

NOIRLab Partners and Tenants Master List

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This document lists all NOIRLab/NSF/AURA partners and tenants. **Bold** indicates international partners. This list and the figures do not include 150+ Gemini, CTIO and KPNO Instrumentation partners, as well as ~10 Astro Data Lab/Astro Data Archive data-release hosting partners.

CTIO Tenants & Partners



Telescope	Project Mission	Lead Institution	Consortium Members
SOAR Telescope (NSF 33.4%)			 Ministry of Science, Technology and Innovation of Brazil (MCTI) 34.1% (Brazil) University of North Carolina Chapel Hill (NC) 18.6% Michigan State University (MI) 13.9%
SMARTS 1.5-meter Telescope SMARTS 1.3-meter Telescope SMARTS 1.0-meter Telescope SMARTS 0.9-meter Telescope	RVs of exoplanet host stars; Near-Earth Object discovery and recovery; PI science	Georgia State University ***	 Georgia State University (GA) Astronomical Research Institute (IL) RECONS Institute (PA) State University of New York (NY)
Andes Lidar Observatory	Upper-atmosph eric physics	Andes Lidar Observatory	 University of Illinois (IL) Embry-Riddle Aeronautical University (FL) Aerospace Corporation (CA)
Curtis Schmidt Telescope /0.61m	Not currently operating	University of Michigan (MI)	
CTIO GONG	Part of global network to study solar oscillations	National Solar Observatory (CO)	
KMTNet 1.6-meter Telescope	Part of global network of wide-field imagers;	Korea Astronomy and Space Science Institute	



Telescope	Project Mission	Lead Institution	Consortium Members
	microlensing search for exoplanets, discovery of transient objects	(South Korea)	
Las Cumbres Observatory 1-meter Telescope (#4) (Stellan-A) Las Cumbres Observatory 1-meter Telescope (#5) (Stellan-B) Las Cumbres Observatory 1-meter Telescope (#9) (Stellan-C) Las Cumbres Observatory 0.4-meter Telescope (#9) (Aqawan A) Las Cumbres Observatory 0.4-meter Telescope (#12) (Aqawan B) ASAS-SN 2 ASAS-SN 5	Part of dynamically scheduled global network; follow-up of transient objects	Las Cumbres Observatory Global Telescope Network (CA)	
MEarth-South Observatory 8x 0.4m	Not currently operating	Harvard-Smiths onian Center for Astrophysics (MA)	
PROMPT-1 Telescope PROMPT-2 Telescope PROMPT-3 Telescope PROMPT-5 Telescope PROMPT-6 Telescope PROMPT-7 Telescope Evryscope-South Telescope	GRB follow-up, Discovery and follow-up of transient objects, student training and research, K-12 education	University of North Carolina at Chapel Hill (NC)	 University of North Carolina, Chapel Hill (NC) Astro Optik GmbH (Germany) National Astronomical Research Institute of Thailand (Thailand)
SARA Cerro Tololo Telescope	Student research	Florida Institute of Technology (FIT)	 Florida Institute of Technology (FL) East Tennessee State University (TN) Florida International University (FL) Valdosta State University (GA)



Telescope	Project Mission	Lead Institution	Consortium Members
			 Clemson University (SC) Ball State University (IN) Agnes Scott College (GA) University of Alabama (AL) Valparaiso University (IN) Butler University (IN) Texas A&M University-Commerce (TX) Embry-Riddle Aeronautical University (FL) Instituto de Astrofísica de Canarias (Spain) Florida Gulf Coast University (FL) University of Delaware (DE) Mount Cuba Observatory (DE)
T80-South Telescope	S-Plus wide-field multi-band survey	Institute of Astronomy, Geophysics, and Atmospheric Sciences of São Paulo (IAG-USP) (Brazil)	
US Naval Observatory Deep South Telescope	Astrometric reference frame determination	US Naval Observatory (DC)	
Wisconsin H-Alpha Mapper	Wisconsin H-alpha mapper	University of Wisconsin–Madi son (WI)	
SSI Airglow	Upper Atmospheric Physics	Scientific Solutions inc (NH)	
CAMS Chile Cerro Tololo	All Sky meteor camera	SETI Institute (CA)/NASA Ames (CA)	
MicroObservatory Donald	Public outreach	Harvard-Smiths onian Center for Astrophysics (MA)	

^{***} The SMARTS Consortium is currently negotiating a new agreement under which there will be a change in lead institution.



