft lithography and the assembly of nanoparticle and molecular electronics; 2) theoretical simulations of electron states and transport in nanoscale systems; and 3) the establishment of core computational resources to assist users in the understanding and visualization of new device structures. For more information, see http://www.nnin.org/nnin_harvard.html	Harvard University
	Howard Nanoscale Science and Engineering Facility The facility emphasizes general microfabrication, electronics and materials, characterization science and nonfiltration. For more information, see http://www.nnin.org/nnin_howard.html	Howard University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
ARCTIC AND ANTARCTIC EQUIPMENT, FACILITIES AND LOGISTICS	**United States Antarctic Program (USAP)** The United States Antarctic Program supports scientific research in Antarctica and the Southern Ocean. The USAP carries forward the nation's goals of supporting the Antarctic Treaty, fostering cooperative research with other nations, protecting the Antarctic environment, and developing measures to ensure only equitable and wise use of resources. The program has three year-round research stations (listed below). For more information, see http://www.nsf.gov/od/opp/antarct/usap.jsp	
	Amundsen-Scott South Pole Station The new station at the South Pole, the third since 1956, was dedicated in January 2008. The elevated station is larger and much more sophisticated than any previous structure built at the Pole--a reflection of the logistical support needed for the ever-increasing range and diversity of the research taking place there. For more information, see http://www.nsf.gov/news/special_reports/livingsouthpole/index.jsp	USAP
	McMurdo Station Located on the Ross Sea, Antarctica's largest station serves as a "gateway" to Antarctica for U.S. scientific field teams as well as the hub for most of the U.S. scientific activity. During the austral summer, the population of scientists and support personnel at McMurdo often exceeds 1,000 people. For more information, see http://www.nsf.gov/od/opp/support/mcmurdo.jsp	USAP
	Palmer Station Located on Anvers Island in the Antarctic Peninsula region, the station is the only U.S. Antarctic station north of the Antarctic Circle. More than 40 people can occupy Palmer in the summer. Wintering population is about 10, although Palmer does not have a long period of winter isolation as do McMurdo and South Pole. For more information, see http://www.nsf.gov/od/opp/support/palmerst.jsp	USAP
	R/V Nathaniel B. Palmer One of two research ships with icebreaking capability operated by the USAP to support research throughout the Southern Ocean region, particularly in the Ross Sea near McMurdo Station. A first-rate platform for global change studies, including biological, oceanographic, geological and geophysical components, the ship can operate safely year-round in Antarctic waters that often are stormy or covered with sea ice. For more information, see http://www.nsf.gov/od/opp/support/nathpalm.jsp	USAP (chartered, owned and operated by Louisiana-based Edison Chouest Offshore)

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	R/V Laurence M. Gould An ice-strengthened, multi-disciplinary research platform, the *Gould* is designed for year-round polar operations and can accomodate 26 research scientists for missions up to 75 days long. Its primary mission is to support research in the Antarctic Peninsula region and to resupply and transport researchers and staff between Palmer Station and South American ports. The ship began its service in Antarctica in January 1998. For more information, see http://www.nsf.gov/od/opp/support/gould.jsp	USAP (chartered, owned and operated by Louisiana-based Edison Chouest Offshore)
	Other Antarctic Logistical Support An array of aircraft, including C-17 jet aircraft, ski-equipped Hercules (LC-130s) and ski-equipped Twin Otters, are used to ferry personnel and cargo between both gateways (Christchurch, New Zealand, and Punta Arenas, Chile) and the appropriate destinations in Antarctica. Helicopters provide support to field parties traveling to and back from field camps and research sites. The main helicopter operating area is in the McMurdo Dry Valleys, although helicopters are used at large field camps in remote areas of Antarctica. For more information, see http://www.nsf.gov/od/opp/ail/index.jsp	USAP
	U.S. National Ice Core Laboratory A laboratory dedicated to providing colleagues with a premier facility for examining, sampling, and analyzing ice cores from some of the most remote places on Earth.	NSF and USGS
	U.S. Polar Rock Repository at the Byrd Polar Research Center at Ohio State University Houses and makes available for research rock samples from Antarctica, the Arctic, southern South America and South Africa.	Ohio State University
	Antarctic Marine Geology Research Facility at Florida State University A national repository for geological materials collected in and around Antarctica.	Florida State University
	Paleobotany Collection of Kansas University Houses more than 7,000 specimens of Antarctic fossil plants from throughout the Transantarctic Mountains.	Kansas University

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	Arctic Logistical Support The Arctic Research Support and Logistics (RSL) program assists the field component of research projects in the Arctic. The program's Arctic logistics contractor CH2M HILL Polar Services (formerly known as VECO Polar Resources) provides logistics support to NSF-funded researchers. The Arctic RSL program also funds base support of the Arctic Research Consortium of the United States, Toolik Field Station, the Barrow Arctic Science Consortium, procurement and maintenance of instrumentation on the USCGC *Healy* (see below), and the development of a digital elevation model of the Kuparuk Watershed in northern Alaska.	
	U.S. Coast Guard Cutter (USCG) *Healy* An icebreaker designed to support scientific research. It has been used in a number of research cruises, mostly in the Arctic Ocean region. The ship is able to accommodate 35-50 scientists and is equipped with more than 5,000 square feet of science lab and support space. The *Healy*'s first science cruise was in 2001, as part of the Arctic Mid-ocean Ridge Expedition (AMORE).	**USCG**
SHARED CYBERINFRA-STRUCTURE (Including Computer Systems, Grid Networking, Data Bases, and Data Analysis and Storage Systems)	**TeraGrid** The Extensible Terascale Facility (commonly known as the TeraGrid) is the world's most powerful distributed cyberinfrastructure for open scientific research, supporting more than 1,000 projects and 4,000 researchers all across the U.S. For more information, see http://www.teragrid.org/	Eleven partners – Indiana University, Louisiana Optical Network Initiative, NCAR, University of Illinois NCSA, NICS, Oak Ridge National Laboratory, PSC, Purdue University, SDSC, Texas Advanced Computing Center and University of Chicago/Argonne National Laboratory
	Ranger The new high performance computing system provides the first petascale platform for the U.S. university research community, with peak performance of one-half petaflop per second. Ranger is specifically designed to provide unprecedented power to meet very large science and engineering computational requirements, and is currently supporting some 150 research projects, ranging from earthquake simulation and advanced biology to nanoelectronics and particle physics. For more information, see http://www.tacc.utexas.edu/research/users/features/ranger.php	Texas Advanced Computing Center at the University of Texas at Austin
	NICS Kraken The new near-petascale system's computing capability will significantly expand the capacity of the TeraGrid and enable investigators to pursue breakthrough science and engineering research in a wide range of computationally demanding areas. For more information, see http://www.nics.tennessee.edu/computing-resources/kraken	Led by the University of Tennessee at Knoxville in collaboration with the Oak Ridge National Laboratory

