

**Mid-Scale Research Infrastructure - Track 1 (MSRI-1)**

Facility/Project	Mid-Scale Program	Acronym	Associated Major Facility	Location	Stage	Recipient	DIR/DIV	Program Officer(s)	Phone	Email
<a href="#">Next Generation Event Horizon Telescope Design</a>	Track 1	ngEHT	n/a	Distributed	Design	Smithsonian Institution Astrophysics Observatory	MPS/AST	Sharp, Nigel A.	(703) 292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
<a href="#">Next Generation Wyoming King Air Atmospheric Research Aircraft</a>	Track 1	UWKA	NCAR	Laramie, WY	Implementation	University of Wyoming	GEO/AGS	Subhashree (Shree) Mishra	(703) 292-2979	<a href="mailto:sumishra@nsf.gov">sumishra@nsf.gov</a>
<a href="#">1.2 GHz NMR Spectrometer for National Gateway Ultrahigh Field NMR Center</a>	Track 1		n/a	Columbus, OH	Implementation	Ohio State University	BIO/DBI	Robert Fleischmann	(703) 292-7191	<a href="mailto:rfleisch@nsf.gov">rfleisch@nsf.gov</a>
<a href="#">Consortium Proposal for CMB-S4 Design Development</a>	Track 1	CMB-S4	CMB-S4	Distributed	Development	University of Chicago	GEO/OPP	Vladimir O. Papitashvili	(703) 292-7425	<a href="mailto:vpapita@nsf.gov">vpapita@nsf.gov</a>
<a href="#">Compact X-ray Free-Electron Laser Project</a>	Track 1	CXFEL	n/a	Tempe, AZ	Design	Arizona State University	BIO/DBI	Robert Fleischmann	(703) 292-7191	<a href="mailto:rfleisch@nsf.gov">rfleisch@nsf.gov</a>
<a href="#">A world-class Neutron Spin Echo Spectrometer for the Nation: UD-NIST-UMD Consortium</a>	Track 1		n/a	Gaithersburg, MD	Implementation	University of Delaware	MPS/DMR	Guebre X. Tessema	(703) 292-4935	<a href="mailto:gtessema@nsf.gov">gtessema@nsf.gov</a>
<a href="#">FABRIC: Adaptive programmable networked Research Infrastructure for Computer science and science Applications</a>	Track 1	FABRIC	n/a	Distributed	Implementation	University of North Carolina at Chapel Hill	CISE/CNS	Deepankar Medhi	(703) 292-2935	<a href="mailto:dmedhi@nsf.gov">dmedhi@nsf.gov</a>
<a href="#">Zettawatt-Equivalent Ultrashort pulse laser System</a>	Track 1	ZEUS	n/a	Ann Arbor, MI	Implementation	University of Michigan-Ann Arbor	MPS/PHY	Vyacheslav (Slava) Lukin	(703) 292-7382	<a href="mailto:vlukin@nsf.gov">vlukin@nsf.gov</a>
<a href="#">National Extreme Ultrafast Science Facility</a>	Track 1	NEXUS	n/a	Columbus, OH	Implementation	Ohio State University	MPS/CHE	Kelsey D. Cook	(703) 292-7490	<a href="mailto:kcook@nsf.gov">kcook@nsf.gov</a>
<a href="#">SAGE: A Software-Defined Sensor Network</a>	Track 1	SAGE	n/a	Distributed	Implementation	Northwestern University	CISE/OAC	Kevin Thompson	(703) 292-4220	<a href="mailto:kthompo@nsf.gov">kthompo@nsf.gov</a>
<a href="#">Community Seafloor Geodetic Infrastructure for the Measurement of Deformation</a>	Track 1	CSGIMD	n/a	La Jolla, CA	Implementation	University of California at San Diego, Scripps Institution of Oceanography	GEO/OCE	Gail Christeson	(703) 292-2952	<a href="mailto:gchriste@nsf.gov">gchriste@nsf.gov</a>
<a href="#">Observatory for Online Human and Platform Behavior</a>	Track 1	OOHPB	n/a	Boston, MA	Implementation	Northeastern University	SBE/SES	Joseph Whitmeyer	(703) 292-7808	<a href="mailto:jwhitmey@nsf.gov">jwhitmey@nsf.gov</a>