CSDC Partners



Open-access time allocation for non-federal observatories:

- Keck Observatory (HI)
- Las Cumbres Observatory Global Telescope Network (CA)
- Center for High Angular Resolution Astronomy (CHARA) (CA)
- Large Binocular Telescope (recently ended) (AZ)

Astro Data Lab/Astro Data Archive major data-release hosting:

- Dark Energy Survey collaboration (see institutions under CTIO)
- Dark Energy Spectroscopic Instrument (DESI)/Legacy Imaging Surveys collaboration (see institutions under KPNO)
- DECam Plane Survey (DECaPS) collaboration
- DECam Local Volume Exploration Survey (DELVE) collaboration
- NOIRLab Source Catalog/Montana State University
- Survey of the Magellanic Stellar History (SMASH) collaboration
- Sloan Digital Sky Survey IV (SDSS-IV)

ANTARES alert brokering partners:

- University of Arizona (founding partner) (AZ)
- University of Illinois at Urbana-Champaign (development partner) (IL)
- Space Telescope Science Institute (STScI; development partner) (MD)
- Heising-Simons Foundation (funding partner) (CA)
- Zwicky Transient Facility (alert provider) (CA)
- DECam Alliance for Transients collaboration (alert provider)
- Northern Arizona University (Solar System Notification and Alert Processing System (SNAPS, downstream client system) (AZ)
- Purdue University (Recommender Engine For Intelligent Transient Tracking (REFITT), downstream client system) (IN)

Other partners:

- LINCC Frameworks Project/LSST Corporation (AZ)
- University of La Serena (Chile)



Gemini Partners



Funding (The Gemini International Partnership, NSF 66.9%):

- National Research Council of Canada (NRC) (Canada) (17.8%)
- The Ministry of Science, Technology and Innovation of Brazil (Brazil) (6.4%)
- The Ministry of Science, Technology and Innovation of Argentina (Argentina) (2.0%)
- The Korea Astronomy and Space Institute (KASI) (South Korea) (6.9%)

Hosting Partners:

- The Chilean National Agency for Research and Development (ANID) (Chile)
- University of Hawaii, USA

Collaborative Research:

- Australian Astronomical Observatory (Australia)
- Australian Research Council (Australia)
- California Institute of Technology (CA)
- Canada-France-Hawaii Telescope (HI)
- Southwestern Research Institute (TX)

In-Kind Support:

- Australian National University (Australia)
- The Chilean National Agency for Research and Development (ANID) (Chile)
- Hawaii (county) Department of Education (HI)
- Hawaii (state) Department of Education (HI)
- Municipality of La Serena (Chile)
- University of La Serena (Chile)

Financial Support (Limited Term Participation Agreements)

- Ben-Gurion University (Israel)
- Weizmann Institute of Science (Israel)