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	Blue Waters Project Blue Waters is being designed to be the world's most powerful "petascale" system for science and engineering research, capable of making arithmetic calculations at a sustained rate in excess of 1,000-trillion operations per second. For more information, see http://www.ncsa.uiuc.edu/BlueWaters/	NCSA at the University of Illinois at Urbana-Champaign will acquire and deploy the system, which will be operated by NCSA its partners in the Great Lakes Consortium for Petascale Computing
	Protein Data Bank The Protein Data Bank ensures open access to the worldwide collection of deposits of more than 50,000 molecular structures, as well as tools and resources for studying them. For more information, see http://www.rcsb.org/pdb/home/home.do	Operated by the Research Collaboratory for Structural Biology (RCSB), a partnership between Rutgers, the State University of New Jersey, and the University of California, San Diego.
	iPlant Collaborative The iPlant Collaborative seeks to take collaboration to a new level, bringing together researchers in every area of plant science—from molecular and cellular biologists to those working at the ecosystem and global levels—as well as computer scientists, information scientists, engineers, mathematicians and social scientists and enabling specialists from different fields to work together more effectively than ever before. For more information, see http://www.nsf.gov/news/news_summ.jsp?cntn_id=111048 and http://iplantcollaborative.org/	University of Arizona (lead), Cold Spring Harbor Laboratory, Arizona State University, the University of North Carolina at Wilmington and Purdue University
	National Science Digital Library (NSDL) The National Science Digital Library (NSDL) is the nation's online library for education and research in science, technology, engineering and mathematics. For more information, see http://nsdl.org/	
	Digital Library for Earth System Education (DLESE) The Digital Library for Earth System Education (DLESE) offers the nation's most extensive collection of digital learning resources for geoscience education. Based at NCAR in Boulder, Colo., DLESE allows scientists, educators and students around the world to access geosciences information. For more information, see http://www.dlese.org/library/index.jsp	
	Data Intensive Science University Network (DISUN) The Data Intensive Science University Network is a distributed cyberinfrastructure for applications requiring data-intensive distributed computing technology. For more information, see http://www.disun.org/	California Institute of Technology, University of California, San Diego, University of California, Los Angeles, University of Florida and University of Wisconsin-Madison

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	Global Ring Network for Advanced Applications Development (GLORIAD) The Global Ring Network for Advanced Applications Development is a high-speed (10-gigabit-per-second) optical network around the entire northern hemisphere. For more information, see http://www.gloriad.org/gloriad/index.html	Joint Institute for Computational Science of the University of Tennessee and Oak Ridge National Laboratory
	Grid Physics Network (GriPhyN) The Grid Physics Network is a collaboration of experimental physicists and information technology researchers to implement the first petabyte-scale computational environments for data intensive science in the 21st century. For more information, see http://www.griphyn.org/index.html	University of Florida
	Collaborative Center for Internet Epidemiology and Defenses (CCIED) The Collaborative Center for Internet Epidemiology and Defenses is an NSF-supported joint effort between researchers at the University of California, San Diego, and the International Computer Science Institute's Center for Internet Research to address critical challenges posed by large-scale Internet-based pathogens, such as worms and viruses. For more information, see http://www.ccied.org/.	University of California, San Diego
	Cooperative Association for Internet Data Analysis (CAIDA) The Cooperative Association for Internet Data Analysis was established to foster engineering and technical collaborations among Internet providers, vendors and user groups. For more information, see http://www.caida.org/home/.	University of California, San Diego
	Cluster Exploratory (CluE) A new Cluster Exploratory initiative will provide NSF-funded researchers with access to software and services running on a Google-IBM data cluster to explore innovative research ideas in data-intensive computing. For more information, see http://www.nsf.gov/cise/clue/index.jsp	

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
CENTER PROGRAMS	**National Institute for Mathematical and Biological Synthesis (NIMBioS)** The National Institute for Mathematical and Biological Synthesis is a new NSF-funded center established to foster research and education at the interface of the mathematical and biological sciences.	University of Tennessee-Knoxville
	Centers for Analysis and Synthesis	
	National Center for Ecological Analysis and Synthesis (NCEAS) The National Center for Ecological Analysis and Synthesis is focused on the development and testing of important ecological ideas and theories using existing data to help people see the "big picture" when it comes to Earth's systems.	University of California, Santa Barbara
	National Evolutionary Synthesis Center (NESCent) The National Evolutionary Synthesis Center enables collaborative biological research efforts, with the central goal of fostering greater conceptual synthesis in biological evolution by bringing together researchers and educators, existing data and information technology resources.	Duke University, North Carolina State University, University of North Carolina
	Engineering Research Centers (ERCs) The Engineering Research Centers program brings knowledge of industrial practices and needs to universities and other research institutions, and speeds the translation of their research into useful products and processes. The Gen-3 ERCs, starting with the Class of 2008, have been designed to build on the well-developed understanding laid down by the two previous generations, with several new dimensions designed to speed the innovation process and prepare engineering graduates who are innovative, creative, and understand how to function in a global economy where engineering talent is broadly distributed throughout the world. NSF supports the following ERCs:	

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	Biomimetic Microelectronic Systems	University of Southern California
	Biorenewable Chemicals (Gen-3, *2008 award*)	Iowa State University
	Collaborative Adaptive Sensing of the Atmosphere	University of Massachusetts Amherst
	Compact and Efficient Fluid Power	University of Minnesota
	Extreme Ultraviolet Science and Technology	Colorado State University
	Future Renewable Electric Energy Delivery and Management Systems (Gen-3, *2008 award*)	North Carolina State University
	Integrated Access Networks (Gen-3, *2008 award*)	University of Arizona
	Mid-Infrared Technology for Health and the Environment	Princeton University
	Quality of Life Technology	Carnegie Mellon University/ University of Pittsburgh
	Revolutionizing Metallic Biomaterials (Gen-3, *2008 award*)	North Carolina Agricultural and Technical State University
	Smart Lighting (Gen-3, *2008 award*)	Rensselaer Polytechnic Institute
	Structured Organic Composites	Rutgers University
	Subsurface Sensing and Imaging Systems	Northeastern University
	Synthetic Biology	University of California, Berkeley
	Wireless Integrated MicroSystems	University of Michigan

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Nanoscale Science and Engineering Centers (NSECs) The Nanoscale Science and Engineering Centers bring together researchers with diverse expertise, in partnership with industry, government laboratories, and/or partners from other sectors, to address complex, interdisciplinary challenges in nanoscale science and engineering, and integrate research with education both internally and through a variety of partnership activities. The following centers are supported:	
	Affordable Nanoengineering of Polymer Biomedical Devices	Ohio State University
	Integrated and Scalable Nanomanufacturing	University of California, Los Angeles
	Directed Assembly of Nanostructures	Rensselaer Polytechnic Institute
	Electronic Transport in Molecular Nanostructures	Columbia University
	High Rate Nanomanufacturing	Northeastern University, University of New Hampshire, University of Massachusetts-Lowell
	Integrated Nanomechanical Systems	University of California, Berkeley, California Institute of Technology, Stanford University, University of California, Merced
	Integrated Nanopatterning and Detection Technologies	Northwestern University
	Molecular Function at the Nano/Bio Interface	University of Pennsylvania
	Nanotechnology in Society Network: Center at ASU	Arizona State University
	Nanotechnology in Society Network: Center at UCSB	University of California, Santa Barbara