<a href="#">Next Generation Radar Designs</a>	Track 1	ngRD	n/a	Washington, DC	Design	Associated Universities, Inc.	MPS/AST	Nigel Sharp	(703) 292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
<a href="#">Facility for Open Research in a Compressed Environment</a>	Track 1	FORCE	n/a	Tempe, AZ	Implementation	Arizona State University	GEO/EAR	David Lambert	(703) 292-4736	<a href="mailto:dlambert@nsf.gov">dlambert@nsf.gov</a>
<a href="#">Preliminary &amp; Final Design of the 40T All Superconducting Magnet</a>	Track 1	40T SCM	n/a	Tallahassee, FL	Design	Florida State University	MPS/DMR	Leonard Spinu	(703) 292-2665	<a href="mailto:lspinu@nsf.gov">lspinu@nsf.gov</a>
<a href="#">A Deep Soil Ecotron facility to explore belowground communities and ecosystem processes</a>	Track 1	DSE	n/a	Moscow, ID	Implementation	University of Idaho	BIO/DBI	Robert Fleischmann	(703) 292-7191	<a href="mailto:rfleisch@nsf.gov">rfleisch@nsf.gov</a>
<a href="#">EduceLab: Infrastructure for Next-Generation Heritage Science</a>	Track 1	EduceLab	n/a	Lexington, KY	Implementation	University of Kentucky	CISE/IIS	Sylvia Spengler	(703) 292-7347	<a href="mailto:sspengle@nsf.gov">sspengle@nsf.gov</a>
<a href="#">Designing a global measurement infrastructure to improve Internet security</a>	Track 1	GMI3S	n/a	La Jolla, CA	Design	University of California-San Diego	CISE/OAC	Kevin Thompson	(703) 292-4220	<a href="mailto:kthompo@nsf.gov">kthompo@nsf.gov</a>
<a href="#">National Silicon Carbide Research Fabrication Facility</a>	Track 1	MUSIC	n/a	Fayetteville, AR	Implementation	University of Arkansas	ENG/ECCS	Rosa Lukaszew	(703) 292-8103	<a href="mailto:rlukasze@nsf.gov">rlukasze@nsf.gov</a>
<a href="#">Design and Construction of a New Generation of Ocean-Bottom Seismographs for the U.S. Academic Community</a>	Track 1	ngOBS	n/a	Woods Hole, MA	Implementation	Woods Hole Oceanographic Institution	GEO/OCE	Gail Christeson	(703) 292-2952	<a href="mailto:gchriste@nsf.gov">gchriste@nsf.gov</a>
<a href="#">Atmospheric Science and Chemistry Measurement Network</a>	Track 1	ASCENT	NCAR	Atlanta, GA (Distributed)	Implementation	Georgia Tech	GEO/AGS	Nicholas Anderson	(703) 292-4715	<a href="mailto:nanderso@nsf.gov">nanderso@nsf.gov</a>
<a href="#">OMEGA-EP-Pumped Optical Parametric Amplifier Line (EP-OPAL) Facility Design</a>	Track 1	EP OPAL	n/a	Rochester, NY	Design	University of Rochester	MPS/PHY	Vyacheslav (Slava) Lukin	(703) 292-7382	<a href="mailto:vlukin@nsf.gov">vlukin@nsf.gov</a>
<a href="#">SPHERE - Security and Privacy Heterogeneous Environment for Reproducible Experimentation</a>	Track 1	SPHERE	n/a	Los Angeles, CA	Implementation	University of Southern California	CISE/OAC	Robert Beverly	(703) 292-7068	<a href="mailto:rbeverly@nsf.gov">rbeverly@nsf.gov</a>
<a href="#">National Testing Facility for Enhancing Wind Resiliency of Infrastructure in Tornado-Downburst-Gust Front Events</a>	Track 1	NEWRITE	NHERI	Ames, IA	Design	Iowa State University	ENG/CMMI	Joy M. Pauschke	(703) 292-7024	<a href="mailto:jpauschk@nsf.gov">jpauschk@nsf.gov</a>
<a href="#">Creating an Offshore Subduction Zone Observatory in Cascadia with the Ocean Observatories Initiative Regional Cabled Array</a>	Track 1	COSZO	n/a	Seattle, WA	Implementation	University of Washington	GEO/OCE	Gail Christeson	(703) 292-2952	<a href="mailto:gchriste@nsf.gov">gchriste@nsf.gov</a>