KPNO Tenants & Partners



Telescope	Project Mission	Lead Institution	Consortium Members
Nicholas U. Mayall 4-meter Telescope			1. DOE (DC)
WIYN 3.5-meter Telescope			 Indiana University (IN) University of Wisconsin (WI) Penn State University (PA) Purdue University (IN) University of California, Irvine (CA) NASA (HQ)
KPNO 2.1-meter Telescope	Imaging of transients	California Institute of Technology (CA)	
Robotically Controlled Telescope	Remote observation of objects of interest to consortium members	Western Kentucky University (WKU)	 Western Kentucky University (KY) Planetary Science Institute (AZ) South Carolina State University (SC) Villanova University (PA)
WIYN 0.9-meter Telescope	Student research	TBD (the WIYN 0.9m operates as its own collaboration within the broader WIYN consortium)	 Indiana University (IN) Five College Astronomy Department (MA) Rochester Institute of Technology (NY) Austin Peay State University (TN) Sejong University (South Korea)
SARA Kitt Peak Telescope	Student research	Florida Institute of Technology (FIT)	 Florida Institute of Technology (FL) East Tennessee State University (TN) Florida International University (FL) Valdosta State University (GA) Clemson University (SC) Ball State University (IN) Agnes Scott College (GA) The University of Alabama (AL) Valparaiso University (IN) Butler University (IN) Texas A&M University-Commerce (TX) Embry-Riddle Aeronautical University (FL) Instituto de Astrofísica de Canarias (Spain) Florida Gulf Coast University (FL) University of Delaware (DE) Mount Cuba Observatory (DE)



Telescope	Project Mission	Lead Institution	Consortium Members
McGraw-Hill 1.3-meter Telescope Hiltner 2.4-meter Telescope	PI science, student training	Dartmouth	 Columbia University (NY) Dartmouth College (NH) Ohio State University (OH) Ohio University (OH) University of Michigan (MI)
UArizona Bok 2.3-meter Telescope	PI science, student training	UA Steward Observatory	1. University of Arizona (AZ)
UArizona 1.8-meter Spacewatch Telescope UArizona 0.9-meter Spacewatch Telescope	NEA follow-up	UA Lunar & Planetary Lab	1. University of Arizona (AZ)
UArizona 12-meter Telescope	PI science, EHT, student training	UA Steward Observatory	1. University of Arizona (AZ)
Very Long Baseline Array Dish	VLBA	NRAO	1. NRAO (VA)
Burrell Schmidt Telescope	Deep imaging	Case Western Reserve U.	Case Western Reserve University (OH)
Visitor Center 0.5-meter Telescope Visitor Center Levine 0.4-meter Telescope Visitor Center Roll Off Roof Observatory	Public outreach	Kitt Peak Visitor Center	
Solar And Remote Imaging Observatory (SOLARIO)	Public outreach	Kitt Peak Visitor Center	
McMath-Pierce Solar Telescope	Public outreach	Windows on the Universe Center for Astronomy Outreach	1. Kitt Peak Visitor Center
UArizona SuperLotis Telescope			1. University of Arizona (AZ)
0.9-meter Coudé Feed Telescope			
KPNO DIMM			
NEID Solar Telescope			



US-ELTP Partners

GMT:

- 1. Arizona State University (AZ)
- 2. Astronomy Australia Limited (Melbourne, Australia)
- 3. Australian National University (Canberra, Australia)
- 4. Carnegie Institution for Science (DC)
- 5. Harvard University (MA)
- 6. Korea Astronomy and Space Science Institute (KASI) (South Korea)
- 7. Harvard-Smithsonian Center for Astrophysics (MA)
- 8. Texas A&M University (TX)
- 9. University of Arizona (AZ)
- 10. University of Chicago (IL)
- 11. University of Texas at Austin (TX)
- 12. São Paulo Research Foundation (FAPESP) (Brazil)
- 13. Weizmann Institute of Science (Israel)

TMT:

- Full Members
 - California Institute of Technology (CA)
 - Department of Science and Technology (New Delhi, India)
 - National Astronomical Observatories of the Chinese Academy of Sciences (Chaoyang, China)
 - National Institutes of Natural Sciences/National Astronomical Observatory of Japan (NAOJ) (Tokyo, Japan)
 - National Research Council of Canada (Canada)
 - University of California
- Observers
 - Gordon and Betty Moore Foundation (CA)



Rubin Operations Partners

Funding:

• Department of Energy (50%) (DC)