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Nanoscale Chemical-Electrical-Mechanical Manufacturing Systems	University of Illinois at Urbana-Champaign
	Nanoscale Systems in Information Technologies	Cornell University
	Nanoscience in Biological and Environmental Engineering	Rice University
	National Nanomanufacturing Network: Center for Hierarchical Manufacturing	University of Massachusetts Amherst
	Probing the Nanoscale	Stanford University, IBM
	Science of Nanoscale Systems and their Device Applications	Harvard University
	Templated Synthesis and Assembly at the Nanoscale	University of Wisconsin-Madison
	Centers for the Environmental Implications of Nanotechnology (CEIN) The Centers for the Environmental Implications of Nanotechnology will explore how nanomaterials interact with the environment and with living systems, and will translate this knowledge into risk assessment and mitigation strategies useful in the development of nanotechnology. NSF is partnering with EPA to sponsor the centers. For more information, see the NSF news release at http://www.nsf.gov/news/news_summ.jsp?cntn_id=112234	
	Center for Environmental Implications of Nanotechnology	Duke University
	CEIN: Predictive Toxicology Assessment and Safe Implementation of Nanotechnology in the Environment	University of California, Los Angeles

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	Industry/University Cooperative Research Centers (I/UCRC) The Industry/University Cooperative Research Centers program develops long-term partnerships among industry, academia and government. The centers focus on research in crucial areas of interest to both industry and university researchers such as advanced electronics, advanced manufacturing, advanced materials, biotechnology, civil infrastructure systems, information-communication-computing systems, energy and environment, fabrication and processing technology, health and safety, and system design and simulation. The following centers are supported:	
	Center for Advanced Vehicle Electronics	Auburn University
	Center for Telecommunications - Connection One: Communication Circuits and Systems Research	Arizona State University (lead), University of Arizona, University of Hawaii, Rensselaer Polytechnic Institute, Ohio State University
	Compact, High-Performance Cooling Technologies Research Center	Purdue University
	Center for Intelligent Maintenance Systems	University of Cincinnati (lead), University of Michigan at Ann Arbor, University of Missouri-Rolla
	Center for Lasers and Plasmas for Advanced Manufacturing	University of Virginia (lead), University of Michigan at Ann Arbor, Southern Methodist University
	Center for Precision Forming	Ohio State University (lead), Virginia Commonwealth University
	Smart Vehicle Concepts Center	Ohio State University (lead), Texas A&M
	Center for Dielectric Studies	Penn State University
	Ceramic and Composite Materials Center	Rutgers University, University of New Mexico, Penn State University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Biomolecular Interaction Technologies Center	University of New Hampshire
	Center for Biocatalysis and Bioprocessing of Macromolecules	Polytechnic University
	Center for Advanced Forestry	North Carolina State University (lead), Purdue University, Oregon State University, Virginia Tech
	Center for Repair of Buildings and Bridges with Composites	University of Miami (lead), North Carolina State University
	Cyber Protection	Iowa State University (lead), Stony Brook
	Center for Experimental Research in Computer Systems	Georgia Institute of Technology (lead), Ohio State University
	Center for High-Performance Reconfigurable Computing	University of Florida (lead), George Washington University, Brigham Young University, Virginia Tech
	Wireless Internet Center for Advanced Technology	Polytechnic University (lead), Auburn University, University of Virginia, Virginia Polytechnic Institute and State University
	Water Quality Center	University of Arizona at Tucson (lead), Arizona State University at Tempe
	Center for Fuel Cells	University of South Carolina
	Berkeley Sensor and Actuator Center	University of California, Berkeley (lead), University of California, Davis
	Center for Friction Stir Processing	South Dakota School of Mines and Technology (lead), University of South Carolina, Brigham Young University, Missouri University of Science and Technology, Wichita State University

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	Membrane Applied Science and Technology Center	University of Colorado at Boulder
	Safety Security Rescue Research Center	University of Minnesota (lead), University of Pennsylvania
	Center for Identification Technology Research	West Virginia University (lead), University of Arizona
	Minimally Invasive Medical Technologies Center	University of Minnesota (lead), University of Cincinnati
	Center for Child Injury Prevention Studies	Children's Hospital of Philadelphia, University of Pennsylvania
	Center for Computational Materials Design	Penn State University, Georgia Tech
	Center for e-Design	Virginia Polytechnic Institute (lead), University of Pittsburgh, University of Massachusetts, University of Central Florida
	Center for Engineering Logistics and Distribution	University of Arkansas, University of Oklahoma, University of Louisville, Oklahoma State University, Lehigh University, Texas Tech University, Clemson University, Virginia Tech, University of Missouri, Arizona State University
	Center for Advanced Cutting Tools (2008 award)	Michigan State University
	Center for Advanced Sustainable Iron and Steel (2008 award)	Michigan State University (lead), University of Utah
	Center for Advanced Space Technologies Research and Engineering Center (2008 award)	University of Florida (lead), North Carolina State University

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	Center for Bioenergy Research and Development (2008 award)	South Dakota School of Mines and Technology (lead), South Dakota State, North Carolina State University, University of Hawaii, State University of New York, Kansas State University
	Center for Health Organization and Transformation (2008 award)	Texas A&M (lead), Georgia Tech
	Center for Surfactant and Particulate (2008 award)	University of Florida (lead), Columbia University
	Silicon Solar (2008 award)	North Carolina State University (lead), Georgia Tech
	Center for Autonomic Computing (2008 award)	University of Florida (lead), Rutgers University, University of Arizona
	Center for Advanced Knowledge Abatement (2008 award)	Florida International University
	Centers for Chemical Innovation (CCI, formerly Chemical Bonding Centers) The Centers for Chemical Innovation are designed to support research on strategic, transformative "big questions" in basic chemical research. Appropriate research problems for the centers are high-risk but potentially high-impact and will attract broad scientific and public interest. Supported centers are:	
	Center for Enabling New Transformation Through Catalysis – Phase II	University of Washington
	Powering the Planet – Phase II (2008 award)	California Institute of Technology
	Center for Molecular Cybernetics – Phase I	Columbia University
	Chemistry at the Space-Time Limit – Phase I	University of California, Irvine

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Orchestrating Proton Transport Through Supramolecular Alignment of Functionalities – Phase I	University of Massachusetts Amherst
	The Origins Chemical Inventory and Early Metabolism Project – Phase I	Georgia Tech
	Center for Green Materials Chemistry – Phase I (2008 award)	Oregon State University
	Center for Molecular Interfacing – Phase I (2008 award)	Cornell University
	Center for Chemistry of the Universe – Phase I (2008 award)	University of Virginia
	Materials Research Science and Engineering Centers (MRSECs) The Materials Research Science and Engineering Centers address fundamental materials research problems of intellectual and strategic importance that are critical for American competitiveness and the development of future technologies. NSF supports the following centers:	
	Center for Nanostructured Materials	Columbia University
	Center on Polymer Interfaces and Macromolecular Assemblies	Stanford University
	Response-Driven Polymeric Films Center	University of Southern Mississippi
	MRSEC	University of Alabama Tuscaloosa
	MRSEC	University of Pennsylvania

