



April 2020 • Issue 65

## Currents

### In this Issue...

**COVID-19 Update:** In response to the COVID-19 situation, we are taking measures to ensure the safety of our staff and the public.

- Given the evolving US federal and Chilean government guidelines, our base facilities will remain closed until 15 May 2020 or later, and staff will continue to telework. Science operations at the summit sites are expected to remain suspended until 15 May. We are monitoring the situation closely and expect to post an update on 1 May.

For further details and updates as they occur, please see <https://nationalastro.org/coronavirus/>

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**New Logo, Shorter Name:** We now have an official “short-form” name—NSF’s NOIRLab—and a new logo. The logo’s black semicircle, which evokes the night sky, and the smaller surrounding objects—which represent community, diversity, and discovery—capture key aspects of the organization. The five colors of the smaller objects represent NOIRLab’s five programs: Cerro Tololo Inter-American Observatory, Community Science & Data Center, the international Gemini Observatory, Kitt Peak National Observatory, and Vera C. Rubin Observatory operations. Read more in the [NOIRLab press release...](#)



**Director’s Message:** NOIRLab Director Pat McCarthy describes the Lab’s first six months, highlighting both our progress on major goals and the unprecedented challenges we have faced. [Read more...](#)

**New Science Data Archive:** A new data archive platform released by NOIRLab’s Community Science and Data Center (CSDC)—the Astro Data Archive—has the primary role of serving public and proprietary pixel-based data products to PI and survey programs. Upgrades include a modern high-performing back-end, and near-instantaneous search/filter capabilities through the web interface. [Read more...](#)

**Summer AAS Events:** NOIRLab events at the summer AAS meeting will include:

- A plenary presentation by NOIRLab astronomer **Dara Norman** that highlights growing trends toward increased diversity and inclusion in astronomy, the importance of access to decision making and research opportunities to advancing these trends, as well as some of the structural changes needed to usher in an inclusion revolution.

- A special session hosted by WIYN Observatory on their **exoplanet research capabilities** available through the NASA-NSF Exoplanet Observational Research (NN-EXPLORE) program. [Read more...](#)

### From the Gemini e-Newscaat:

- The [Gemini Observatory website](#) has been redesigned, with the goal of making the most relevant information more accessible. The release, on 10 April 2020, is the first of a phased roll out.
- Components of GHOST, the Gemini High-resolution Optical SpecTrograph destined for Gemini South, have arrived at the La Serena base facility.
- Development of the future facility instrument IGRINS-2—an updated version of the existing Immersion GRating INfrared Spectrometer (IGRINS) currently deployed as a Visiting Instrument at Gemini South—is currently underway at the Korea Astronomy and Space Science Institute (KASI).

Read more in the [Gemini e-Newscaat](#)

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## Director's Message

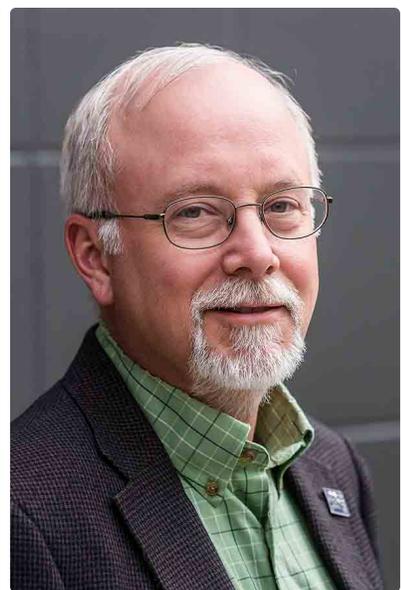
*Pat McCarthy, Director of NSF's NOIRLab*

We have just passed our six-month mark as the new national laboratory for ground-based OIR astronomy. Although we all knew this would be a time of rapid change and evolution, it has turned out to be an unusual six months indeed. We have witnessed unrest in Chile on a scale not seen in decades, and we are now navigating a global pandemic the likes of which has not been experienced in a century.