Operations:

• SLAC National Accelerator Laboratory (50%) (CA)

In-Kind Contributors:

Country	Institute	Institute Full Name
Argentina	OAC-IATE	Instituto de Astronomía Teórica y Experimental at the Observatorio Astronómico de Córdoba
Australia	AAL	Astronomy Australia Limited
Brazil	LineA	Laboratório Interinstitucional de e-Astronomia
Canada	LSST:Canada	LSST Canada
Croatia	RBI	Ruđer Bošković Institute
Czech Republic	FZU	Institute of Physics of the Czech Academy of Sciences
Denmark	IDA	The Danish Society of Engineers
Spain	BCN_MAD	Barcelona Madrid
Spain	IAC	Instituto de Astrofísica de Canarias
France	IN2P3	The French National Institute of Nuclear and Particle Physics (IN2P3)
Germany	ARI_ZAH	The Astronomical Calculation Institute
Germany	GCCL	German Centre for Cosmological Lensing
Germany	LMU, Munich	Ludwig Maximilian University of Munich
Germany	MPA	Max-Planck-Institute for Astrophysics
Germany	MPE	Max-Planck-Institute for Eextraterrestrial Physics
Germany	MPIA	Max-Planck-Institute for Astronomy
Hungary	Konkoly	Konkoly Observatory
India	IUCAA	Inter-University Centre for Astronomy and Astrophysics
India	NCRA	National Centre for Radio Astrophysics
India	IIT-Bombay	Indian Institute of Technology Bombay
India	TIFR	Tata Institute of Fundamental Research
India	IIT-Indore	Indian Institute Technology Indore
India	IIA	Indian Institute of Astrophysics
Israel	ULTRASAT	Ultraviolet Transient Astronomy Satellite
Italy	INAF	The National Institute for Astrophysics
Japan	JPG	Japan Participation group



Country	Institute	Institute Full Name
Korea	KASI	Korea Astronomy and Space Science Institute
Malta	ISSA	Institute of Space Sciences and Astronomy
Mexico	UNAM	The National Autonomous University of Mexico
Netherlands	Utrecht	University of Utrecht
New Zealand	Auckland	University of Auckland
Poland	NCBJ	National Center for Nuclear Research (NCBJ)
Serbia	SAGNT	Astronomical Observatory of Belgrade
Serbia	STG	Astronomical Observatory of Belgrade
Slovenia	UNG	The University of Nova Gorica
Sweden	Stockholm	Stockholm University
Switzerland	EPFL	Swiss Federal Institute of Technology Lausanne
Switzerland	ETH	Swiss Federal Institute of Technology in Zürich
South Africa	SAAO	South African Astronomical Observatory
Taiwan	ASIAA	Academia Sinica Institute of Astronomy and Astrophysics
Taiwan	NCU	National Central University
Turkey	AKDENIZ	Akdeniz University
UK	Oxford	Oxford University
UK	LSST:UK	Royal Observatory Edinburgh Queen's University Belfast Oxford University University of Southampton University of Hertfordshire University of Exeter University College London University of Birmingham



Instruments

CTIO Instrumentation Partners

Dark Energy Camera (DECam)

The Dark Energy Camera (DECam), was constructed by the Dark Energy Survey (DES) collaboration.

Funding for the DES Projects was been provided by:

- Department of Energy
- National Science Foundation
- Ministry of Science and Education (Spain)
- Science and Technology Facilities Council (United Kingdom)
- Higher Education Funding Council for England (United Kingdom)
- National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign (IL)
- Kavli Institute for Cosmological Physics at the University of Chicago
- Center for Cosmology and AstroParticle Physics at the Ohio State University
- Mitchell Institute for Fundamental Physics and Astronomy at Texas A&M University
- Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro (Brazil)
- The Brazilian National Council for Scientific and Technological Development (Brazil)
- Ministry of Science, Technology and Innovation of Brazil (Brazil)
- German Research Foundation(Germany)