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Cornell Center for Materials Research	Cornell University
	MRSEC at UCSB	University of California, Santa Barbara
	Carnegie Mellon University MRSEC	Carnegie Mellon University
	The University of Maryland MRSEC	University of Maryland College Park
	MRSEC	Johns Hopkins University
	MRSEC for Research on Interface Structures and Phenomena	Yale University
	Multifunctional Nanoscale Material Structures	Northwestern University
	MRSEC on Nanostructured Interfaces	University of Wisconsin-Madison
	Center for Semiconductor Physics in Nanostructures	University of Oklahoma Norman Campus
	Center for the Science and Engineering of Materials	California Institute of Technology
	Genetically Engineered Materials Science and Engineering Center	University of Washington
	Micro- and Nano- Mechanics of Materials	Brown University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	MIT MRSEC	Massachusetts Institute of Technology
	Princeton Center for Complex Materials	Princeton University
	University of Minnesota MRSEC	University of Minnesota-Twin Cities
	MRSEC	University of Chicago
	Semantophoretic Assemblies (2008 award)	New York University
	The Georgia Tech Laboratory for New Electronic Materials (2008 award)	Georgia Tech
	Center for Nanoscale Science	Penn State University
	Center for Emergent Materials (2008 award)	Ohio State University
	MRSEC	Harvard University
	Constraints and Frustration in Nano-Structured and Bio-Molecular Materials (2008 award)	Brandeis University
	Quantum and Spin Phenomena in Nanomagnetic Structures	University of Nebraska-Lincoln
	MRSEC on Polymers	University of Massachusetts Amherst

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Renewable Energy MRSEC (2008 award)	Colorado School of Mines
	Soft Materials Research Center	University of Colorado at Boulder
	Physics Frontiers Centers (PFCs) The Physics Frontiers Centers program supports university-based centers and institutes where the collective efforts of a larger group of individuals can enable transformational advances in the most promising research areas. The centers are:	
	FOCUS: Frontiers in Optical Coherent and Ultrafast Science	University of Michigan-Ann Arbor
	Center for the Study of the Origin and Structure of Matter	Hampton University
	Center for Theoretical Biological Physics	University of California, San Diego
	Center for Ultracold Atoms	Massachusetts Institute of Technology
	JILA AMO Physics Frontier Center	JILA, an institute jointly operated by the University of Colorado and the National Institute for Standards and Technology
	Physics Frontier Center of the Kavli Institute for Cosmological Physics	University of Chicago
	Physics Frontier Center: Joint Institute for Nuclear Astrophysics (JINA)	University of Notre Dame
	Physics Frontier Center: Center for the Physics of Living Cells	University of Illinois at Urbana-Champaign
	Physics Frontiers Center at the Joint Quantum Institute	University of Maryland-College Park

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Center for Magnetic Self-Organization in Laboratory and Astrophysical Plasmas (2008 award)	University of Wisconsin-Madison
	Science and Technology Centers (STCs): Integrative Partnerships The Science and Technology Centers: Integrative Partnerships program supports innovative, potentially transformative, complex research and education projects that require large-scale, long-term awards. STCs conduct world-class research through partnerships among academic institutions, national laboratories, industrial organizations, and/or other public/private entities, and via international collaborations, as appropriate. The centers are:	
	Center for Adaptive Optics	University of California, Santa Cruz
	Center of Advanced Materials for the Purification of Water with Systems	University of Illinois
	Center for Behavioral Neuroscience	Georgia State Partners: Clark Atlanta University and Emory University, Georgia Tech, Morehouse College, Morehouse School of Medicine, and Spelman College
	Center for Biophotonics Science and Technology	University of California, Davis
	Center for Remote Sensing of Ice Sheets	University of Kansas
	Center for Coastal Margin Observation and Prediction	Oregon Health and Science University
	National Center for Earth-Surface Dynamics	University of Minnesota
	Center for Embedded Networked Sensing	University of California, Los Angeles
	Center for Environmentally Responsible Solvents and Processes	University of North Carolina

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Center for Integrated Space Weather Modeling	Boston University
	Center for Layered Polymeric Systems	Case Western Reserve University
	Center on Materials and Devices for Information Technology Research	University of Washington
	Center for Microbial Oceanography: Research and Education	University of Hawaii
	Center for Multi-Scale Modeling of Atmospheric Processes	Colorado State University
	Nanobiotechnology Center	Cornell University
	Center for Sustainability of Semi-Arid Hydrology and Riparian Areas	University of Arizona
	Team for Research in Ubiquitous Secure Technology	University of California, Berkeley
	Science of Learning Centers (SLCs) The Science of Learning Centers are built around a unifying research focus on the science of learning. The centers incorporate diverse, multidisciplinary environments involving appropriate partnerships with academia, industry, international partners, all levels of education, and other public and private entities. NSF supports the following:	
	Center for Learning in Education, Science and Technology	Boston University
	Pittsburgh Science of Learning Center - Studying Robust Learning	Carnegie Mellon University
	LIFE Center-Learning in Formal and Informal Environments	University of Washington

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Spatial Intelligence and Learning Center	Temple University
	Temporal Dynamics of Learning Center	University of California, San Diego
	Visual Language and Visual Learning	Gallaudet University
	Centers of Research Excellence in Science and Technology (CREST) The Centers of Research Excellence in Science and Technology make resources available to enhance the research capabilities of minority-serving institutions through the establishment of centers that effectively integrate education and research. The centers are:	
	Center for Forest Ecosystems Assessment	Alabama A&M University
	Center for Nanobiotechnology Research	Alabama State University
	Center for Environmental Analysis	California State University, Los Angeles
	Center for Functional Nanoscale Materials	Clark Atlanta University
	Center for Exploitation of Nanostructures in Sensors and Energy Systems (Phase II center funded in FY 2008)	CUNY City College
	Center for Research and Education in Optical Sciences and Applications	Delaware State University
	Center for Physics and Chemistry of Materials	Fisk University
	Center for Astronomy	Florida A&M University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Center for Information Processing (Phase II center funded in FY 2008)	Florida International University
	Center for Laser Science	Hampton University
	Center for Nanomaterials (Phase II center funded in FY 2008)	Howard University
	Interdisciplinary Nanotoxicity Center (2008 award)	Jackson State University
	Center for Excellence in Bioinformatics and Computational Biology	New Mexico State University
	Center for Photonic Materials Research	Norfolk State University
	Center for Advanced Materials	North Carolina A&T State University
	Computational Center for Fundamental and Applied Science (2008 award)	North Carolina Central University
	Coastal Ecology/Engineering	Texas A&M University, Kingsville
	Nanomaterials	Tuskegee University
	Tropical Ecology (2008 award)	University of Hawaii at Hilo
	Tropical Ecology	University of Puerto Rico - Rio Piedras

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Nanotechnology (2008 award)	University of Puerto Rico - Mayaguez
	Center for Gravitational Wave Astronomy	University of Texas Brownsville
	Cyber-ShARE - Center for the Sharing of Cyber-Resource to Advance Science and Education	University of Texas El Paso
	Historically Black Colleges and Universities Research Infrastructure for Science and Engineering (HBCU-RISE) The Historically Black Colleges and Universities Research Infrastructure for Science and Engineering (HBCU-RISE) program helps to strengthen the science and engineering research and education capabilities of minority-serving institutions that offer doctoral degrees in science and engineering disciplines. The centers are:	
	Research and Education in Advanced Computing	Clark Atlanta University
	Neuroscience	Delaware State University
	Estuary Ecology	Florida A&M University
	Optics and Photonics	Hampton University
	Computational Chemistry	Jackson State University
	Materials Science and Engineering	Norfolk State University
	Advanced Signal Systems	Prairie View A&M University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Environmental Toxicology	Southern University
	Infrastructure Composite	Southern University
	Decision Systems	Tennessee State University
	Endocrine Disruptors	Texas Southern University
	Material Science and Engineering (2008 award)	Tuskegee University
	Long-Term Ecological Research (LTER) The Long-Term Ecological Research project sites represent Earth's major ecosystems, including deserts, grasslands, forests, tundra, urban areas, agricultural systems, freshwater lakes, coastal estuaries and salt marshes, coral reefs and coastal ocean zones. Research conducted at the LTER sites is contributing to our understanding of climate change, biodiversity, human's impact on the environment and other major ecological challenges. The following are NSF's LTER sites:	
	Andrews (Forest) LTER, Oregon	Oregon State University
	Arctic LTER, Alaska	Marine Biological Laboratory (Woods Hole)
	Baltimore Ecosystem Study, Maryland	Institute of Ecosystem Studies
	Bonanza Creek LTER, Alaska	University of Alaska-Fairbanks
	California Current Ecosystem	Scripps Institution of Oceanography-University of California, San Diego