**Mid-Scale Research Infrastructure - Track 2 (MSRI-2)**

Facility/Project	Mid-Scale Program	Acronym	Associated Major Facility	Location	Stage	Recipient	DIR/DIV	Program Officer(s)	Phone	Email
<a href="#">High Magnetic Field X-Ray Beamline</a>	Track 2	HMF	n/a	Ithaca, NY	Implementation	Cornell University	MPS/DMR	Guebre X. Tessema	(703) 292-4935	<a href="mailto:gtessema@nsf.gov">gtessema@nsf.gov</a>
<a href="#">Distributed Energy Resource Connect</a>	Track 2	DERConnect	n/a	San Diego, CA	Implementation	University of California at San Diego	ENG/ECCS	Usha Varshney	(703) 292-5385	<a href="mailto:uvarshne@nsf.gov">uvarshne@nsf.gov</a>
<a href="#">Global Ocean Biogeochemistry Array</a>	Track 2	GO-BGC	n/a	Distributed	Implementation	Monterey Bay Aquarium Research Institute	GEO/OCE	Kandace S. Binkley	(703) 292-7577	<a href="mailto:kbinkley@nsf.gov">kbinkley@nsf.gov</a>
<a href="#">Consortium: Network for Advanced NMR</a>	Track 2	NAN	n/a	Distributed	Implementation	University of Connecticut Health Center	GEO/OCE	Steve Ellis	(703) 292-7876	<a href="mailto:stellis@nsf.gov">stellis@nsf.gov</a>
<a href="#">Research Data Ecosystem (RDE)</a>	Track 2	RDE	n/a	Ann Arbor, MI	Implementation	University of Michigan-Ann Arbor	SBE/SMA	Cheryl Eavey	(703) 292-7269	<a href="mailto:ceavey@nsf.gov">ceavey@nsf.gov</a>
<a href="#">CXFEL: Compact X-ray Free Electron Laser</a>	Track 2	CXFEL	n/a	Tempe, AZ	Implementation	Arizona State University	BIO/DBI	Steven E. Ellis	(703) 292-7876	<a href="mailto:stellis@nsf.gov">stellis@nsf.gov</a>

**Mid-Scale Research Infrastructure - Track 2 (MSRI-2)**

<a href="#">Advanced Millimeter Survey Instrumentation in Chile</a>	Track 2	ASO	n/a	Chile	Implementation	University of Pennsylvania	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
<a href="#">Airborne Phased Array Radar</a>	Track 2	APAR	NCAR	Boulder, CO	Implementation	National Center for Atmospheric Research / University Corporation for Atmospheric Research	GEO/AGS	Maria Womack	(703) 292-2620	<a href="mailto:mwomack@nsf.gov">mwomack@nsf.gov</a>