And the Collaborating Institutions in the Dark Energy Survey are:

- Argonne National Laboratory
- University of California at Santa Cruz (CA)
- University of Cambridge (UK)
- Center for Energy, Environmental and Technological Research (Spain)
- University of Chicago
- University College London (United Kingdom)
- DES-Brazil Consortium (Brazil)
 - The Brazilian Center for Research in Physics (Brazil)
 - São Paulo State University (Brazil)
 - Observatório Nacional (Brazil)
 - Valongo Observatory (Brazil)
 - The University of São Paulo (Brazil)
 - Federal University of Rio Grande do Sul (Brazil)
 - The State University of Campinas (Brazil)
- University of Edinburgh (United Kingdom)
- Swiss Federal Institute of Technology in Zürich (Switzerland)
- Fermi National Accelerator Laboratory
- University of Illinois at Urbana-Champaign
- Institute of Space Sciences (Spain)
- Institut de Física d'Altes Energies (Spain)



- Lawrence Berkeley National Laboratory
- Ludwig Maximilian University of Munich & the Excellence Cluster Universe (Germany)
- University of Michigan
- NSF's NOIRLab
- University of Nottingham (United Kingdom)
- Ohio State University
- OzDES Membership Consortium
 - Australia
 - Australian Astronomical Observatory
 - The Australian National University
 - The ARC Centre of Excellence for All-Sky Astrophysics (CAASTRO)
 - CSIRO Astronomy & Space Science (CASS)
 - Macquarie University
 - **■** The University of Melbourne
 - Monash University
 - **■** The University of Queensland
 - Swinburne University of Technology
 - Sydney University
 - Europe
 - **■** The University of Cambridge
 - The University of Portsmouth Institute of Cosmology and Gravitation
 - The University of Southampton
 - University College London
 - Institut de Ciències de l'Espai, IEEC/CSIC (Barcelona)
 - North America
 - Fermi National Accelerator Laboratory (FNAL)
 - Lawrence Berkeley National Laboratory (LBL)
 - The University of North Dakota
 - **■** The Ohio State University
 - The University of Pennsylvania
 - **■** Stanford University
 - Africa
 - University of the Western Cape
- University of Pennsylvania
- University of Portsmouth (United Kingdom)
- SLAC National Accelerator Laboratory
- Stanford University
- University of Sussex (United Kingdom)
- Texas A&M University

Gemini Instrumentation Partners

- Southwest Research Institute (SCORPIO)
- Fractal SA (SCORPIO)



- George Washington University (SCORPIO)
- Space Telescope Science Institute (GPI, SCORPIO)
- John Hopkins University (SCORPIO)
- Agencia Estatal Consejo Superior de Investigaciones Científicas de España (OCTOCAM/SCORPIO)
- University Notre Dame (GPI 2.0)
- University of California San Diego (GPI 2.0) (CA)
- Herzberg Astronomy and Astrophysics, NRC (GMOS-S/N, GIRMOS, GNAO RTC, GPI)
- University of Toronto (GIRMOS)
- Korea Astronomy and Space Science Institute (IGRINS-2)
- Macquarie University (GHOST)
- Australian National University (GHOST)
- Software Design Ideas (GHOST)
- Australian Astronomical Observatory (GHOST)
- Durham University (GMOS-S/N, GNIRS IFUs)
- Texas AM University (K2F2/GPOL)
- University of Florida (T-ReCS, FLAMINGOS-2)
- University of Denver/Colorado Seminary (GPOL)
- University of Texas Austin (IGRINS, TEXES)
- University of Galway (GASP)
- University of California Santa Cruz (POLISH) (CA)
- Keck Observatory, California Institute of Technology (Laser agreement) (CA)
- University of Chicago (MAROON-X)
- University of Stanford (GPI relocation)
- Canada-France Hawaii Telescope (GRACES/ESPaDOnS)
- NASA Ames Research Center ('Alopeke & Zorro)
- American Museum of Natural History (GPI)
- Dunlap Institute (GPI)
- NASA Jet Propulsion Laboratory (GPI)
- Lawrence Livermore National Lab (GPI)
- Lowell Observatory (GPI)
- SETI Institute (GPI)
- University of Montreal (GPI)
- University of California, Berkeley (GPI) (CA)
- University of California, Los Angeles (GPI) (CA)
- University of Georgia (GPI)
- Institute for Astronomy, University of Hawaii (NIRI)
- The National Research Council of Canada (GNAO)