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Cedar Creek Ecosystem Science Reserve, Minnesota	University of Minnesota-Twin Cities
	Central Arizona - Phoenix Urban LTER	Arizona State University
	Coweeta LTER	University of Georgia
	Florida Coastal Everglades LTER	Florida International University
	Georgia Coastal Ecosystems LTER	University of Georgia
	Harvard Forest LTER, Massachusetts	Harvard University
	Hubbard Brook LTER, New Hampshire	Cornell University
	Jornada Basin LTER, New Mexico	New Mexico State University, Duke University
	Kellogg Biological Station LTER, Michigan	Michigan State University
	Konza Prairie LTER, Kansas	Kansas State University
	Luquillo LTER, Puerto Rico	University of Puerto Rico-Rio Piedras
	McMurdo Dry Valleys LTER, Antarctica	Ohio State University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Moorea Coral Reef LTER, French Polynesia	University of California, Santa Barbara
	Niwot Ridge LTER, Colorado	University of Colorado-Boulder
	North Temperate Lakes LTER, Wisconsin	University of Wisconsin-Madison
	Palmer Station LTER, Antarctica	University of California, Santa Barbara, College of William and Mary
	Plum Island Ecosystem LTER, Massachusetts	Marine Biological Laboratory (Woods Hole)
	Santa Barbara Coastal LTER, California	University of California, Santa Barbara
	Sevilleta LTER, New Mexico	University of New Mexico
	Shortgrass Steppe, Colorado	Colorado State University
	Virginia Coast Reserve LTER	University of Virginia
MAJOR RESEARCH INSTRUMENTATION – FY 2007 Awards	Major Research Instrumentation (MRI) NSF's Major Research Instrumentation program supports the acquisition and development of mid-range instrumentation for research and training in U.S. institutions of higher education, research museums and non-profit research organizations. The awards below, all made in FY 2007, are representative of the types of instrumentation funded. For more information, see: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5260	
	Acquisition of Microwave Measurement Facilities for RF/MMIC Research	University of Texas Brownsville

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Development of a Multi-Channel Receiver for the Realization of Multi-Mission Capabilities at the National Weather Radar Testbed	University of Oklahoma Norman Campus
	Acquisition of a Femtosecond Fluorescence Upconversion System	South Dakota State University
	Acquisition of a Scanning Electron Microscope with *In Situ* Capabilities	University of Pennsylvania
	Acquisition of a 64 Channel Geodesic EEG System	Illinois Wesleyan University
	Acquisition of Trace Metal Analysis Instrumentation	Northern Michigan University
	Acquisition of Hydrodynamic Equipment and a Laser Grain Size Analyzer to Investigate the Lake Erie Seiche and Its Impact on Sedimentation in the Buffalo River	State University of New York College at Buffalo
	Development of a Cooled Sapphire Oscillator Frequency Standard for VLBI	Northeast Radio Observatory Corp
	Acquisition of a Single-Crystal X-Ray Diffractometer	Eastern Illinois University
	Acquisition of a Stimulated Emission Depletion (STED) Microscope for Nanoscopic Resolution of Biological Samples	University of California, Los Angeles
	Acquisition of an EM PACT2 High Pressure Freezer	House Ear Institute
	Acquisition of 15 High-rate GPS Units for Developing a Broadband Earthquake Observation System in Puerto Rico and the U.S. Virgin Islands	University of Puerto Rico Mayaguez
	Acquisition of Marine Geophysical Instrumentation Suite for Seafloor Mapping and Bottom Boundary Layer Analysis	Coastal Carolina University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of a Circular Dichroism Spectropolarimeter with Stopped-Flow Detection for Undergraduate Research	Trinity University
	Development of a Silicon Detector for Synchrotron Based X-Ray Spectroscopy, X-Ray Holography and Materials Education	New Jersey Institute of Technology
	Acquisition of Modern Analytical X-Ray Diffraction Instrumentation	University of Alaska Fairbanks Campus
	Acquisition of a Phosphorimager for Research in Marine Functional Genomics	Mount Desert Island Biological Laboratory
	Acquisition of COPAS Instrumentation for Research and Teaching Enhancement in Kansas Universities	University of Kansas Center for Research Inc.
	Acquisition of a Fast-Pulse-Laser for a Local Electrode Atom Probe	University of Alabama Tuscaloosa
	Development of Ring-Ribbon Resonator Biosensor Instrument	Polytechnic University of New York
	Acquisition of a High-Performance Parallel Computer	Oakland University
	Development of a Superconducting Magnet Coil and a 201 MHz RF Cavity for Testing Muon Ionization Cooling Techniques	University of Mississippi
	Acquisition of a High-Performance Computing Cluster for Astrophysics	Princeton University
	Acquisition of a Nanoflow Hybrid Triple Quadrupole/Linear Trap Mass Spectrometer System for Three Diverse Institutions	University of Colorado at Denver
	Acquisition of 400 MHz NMRs for Research and Education	Illinois State University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Development of a Parallel Imager for Southern Cosmology Observations: Time Evolution of Dark Energy	Smithsonian Institution Astrophysical Observatory
	Development of the Next Generation Submillimeter Grating Spectrometer	Cornell University
	Acquisition of a High-Resolution Microcomputed Tomography System in Support of Research in the Biology and Chemistry Departments	University of Scranton
	Acquisition of System for the Integration of Raman Scattering, Luminescence and Scanning Electron Microscopies	Drexel University
	Acquisition of an 800 MHz NMR Spectrometer	University of California, Davis
	Development of a Compact Echelle Spectrograph for Aeronomical Research (CESAR)	SRI International
	Development of an Imaging Nonlinear Optical Ellipsometer	Purdue University
	Acquisition of Broadband Seismic Stations for Polar Regions	Incorporated Research Institutions for Seismology
	Acquisition of an X-Ray Micro-Computed Tomography System for Evaluating Crack Evolution and Failure Characterization of Engineering Materials	University of Michigan Ann Arbor
	Acquisition of Processing and Testing Equipment for the Integration of Materials Science and Engineering Research at the University of Puerto Rico at Mayaguez	University of Puerto Rico Mayaguez
	Acquisition of Integrated Instrumentation to Facilitate Correlative Light and Electron Microscopy of Cellular Systems	Brandeis University
	Acquisition of an EPR Spectrometer	Utah State University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Development of Advanced Ultra-low Temperature System for Exploration of Quantum Mechanics at the Macroscale	Cornell University
	Acquisition of a Genetic Analyzer for Research, Research Training, and Education	Indiana University
	Development of a Refractive Gradiometer Probe for Oceanic Microstructure	Woods Hole Oceanographic Institution
	Acquisition of an Automated Assembly System and RFID Equipment for Research and Education in Advanced Manufacturing	University of Texas at San Antonio
	Acquisition of a Tabletop Scanning Electron Microscope for Undergraduate Research and Training in Materials Chemistry and Geological Science and STEM Activities in Grades 7-12	CUNY Queensborough Community College
	Development of Open-access Photonic Networked Sensors (PHOTONS) for Security, Industrial and Environmental Applications	William Marsh Rice University
	Acquisition of Surface-Enhanced Confocal Raman-AFM	Rensselaer Polytechnic Institute
	Acquisition of Particle Counter and Sizer	Marywood University
	Acquisition of a multi-wavelength femtosecond laser facility	University of New Mexico
	Acquisition of Geophysics Survey Instruments for Archaeological Geophysics Research and Training	Ithaca College
	Acquisition of an x-ray photoelectron spectrometer for research and education in inorganic, nanoparticulate, and biological materials	Vanderbilt University
	Acquisition of an X-Band Electron Paramagnetic Resonance Spectrometer System	California State University-Fullerton