**Adversity and Service.** These events have challenged our ability to support you, the science community, through open access to world-leading observational facilities and by hosting major experiments on our telescopes. While our telescopes remain closed at the present time, and we are unable to host astronomers at our facilities, we can and do continue to support your science by serving data archives, high-level data products, and tools for analysis and data science. As announced in this issue of *Currents*, our new science data archive is now online. Please check it out!

We appreciate that our community is now facing unique challenges as they transition to teaching on-line, balance work and family, and adjust to new modes of work. We are here to help with your science—let us hear from you if we can help in any way.

**Delivering on Our Mission.** Despite these unusual times, we have continued to deliver on our mission in other ways as well. At the end of 2019, the Mid-Scale Observatories and Community Science Data Center passed an NSF review of our plans for the next five years of operations, while in March and April the Rubin Observatory Operations team passed two rigorous reviews of their plan for the transition to operations and the first years of the Legacy Survey of Space and Time. As international travel ground to a halt and borders were closed, the AURA logistics team safely delivered the Gemini Observatory's next-generation high-resolution spectrograph (GHOST) and the Rubin Observatory's commissioning camera



Patrick McCarthy

(ComCam) to the AURA facilities in La Serena, Chile. Over the last several months, the international collaboration led by Lawrence Berkeley National Laboratory and the KPNO 4m Mayall operations team successfully deployed DESI on the Mayall telescope, while the Penn State/KPNO team installed the NEID precision radial velocity spectrograph on the 3.5m WIYN telescope. Both of these instruments are now safely in hibernation. When we are able to restart operations, these instruments will be woken from their slumber and readied to go on sky.

In more recent news, I am happy to report that we had a strong response to the recent observing proposal deadline; I hope that the small extension we were able to provide relieved the pressure just a bit. Similarly, our TAC members have agreed to hold remote meetings on the original calendar, so we will be ready to schedule programs selected for 2020B without delay. We thank the TAC members for their flexibility and continued support.

**Looking Ahead.** As we navigate these new and uncertain times, we ask for your continued support and feedback. Again, if there are ways we can assist with your science under the current circumstances, please let us know.

We all look forward to getting back on sky and to greater interaction with our friends and colleagues in the community. We will get there, and we are committed to getting there with everyone healthy and ready to move ahead together. Until then, I wish you all the best and hope that you and your families are healthy and safe.

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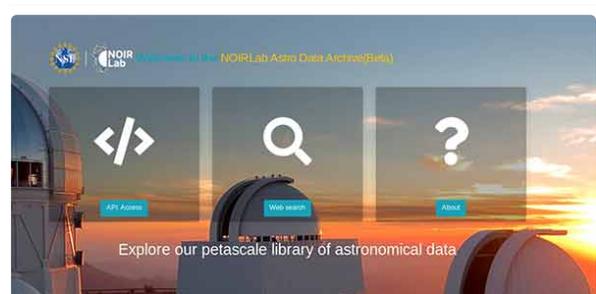
## New Science Data Archive Launched

*Sean McManus (NOIRLab's Community Science and Data Center)*

The Community Science and Data Center (CSDC) has rolled out a new data archive platform, the [NOIRLab Astro Data Archive](#). As the replacement for the NOAO Science Archive software system, the Astro Data Archive provides access to data taken with more than 40 telescope and instrument combinations from NOIRLab's CTIO and KPNO facilities, including those operated in partnership with the WIYN, SOAR, and SMARTS consortia. In addition to raw data, pipeline-reduced data products from the DECam, Mosaic, and NEWFIRM imagers are also available, as well as advanced data products delivered by teams carrying out surveys and other large observing programs with NOIRLab facilities.

The new system continues in its primary role of serving public and proprietary pixel-based data products to PI and survey programs. Upgrades include a modern high-performing back-end and near-instantaneous search/filter capabilities through the web interface. In addition, to meet the demands of data-intensive science, a new API is available. Sample Python notebooks are available as well as a NOIRLab Astropy/Astroquery module.