Other Gemini Instrumentation agreements:

- Cambridge Innovations (DM0)
- Lockheed Martin Coherent Technologies (Lasers)
- Xinetics, Northrop Grumman (DM0)
- Flat Wavefronts Ltd. (GNAO)
- Officina Stellare (GNAO, SCORPIO) (Italy)
- Toptica Photonics (Lasers) (Germany)

KPNO Instrumentation Partners

DESI Member Institutions:

- Aix-Marseille University Regional Participation Group (France)
- Argonne National Laboratory
- Barcelona-Madrid Regional Participation Group (Spain)
- Brookhaven National Laboratory
- Boston University
- Brazil Regional Participation Group (Brazil)
- Carnegie Mellon University
- CEA-IRFU, Saclay (France)
- China Participation Group (China)
- Cornell University
- Durham University
- Swiss Federal Institute of Technology Lausanne (Switzerland)
- Swiss Federal Institute of Technology in Zürich (Switzerland)
- Fermi National Accelerator Laboratory
- Granada-Madrid-Tenerife Regional Participation Group (Spain)
- Harvard University
- Kansas State University
- Korea Astronomy and Space Science Institute (South Korea)
- Korea Institute for Advanced Study (South Korea)
- Lawrence Berkeley National Laboratory
- Laboratoire de Physique Nucléaire et de Hautes Énergies (France)
- Ludwig Maximilians University (Germany)
- Max Planck Institute (Germany)
- Mexico Regional Participation Group (Mexico)
- New York University (NY)
- Ohio University
- Perimeter Institute (Canada)
- Shanghai Jiao Tong University (China)
- Siena College
- SLAC National Accelerator Laboratory
- Southern Methodist University
- Swinburne University (Australia)
- The Ohio State University
- University of the Andes (Columbia)