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Real Time Ocean Observations	Humboldt State University
	Acquisition of an XPS system for Interdisciplinary Research and Education	Boise State University
	Development and Acquisition of Oceanographic Instrumentation to Enhance the Arctic Ocean Observing Network for the 2007-2009 International Polar Year Period and Beyond	Woods Hole Oceanographic Institution
	Acquisition of a Thermo-Hydroforming Stamping Press for Research and Education in Forming of Multifunctional Nanocomposite and Biocomposite Polymer Structures	Michigan State University
	Acquisition of a High Performance Computing System for Undergraduate Geoscience Research	Angelo State University
	Acquisition of a High Performance Computing System for Undergraduate Geoscience Research	Augusta State University
	Acquisition of an Atomic Force Microscope and Surface Profilometer for Surface Analysis Facility	Syracuse University
	Acquisition of a Confocal Laser Scanning Microscope for Research and Training in the Natural Sciences	California State University-Long Beach
	Collaborative Research: Development of the Detector Package for the Super HMS in Hall C at JLab	College of William and Mary
	Development of a Phase-coherent Laser System for Attosecond Science and Precision Spectroscopy	Texas A&M
	Acquisition of a Spectropolarimeter for Research and Education	University of Memphis
	Acquisition of a Monochromated, Aberration-Corrected, Ultra High Resolution Transmission Electron Microscope for the University of Michigan's Electron Microbeam Analysis Laboratory	University of Michigan Ann Arbor

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of Instrumentation for Organic Molecular Research	Yale University
	Acquisition of a 40-core Linux cluster for oceanographic research at Earth and Space Research	Earth and Space Research
	Acquisition of a Field Emission Environmental Scanning Electron Microscope to Enhance Research and Teaching at Oklahoma State University	Oklahoma State University
	Acquisition of a Kodak Image Station 4000MM Pro for the Visualization and Quantification of Proteins, DNA and RNA	St. Cloud State University
	Development of Infrastructure for Integrated Sensing, Modeling, and Manipulation with Robotic and Human-Machine Systems	Johns Hopkins University
	Acquisition of a 400 MHz Nuclear Magnetic Resonance Spectrometer for Research on Organic Materials and Student Training	Hampton University
	Acquisition of a 3-D Scanning Laser Vibrometer	University of Massachusetts Lowell
	Collaborative Research: Development of the Detector Package for the Super HMS in Hall C at JLab	James Madison University
	Acquisition of Computationally Intensive Research in High Energy Physics	College of William and Mary
	Acquisition of a Molecular Imaging System to Continue Faculty-Student Research in an Interdisciplinary Biomolecular Science Program	Saint Olaf College
	Acquisition and Development of Atomic Force Microscopy Technologies for Biophysical Studies	University of Miami School of Medicine
	Acquisition of a Gas Chromatograph/Mass Spectrometer for Research and Research Training	Oak Crest Institute of Science

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Development of a frequency-comb nearfield infrared spectrometer	University of California, San Diego
	Acquisition of High Brilliance X-ray Optical Components for the ChemMatCARS Synchrotron X-ray Resource at the Advanced Photon Source	Northern Illinois University
	Acquisition of gas chromatographic instrumentation for research and advanced training in the analysis of new and emerging chemicals of concern and legacy pollutants	State University of New York College at Fredonia
	Acquisition of an NMR Spectrometer to Maintain Active Undergraduate Education and Research Programs	Hobart and William Smith Colleges
	Acquisition of a Dual Beam Focused Ion Beam System as a Regional Resource for Collaborative Research and Education in Missouri	University of Missouri-Rolla
	Acquisition of Fluorescence Microscopy System for Live Cell Biological Analysis and Chemical Analysis of Synthetic Materials in Research and Teaching	Fairleigh Dickinson University
	Acquisition of a Terrestrial Laser Scanning System for Polar Research	UNAVCO, Inc.
	Acquisition of a Low Pressure Chemical Vapor Deposition System for Applications in Micro/Nano Technology	University of Louisville
	Acquisition of an Atomic Force Microscope to Enhance Interdisciplinary Materials Research	Bucknell University
	Manufacturing of Nanocrystaline Silicon Materials	University of Rochester
	Acquisition of a Laser Scanning Confocal Microscope for Research and Training in Biology and Physics	Wake Forest University
	Development of a Hybrid Scanning Fluorescence and Sum Frequency Spectroscopy Imaging Microscope	University of Maine

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of Mass Spectrometers and Related Equipment to Create the ISU Interdisciplinary Lab for Elemental and Isotopic Analysis (ILEIA)	Idaho State University
	Acquisition of a Rapid Compression Machine for Chemical Kinetic Studies on Biofuels	Rowan University
	Acquisition of a Rapid Compression Machine for Chemical Kinetic Studies on Biofuels	Colorado State University
	Acquisition of Unique, High-Power Instrumentation for Future Distribution Systems Test and Evaluation	University of Arkansas
	Acquisition of an Inductively Coupled Plasma Etch System	University of Cincinnati
	Acquisition of a Confocal Raman/AFM Hybrid System	University of Texas at El Paso
	Acquisition of an Ultracentrifuge for Research and Undergraduate Teaching	State University of New York College at Oswego
	Acquisition of a High Performance Computing Cluster Dedicated to the Energy Sciences	Colorado School of Mines
	Acquisition of Multi-Modal Sensor Arrays for Rainforest Research	Organization for Tropical Studies Inc
	Acquisition of a Pulsed EPR Spectrometer for Miami University	Miami University
	Acquisition of the Second Phase of the Grid Laboratory of Wisconsin (GLOW-II)	University of Wisconsin-Madison
	Development of a New Paradigm for Apertureless Near-field Scanning Optical Microscope	University of California, Davis