**Mid-Scale Research Infrastructure - Other (Divisional, including solicited and unsolicited)**

Facility/Project	Mid-Scale Program	Acronym	Associated Major Facility	Location	Stage	Recipient	DIR/DIV	Program Officer(s)	Phone	Email
IceCube Upgrade, Phase 1	I-IRP (PHY)	ICNO	ICNO	Antarctica	Implementation	University of Wisconsin	MPS/PHY GEO/PLR	William Wester; Vladimir O. Papitashvili	(703) 292-4677; (703) 292-7425	<a href="mailto:vpapita@nsf.gov">vpapita@nsf.gov</a> ; <a href="mailto:wwester@nsf.gov">wwester@nsf.gov</a>
<a href="#">Advanced Modular Incoherent Scatter Radar</a>	n/a	AMISR	n/a	Fairbanks, AK	Operations	SRI International	MPS/AST GEO/AGS	Roman Makarevich	(703) 292-7207	<a href="mailto:rmakarev@nsf.gov">rmakarev@nsf.gov</a>
<a href="#">Center for High Energy X-ray Science (NSF-CHEXS)</a>	n/a	CHEXS	n/a	New York	Operations	Cornell University	MPS/DMR	Guebre X. Tessema	(703) 292-4935	<a href="mailto:gtessma@nsf.gov">gtessma@nsf.gov</a>
<a href="#">National Deep Submergence Facility</a>	OFES	NDSF	n/a	Mobile	Operations	Woods Hole Oceanographic Institution	GEO/OCE	Brian P. Midson	(703) 292-8145	<a href="mailto:bmidsn@nsf.gov">bmidsn@nsf.gov</a>
<a href="#">Natural Hazards Engineering Research Infrastructure</a>	n/a	NHERI	n/a	Distributed	Operations	11 Individual Awards to Various Universities	ENG/CMMI	Joy M. Pauschke	(703) 292-7024	<a href="mailto:jpauschk@nsf.gov">jpauschk@nsf.gov</a>
<a href="#">-- National Full-scale Testing Infrastructure for Community Hardening in Extreme Wind, Surge, and Wave Events</a>	Track 1	NICHE	NHERI	Miami, FL	Design	Florida International University	ENG/CMMI	Joy M. Pauschke	(703) 292-7024	<a href="mailto:jpauschk@nsf.gov">jpauschk@nsf.gov</a>
<a href="#">National Nanotechnology Coordinated Infrastructure</a>	n/a	NNCI	n/a	Distributed	Operations	16 member university consortium	ENG/ECCS	Richard Nash	(703) 292-5394	<a href="mailto:rnash@nsf.gov">rnash@nsf.gov</a>
<a href="#">The Keck Planet Finder</a>	MSIP (AST)	KPF	n/a	Hawaii	Implementation	California Institute of Technology	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
<a href="#">Design Development of Innovative High Throughput CMB Telescope for the South Pole</a>	MSIP (AST)	SPTMA	n/a	Antarctica	Design	University of Chicago	GEO/OPP	Vladimir Papitashvili	(703)292-7425	<a href="mailto:vpapita@nsf.gov">vpapita@nsf.gov</a>
Exploring & Exploiting the Dynamic Optical Sky	MSIP (AST)	ZTF-II	n/a	Palomar Mountain, CA	Operations	California Institute of Technology	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
Large Angular Scale Polarization Survey of the Cosmic Microwave Background - Phase Two	MSIP (AST)	CLASS	n/a	Chile	Implementation	Johns Hopkins University	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
U.S. Community Access to Las Cumbres Observatory Global Telescope Network - A Time-Domain Follow-up System	MSIP (AST)	AccessLCOGTN	n/a	Distributed	Operations	Las Cumbres Observatory Global Telescope Network	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
US Community Access to the Large Millimeter Telescope	MSIP (AST)		n/a	Mexico	Operations	University of Massachusetts Amherst	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
The Event Horizon Telescope: Resolving Black Holes in Time and Space	MSIP (AST)	RBHITS	n/a	Distributed	Operations	Northeast Radio Observatory Corp	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
SDSS 2020: Delivering Innovative Science to the Community, Incubating the Community's Scientific Innovators	MSIP (AST)	SDSS-V	n/a	New Mexico	Implementation	Astrophysical Research Consortium	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
The Deep Sky Every Minute: Developing the Argus Array	MSIP (AST)		n/a	Mount Laguna, CA	Design	University of North Carolina at Chapel Hill	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
BL3 Neutron Lifetime Apparatus	I-IRP (PHY)	BL3	n/a	Knoxville, Tennessee	Implementation	Tulane University	MPS/AST	Allena Opper	(703)292-8958	<a href="mailto:aopper@nsf.gov">aopper@nsf.gov</a>
DarkSide-20k	I-IRP (PHY)	DarkSide	n/a	Italy	Implementation	Princeton University	GEO/OPP	Darren Grant	(703)292-8977	<a href="mailto:dgrant@nsf.gov">dgrant@nsf.gov</a>
Collaborative Research: Apparatus for Normalization and Systematic Control of the MOLLER Experiment	I-IRP (PHY)	MOLLER	n/a	Jefferson Lab, Newport News, VA	Implementation	9 Individual Awards to Various Universities	MPS/AST	Allena Opper	(703)292-8958	<a href="mailto:aopper@nsf.gov">aopper@nsf.gov</a>
Consortium Proposal for CMB-S4 Continuing Design	MSIP (AST)	CMB-S4	CMB-S4	Distributed	Development	University of Chicago	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
ngVLA Antenna Prototyping and Early Science	MSIP (AST)	ngVLA	ngVLA	New Mexico	Implementation	Associated Universities, Inc.	MPS/AST	Nigel Sharp	(703)292-4905	<a href="mailto:nsharp@nsf.gov">nsharp@nsf.gov</a>
Arecibo Site	n/a	AO	n/a	Puerto Rico	Operations	GENCO	MPS/AST	Donna O'Malley	(703) 292-7319	<a href="mailto:domalley@nsf.gov">domalley@nsf.gov</a>