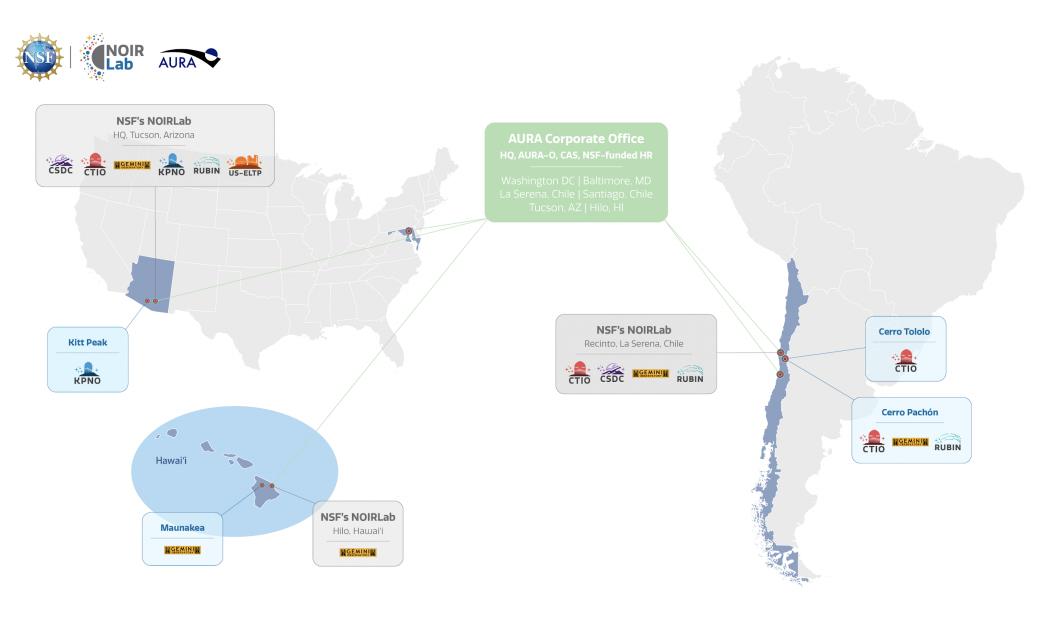


- University of Arizona (AZ)
- University of Barcelona (Spain)
- University of California, Berkeley (CA)
- University of California, Irvine (CA)
- University of California, Santa Cruz (CA)
- University College London (UK)
- University of Edinburgh (UK)
- University of Florida
- University of Michigan at Ann Arbor
- University of Pennsylvania
- University of Pittsburgh
- University of Portsmouth (UK)
- University of Queensland (Canada)
- University of Rochester
- University of Toronto (Canada)
- University of Utah
- University of Waterloo (Canada)
- University of Wyoming
- University of Zurich (Switzerland)
- UK Regional Participation Group (UK)
- Yale University

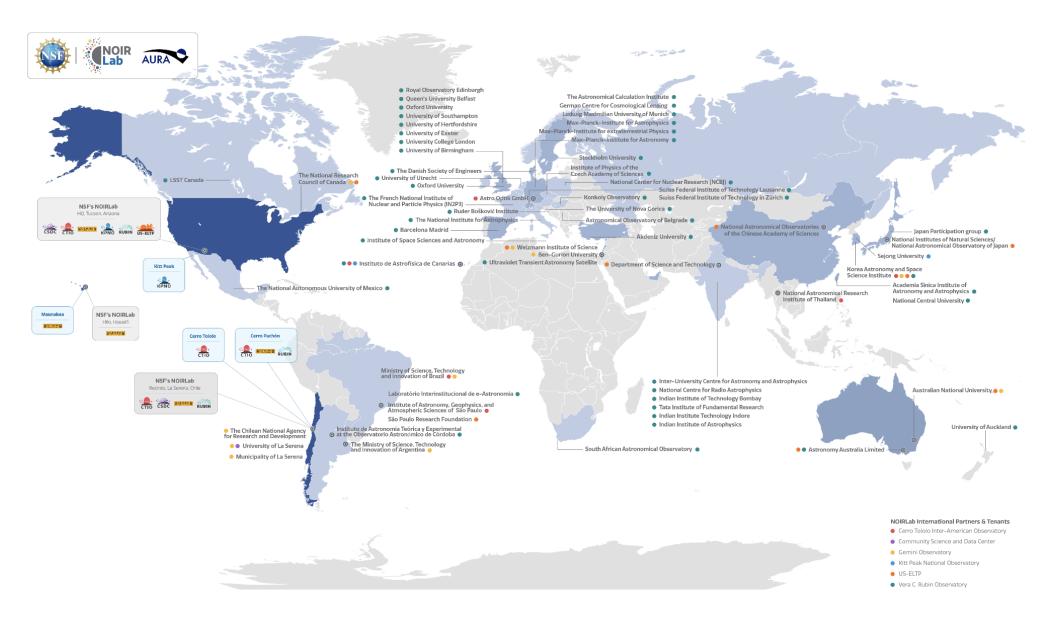
Other Collaborators

- University of Washington (Seattle, WA) (Rubin)
- University of Alaska Anchorage (Anchorage, AK) (NOIRLab)
- Princeton University (Princeton, NJ) (NOIRLab)

Overview of NSFs NOIRLab/AURA Bases & Summits



Overview of NSF's NOIRLab International Partners & Tenants



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