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of an Ar Ion Laser for Photonic Bandgap Materials Research and Education	University of Texas - Pan American
	Acquisition of a Laser-Ablation System for High Resolution, Micro-Scale Analyses of Environmental Materials	State University of New York College of Environmental Science and Forestry
	Evolutionary Development of an Advanced Distributed Testbed	University of Utah
	Acquisition of Equipment to Simulate Collapse of Engineered Systems under Extreme Loads	University of Washington
	Acquisition of Instrumentation Supporting Quantitative Spectral and Image Analysis	Western Washington University
	Development of the Active Temperature Ozone and Moisture Microwave Spectrometer (ATOMMS) cm and mm-wave Occultation Instrument	University of Arizona
	Acquisition of Particle Image Velocimetry System for Study of Bluff Body Wakes and Shock-Accelerated Flows	University of Texas Brownsville
	Acquisition of a Test-bed for Next Generation Cognitive Radio Wireless Networks	San Diego State University Foundation
	Acquisition of an X-Ray scattering system for polymer and nanomaterials research and education	CUNY College of Staten Island
	Acquisition of Mobile Facility for Providing High-Resolution Input to Hydrologic Observatories	University of Iowa
	Acquisition of a Powder X-ray Diffractometer for Materials Chemistry Research and Education	University of South Dakota Main Campus
	Acquisition of Off-Axis Integrated-Cavity Output Spectroscopy Instruments for Ecological Research and Training	Northern Arizona University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of a Powder X-Ray Diffractometer for Multidisciplinary/Multi-institutional Research and Training	Lawrence University
	Acquisition of a Confocal Live Cell Imaging System	University of Connecticut
	Acquisition of a Distributed Computing Cluster for Multidisciplinary Research, Research Training, and Education	Austin Peay State University
	Acquisition of a Physical Properties Measurement System	Indiana University of Pennsylvania
	Acquisition of Equipment to Support Research and Education in Ecosystem Science and Resource Management	Paul Smith's College of Arts and Sciences
	Acquisition of a Live-Cell Confocal Imaging Microscope	University of Georgia Research Foundation Inc
	Acquisition of Equipment to Establish a Cognitive Sensorium and Visualization Facility	University of California, Merced
	Development of a Confocal Instrument for Spatially Resolved Luminescence Measurements in Geologic and Archaeological Dating and Radiation Dosimetry	Oklahoma State University
	Acquisition of an X-ray Diffraction Instrument for Interdisciplinary and Collaborative Research and Education in an Undergraduate Setting	Whitman College
	Acquisition of Computing Equipment to Enhance Computational Science Research	Kean University
	Acquisition of an Integrated Atmospheric Chemistry Mobile Laboratory	Washington State University
	Acquisition of a Thin Film Deposition System - Supporting Nanoscience and Nanotechnology Research and Education	Portland State University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of Signal Analysis Equipment for High Frequency Electrical and Optical Research	Lafayette College
	Acquisition of Instrumentation for Aqueous Biogeochemistry Investigations	Smith College
	Acquisition of Multicollector Thermal Ionization Mass Spectrometer (MC-TIMS) for Earth, Environmental, and Cross-disciplinary Research	Northwestern University
	Acquisition of a Full-Wave Interferometric Digital Radio System For Space Research and University Education	Inter American University of Puerto Rico San Juan
	Acquisition of a Mass Spectrometer to Enhance Undergraduate Research and Student Research Training	Winthrop University
	Acquisition of Instrumentation for a Biofuels Research Laboratory	University of Massachusetts Amherst
	Acquisition of a Material Testing System for Research and Educational Training in Static and Dynamic Characterization of Advanced Structural Nanocomposites	Tuskegee University
	Acquisition of instruments for biogeochemical analyses of carbon, nitrogen and phosphorus	Western Washington University
	Acquisition of an Atomic Force Microscope for Research and Education in Cellular and Molecular Biophysics	Johns Hopkins University
	Acquisition of 40Ar/39Ar Facilities at NM Tech	New Mexico Institute of Mining and Technology
	Acquisition of Eight-Channel Receiver System and RF Coils for Functional Neuroimaging	New York University
	Development of a System for Thin Film Deposition of Highly Ordered Organic Materials	University of Vermont & State Agricultural College

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of chlorine based reactive ion etcher	Brigham Young University
	Acquisition of an LTQ Mass Spectrometer	Oklahoma State University
	Acquisition of Hydroacoustic and Associated Instrumentation for Fisheries Research	State University of New York College at Oneonta
	Development of Enhanced T-Probe for Aircraft Measurement of Mixed Phase Ice-Water Cloud	University of Nevada Desert Research Institute
	Acquisition of Biogeochemical Analytical Instrumentation for Enhanced Interdisciplinary Research and Training	Arkansas State University Main Campus
	Acquisition of an Advanced Driving Simulator for Safety Research and Education	Arizona State University
	Acquisition of a Magnetic Resonance Imaging System for UCSB Brain Imaging Center	University of California, Santa Barbara
	Acquisition of a Confocal Laser Scanning Microscope for Research and Training in Biology and Biochemistry	Florida Institute of Technology
	Acquisition of a Variable-pressure Scanning Electron Microscope for Interdisciplinary Teaching and Research	University of Minnesota Duluth
	Acquisition of Analytical Instrumentation for a State-of-the-Art Proteomic Facility	William Marsh Rice University
	Instrument Development of Microfluidic-Based Flow-Injection Capillary Electrophoresis with Fiber-Optics Detection	California State Los Angeles University Auxiliary Services Inc.
	Development of Simultaneous Single Molecule Fluorescence and Atomic Force Microscopy	University of Pennsylvania