To facilitate a smooth transition of Archive users and data services, the Astro Data Archive was deployed as a limited release, to be operated in parallel with the legacy Archive through the 2020A semester. The limited release offers a feature-complete system, prioritizing access to contemporary PI and survey instrument programs, while access to some historic data is pending.



The welcome page of the Astro Data Archive offers information and multiple ways to access the archive

The complete peta-scale collection of data products is expected to be available in October 2020, coinciding with the retirement of the legacy system.



## Summer AAS Meeting Events

With the [236th AAS meeting going virtual](#), these events will be held online, within the virtual format being planned for the meeting.

### Plenary Presentation: The Inclusion Revolution

*Dara Norman, NOIRLab*

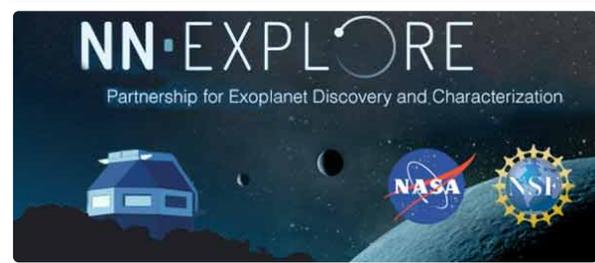
Abstract: The field of Astronomy has seen major changes in the last couple of decades. There have been discoveries that have evolved our understanding of the Universe. The development of new methods and gathering of datasets have expanded topical areas of the field in profound ways. We have even seen the community begin to recognize and understand that the health and well-being of the workforce cannot be ignored if we intend to continue with scientific breakthroughs. In this talk I will highlight some growing trends toward more diversity and inclusion in the field, the importance of access to decision making and research opportunities to advancing these trends, as well as some of the structural changes needed to usher in an Astronomical inclusion revolution.



Dara Norman

### Special Session: The NASA-NSF Exoplanet Observational Research (NN-EXPLORE) Program at the WIYN Observatory

The NASA-NSF partnership for Exoplanet Observational Research (NN-EXPLORE), which seeks to advance the understanding of exoplanets and exoplanetary systems, supports community use of the open-access share of the WIYN 3.5-m telescope. To highlight the instrumentation and capabilities available to the community in support of the NN-EXPLORE program, the WIYN Observatory will hold a Special Session at the Summer AAS Meeting.



The session will include descriptions of science results and capabilities of WIYN's new precision radial-velocity spectrometer NEID (NN-explode Exoplanet Investigations with Doppler spectroscopy). First offered in the 2020A semester, NEID is designed for high-precision radial velocity measurements of exoplanet host stars, with a goal of achieving 27 cm/s precision per measurement. The instrument provides open-

access to measurements that enable the study of Earth- and super-Earth-mass planets orbiting bright host stars over a wide range of spectral types.

The special session will also feature the science results and capabilities of other WIYN instruments that can be used for exoplanet research. These include the NASA Exoplanet Star (and) Speckle Imager (NESSI), the multi-object fiber-fed spectrograph Hydra, the WIYN High Resolution Infrared Camera (WHIRC), and the One Degree Imager (ODI). Observers interested in learning how WIYN can enhance their exoplanet research are encouraged to attend.



## Contact Us

We welcome your input on this issue of *Currents*. Please contact us at [currents@noao.edu](mailto:currents@noao.edu). We look forward to hearing from you!

*Currents* is a spark plug for communication between us and our community. It provides updates—and solicits community input—on observing opportunities and programs and policies on a more rapid timescale than is possible with our *Newsletter*.

The NSF's National Optical-Infrared Astronomy Research Laboratory is the US center for ground-based optical-infrared astronomy and is operated by the Association of Universities for Research in Astronomy (AURA), Inc. under cooperative agreement with the National Science Foundation.

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