



March 2021 • Issue 75

Currents

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2021B Proposal Deadline: Observing proposals for the 2021B semester are due **31 March 2021** at 11:59pm Mountain Standard Time (MST). Further details are available in the [Call for Proposals](#).

WIYN March Update: The NEID spectrograph continues to progress, and the 2021B semester will see it in full science operations. Approximately 30 community-access nights will be available through the NN-EXPLORE program. In addition, the Hydra multi-object spectrograph will offer increased functionality following a major upgrade to the fiber-positioning robot, which is scheduled for installation later this semester. [Read more...](#)

CHARA from VEGA to SPICA: While December 2020 marked the end of the VEGA visible-red beam combiner at the CHARA Array, open access spectro-interferometry in the visible will soon return to Mt. Wilson with the installation of the SPICA beam combiner later this year. This article recounts the history of VEGA and looks to the future with SPICA. [Read more...](#)

La Serena School for Data Science: Undergraduate and graduate students are invited to apply to participate in the La Serena School for Data Science, which will be hosted fully online this year, 2-13 August 2021. Full scholarships are available for students at US, Chilean, and Ecuadorian institutions. The application deadline is **2 April 2021**. [Read more...](#)

Early use of the Rubin Science Platform for Data Preview 0: The Rubin Observatory's Data Preview 0 (DP0) will make simulated LSST-like data products available in the Rubin Science Platform (RSP) to up to 300 "DP0 delegates" from the science community. The application process for data rights holders to request one of these early RSP accounts is now open. Applicants who submit by **30 April 2021** will be notified by 31 May, one month in advance of the release of DP0 on 30 June. Learn more about participating in DP0 at ls.st/clo4798.

2021A US Gemini Science Program and Scientific Publication Report: Proposal statistics for the 2021A semester were consistent with trends established over the last few years, with an oversubscription rate of 2.6 for Gemini North and 1.4 for Gemini South. While GMOS remains the most highly requested instrument on both telescopes, IGRINS, GNIRS, and the new instrument Maroon-X are also highly sought after. US community publications that make use of Gemini time have continued to grow, to approximately 170 publications in 2020. [Read more...](#)

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Scientific Programmer Sought: NOIRLab has an immediate opening for a Scientific Programmer to work with the International Gemini Observatory. The successful candidate will join the Science User Support Division at NOIRLab and will be based, initially, at either Gemini North in Hilo, Hawaii or Gemini South in La Serena, Chile. This is a fixed-term 3-year position with the possibility of extension. Please see the [job ad](#) for further details. Questions may be directed to Joanna Thomas-Osip (jthomas@gemini.edu).

Data Analyst Position Available: Are you interested in using data and software to enable new discoveries in our Solar System, the distant Universe, and everything in between? NOIRLab's Community Science and Data Center (CSDC) has an opening for a Data Analyst to work with one or more teams of scientists, engineers, external collaborators, and other staff to support software systems and data resources that enable forefront research in astronomy. Please see the [job ad](#) for further details. Questions may be directed to CSDC Director Adam Bolton (adam.bolton@noirlab.edu).

From the Gemini e-Newscast:

- **Dual Anonymous Review for Fast Turnaround Proposals.** Gemini North and South are once again accepting Fast Turnaround (FT) proposals. Proposals must be consistent with the policies of the new Dual Anonymous Review Process. Further details are available in the [current call for proposals](#). The next deadline is **31 March 2021**.



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

NOIRLab in the News:

- **MAROON-X Embarks on its Exoplanet Quest:** Astronomers using MAROON-X, the recently installed radial velocity spectrometer on Gemini North, have determined the mass of the transiting planetary companion to Gliese 486, a nearby star only 8 pc away. The planet's measured mass and size identify it as a rocky planet, with a density 1.3 times that of Earth. MAROON-X, which is designed to detect Earth-size planets in the habitable zones of mid- to late-M dwarfs, has seen a surge of requests for observing time following the its commissioning in 2020. [Read More...](#)



If you have a NOIRLab-related result that we can help publicize, please let us know! Contact NOIRLab Press Officer Amanda Kocz (amanda.kocz@noirlab.edu) or *Currents* editor Joan Najita (joan.najita@noirlab.edu).