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of Terascale Data Analytic Platforms for Research in the Combinatorial and Graph Sciences Consortium	Howard University
	MRI-RUI: Acquisition of a SQUID Magnetometer for Materials Science Research and Education	Missouri State University
	Development of New Instrumentation to Measure Upper Extremity Motion for Research and Teaching in Rehabilitation Science, Bioengineering and Robotics	George Mason University
	Acquisition of Instrumentation for Creation of a Regional Undergraduate Biophysical Chemistry Research Cluster	University of Richmond
	Development of Unmanned Vehicle Systems as Research Platform for Autonomous Intelligence	The University Corporation, Northridge
	Acquisition of a High-Resolution Scanning Electron Microscope for an Interdisciplinary, Multi-User Facility Serving Life, Physical, and Materials Sciences	University of Wisconsin-Milwaukee
	Acquisition of an Inductively Coupled Plasma Etch System for Optoelectronic and Microelectronic Research and Training	Norfolk State University
	Acquisition of a Flow Cytometer for Multiparametric Analysis of Environmental, Microbial and Aquatic Samples	University of California, Merced
	Acquisition of a Real Time Digital Simulator for Power and Energy Systems Research and Education	Tennessee Technological University
	Acquisition of a high-efficiency scintillation detector for photon detection with rare isotopes	Michigan State University
	Acquisition of Equipment to Establish an Information Assurance Infrastructure for Research and Education	Dakota State University
	Acquisition of a 500 MHz Solid State NMR Spectrometer for Research and Research Training at Pacific Lutheran University and the South Puget Sound Area	Pacific Lutheran University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of a high-field NMR spectrometer	University of the Pacific
	Acquisition of PolarGrid: Cyberinfrastructure for Polar Science	Indiana University
	Acquisition of an Atomic Force Microscope for Fundamental Nanotribology Research	Luther College
	Acquisition of a Laser Microdissection Instrument	Mississippi State University
	Acquisition of Large Shared-Memory Computing for the Center for Computational Sciences	Duquesne University
	Acquisition of Drilling Rig and Accessories for *In Situ* Investigations of Slurry Trench Cutoff Walls	Bucknell University
	Acquisition of a CCD-based Single Crystal X-Ray Diffractometer	University of California, Irvine
	Acquisition of an Atomic Force Microscope System to Further Research and Educational Goals	University of the Sciences in Philadelphia
	Acquisition of a Scanning XPS Microprobe	Case Western Reserve University
	Acquisition of a Stereographic Projection System to Support Multidisciplinary Scientific Visualization	Florida State University
	Acquisition of an Experimental Platform for Wireless Multimedia Networking	Polytechnic University of New York
	Acquisition of a Laser Capture Microscope System for Research and Education at Clemson University	Clemson University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Isotope Ratio Mass Spectrometers for Environmental Research	University of Utah
	Acquisition of an Isothermal Titration Calorimeter and a Differential Scanning Calorimeter	San Jose State University Foundation
	High-Speed imaging facility to assess ultra-rapid biological movements	Williams College
	The Core Genomics Laboratory for Teaching and Research in Biotechnology	Villanova University
	Acquisition of Equipment to Upgrade the Pittsburgh Experimental Economics Laboratory	University of Pittsburgh
	Acquisition of a High Resolution Analytical Transmission Electron Microscope for the Miami University Electron Microscope Facility	Miami University
	Acquisition of a Laser Micromanipulation, Dissection and Catapulting System	University of Hawaii
	Acquisition of a State-of-the-Art X-ray Diffractometer for Research, Education and Training	Louisiana Tech University
	Acquisition of inductively coupled plasma etcher to support research and teaching in micro and nanodevices	Montana State University
	Acquisition of a High Performance Cluster for the University of Maine Scientific Grid Portal	University of Maine
	Acquisition of a Near-Field Optical Microscope with Spectroscopic Capabilities	University of Oregon Eugene
	Development of microwave quasi-optical instrumentation for control and detection of polar molecules	Yale University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of a Liquid Chromatograph Electron Spray Ionization Mass Spectrometer	Virginia Polytechnic Institute and State University
	Focused Ion Beam System for Nano Fabrication and Nano Machining of Materials	University of New Mexico
	Acquisition of Infrastructure to Enhance Research in Computer Science and Engineering in HPC in Puerto Rico	Polytechnic University of Puerto Rico
	Acquisition of a Large-Stroke, Piston-Type Wavemaker for Coastal Hazards Research and Education	Oregon State University
	Acquisition of a Primary Cluster for the SIO COMPAS Shared Computer Facility	University of California, San Diego Scripps Inst of Oceanography
	Development of a Mobile Fe-Resonance/Rayleigh/Mie Doppler Lidar	University of Colorado at Boulder
	Collaborative Research: Development of the Detector Package for the Super HMS in Hall C at JLab	Hampton University
	Acquisition of Tandem Mass Spectrometry Instrumentation for Integrated Studies of Emerging Contaminants in Water	University of Arizona
	Acquisition of Mobile Spatial Data Acquisition and Processing Technologies to Support Cross-Disciplinary Research and Student Training	Indiana University of Pennsylvania Research Institute
	Acquisition of Aerodyne High-Resolution, Time-of-Flight Aerosol Mass Spectrometer	Washington University
	Development of a Sonic IR Research Instrument for Nondestructive Testing	Rowan University
	Development of an Integrated Ion Scattering and Vibrational Spectroscopy Facility for Quantitative Analysis of Hydrogen for Research and Education	Rutgers University New Brunswick

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of Improved Optics and New Instrumentation for a Research and Instructional Observatory	Appalachian State University
	Acquisition of an FT-Raman Spectrometer for Interdisciplinary Art Materials Research and Education	The Art Institute of Chicago
	Acquisition of a 600 MHz Nuclear Magnetic Resonance Spectrometer	Oregon State University
	Acquisition of an advanced micro-Computed Tomography imaging facility	CUNY City College
	Acquisition of a Research-Dedicated fMRI Scanner at Stony Brook	State University of New York at Stony Brook
	Acquisition of an Advanced Computer Cluster for Computational Relativity and Gravitation	Rochester Institute of Technology
	Instrument Acquisition to Enable Time-Resolved Single-Molecule Fluorescence Measurements	Wheaton College
	Development of a Pulsed High Frequency Quasioptical Electron Spin Resonance Spectrometer	Northeastern University
	Acquisition of an X-Ray Diffractometer to Enhance Faculty and Undergraduate Collaborative Research	University of Minnesota Morris
	Acquisition of a Multi-Length Scale Ultra High-Resolution X-Ray Nanotomography Instrument	University of Illinois at Urbana-Champaign
	Acquisition of an Isotope-Ratio Mass Spectrometer Facility for East Georgia	Skidaway Institute of Oceanography
	Acquisition of a Mass Spectrometer System for Undergraduate Research at the University of St. Thomas and Associated Colleges of the Twin Cities	University of St. Thomas

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Acquisition of a Stereoscopic Molecular Tagging Velocimetry (sMTV)/ Molecular Tagging Thermometry (MTT) System	Clarkson University
	Acquisition of a Confocal Microscope	University of Maryland Baltimore County
	Acquisition of a spinning disk confocal microscope for rapid imaging of plant cellular processes	Samuel Roberts Noble Foundation, Inc.
	Acquisition of a Computational Cluster for Research and Training at the University of South Florida in Partnership with Eckerd College and the University of Tampa	University of South Florida
	Acquisition of an Environmental Scanning Electron Microscope for Visualization, Characterization and Manipulation of Nanoscale Systems	Carnegie Mellon University
	Acquisition of Major Instrumentation for Watershed Biogeochemistry Research	Vassar College
	Acquisition of a 3-Station Global Network of Automated Telescopes to Detect a Large Number of Nearby Transiting Extra-solar Planets	Smithsonian Institution Astrophysical Observatory
	An Ultra High Resolution Mass Spectrometer to Identify Novel Protein Sequences and Modifications from Extinct Organisms Such as Tyrannosaurus Rex	Beth Israel Deaconess Medical Center
	Development of an Autonomous Underwater Vehicle (AUV) for Benthic Research and Training	University of Puerto Rico Mayaguez
	Development of a High-Speed Confocal Microscope for 4D Live-Cell Imaging	University of California, Los Angeles
	Acquisition of a Supercomputing Cluster for Computational and Data-Intensive Applications in Science and Engineering	University of Arkansas
	Acquisition of Transmission Electron Microscope to Enhance Biology and Materials Sciences Research	Howard University

WHAT	NAME	LEAD OR PARTNERING INSTITUTION, ENTITY
	Collaborative Facility for Research on Aerogel Materials	Union College
	Acquisition of New Culture Chambers for the CCMP	Bigelow Laboratory for Ocean Sciences
	Acquisition of a High-throughput Genotyping Core	American Museum Natural History
	Acquisition of Instruments to Facilitate Molecular-Level Studies in Earth and Ocean Sciences	University of California, San Diego Scripps Institution of Oceanography
	Collaborative Research: Development of the Detector Package for the Super HMS in Hall C at JLab	North Carolina Agricultural & Technical State University
	Acquisition of a Scanning Electron Microscope for Undergraduate Research	Coe College
	Acquisition and Analysis of a Multi-Disciplinary Beowulf Cluster	Calvin College