WIYN: March Update

Heidi Schweiker and Jayadev Rajagopal

At the WIYN Observatory, progress continues towards full science capabilities with the NEID spectrograph. Over the last month approximately 10 shared-risk science nights have successfully been executed in queue mode. NEID commissioning is also in full swing with the NEID team working towards the Operational Readiness Review, scheduled for the end of April.

Semester 21B will see NEID in full science operations. Approximately 30 nights will be available for community access through the NN-EXPLORE program with an additional 15 nights reserved for the GTO program (<https://arxiv.org/abs/2101.11689>).

Another exciting development for 21B will be the improved functionality of the Hydra multi-object spectrograph following a major upgrade to the fiber-positioning robot, which is scheduled for installation later this semester.

More information on NEID and a complete list of instruments available on WIYN can be found within the [Call for Proposals](#).



Star trails over the WIYN 3.5-meter Telescope at Kitt Peak National Observatory, AZ. Credit: KPNO/NOIRLab/NSF/AURA/P. Marenfeld

CHARA from VEGA to SPICA

Denis Mourard (Obs Côte d'Azur) and Steve Ridgway (NOIRLab) for the VEGA, SPICA and CHARA collaborations

19 December 2020 marked the end of VEGA—a visible-red beam combiner operated at the CHARA ARRAY on Mt Wilson. VEGA's history began in May 2005 with the first email exchanges between Georgia State/CHARA, the Observatoire de la Côte d'Azur, and six other collaborating organizations. In August 2007, eight boxes weighing about 1200 kg were sent to Mt. Wilson, and after three weeks of integration the first fringes were obtained in September 2007. The next steps were 3-telescope operation in October 2008, followed by remote operation in summer 2009. Simultaneous VEGA operation with the CLIMB infrared beam combiner was initiated in May 2010, and finally the first 4-telescope fringes were obtained in October 2010 with the MIRC infrared combiner. Upgraded detectors and group delay tracking were implemented in 2012.

While in operation, VEGA measured stellar angular diameters down to 0.2 milliarcseconds, with concurrent spectral resolution up to 30,000—performance that remains unmatched by any other facility. VEGA excelled in measuring fundamental parameters of stars and in the study of stellar environments. [Nearly 50 papers](#) have been published and more are in preparation.

CHARA/VEGA was a fantastic scientific adventure for the scientists, engineers, and students that participated in its development and scientific operation over 15+ years.

Happily, we are able to announce that spectro-interferometry in the visible will soon return to Mt. Wilson. Later this year, the consortium will undertake installation of the



[A subset of the SPICA technical team](#) in front of the SPICA injection table, populated with all the mechanical and optical pieces for control of the fiber injection. (From right to left: Yves Bresson, Christophe Bailet, Isabelle Bailet, Philippe Bério, Fatmé Allouche, Stéphane Lagarde, Daniel Lecron, Julien Dejonghe, Denis Mourard.) The table in the bottom-right corner will simulate the 6 CHARA beams and will host the SPICA periscope. The third small table in the middle-right will host the SPICA visible spectrograph fed by the V-groove and the 6 single mode fibers (Photo credit Denis Mourard).

beam combiner SPICA (*Stellar Parameters and Images with a Cophased Array*), which will implement recent and ongoing advances in adaptive optics, integrated optics, detectors, and CHARA performance. It will feature 6-telescope operation with near-infrared fringe tracking, and a capability for stellar surface imaging. The [SPICA program](#) is optimized for a survey of about 1000 stars, with scientific emphasis on exoplanet hosts, asteroseismology, surface brightness-color relations (for the photometric determination of effective temperatures), and distance scale.

We remind our readers that GSU and the CHARA collaborators support open access via the NOIRLab TAC. Stay tuned in the coming months for updates on SPICA and open access to the CHARA Array.

Announcing the 2021 La Serena School for Data Science

Guillermo Jose Damke (AURA/University of La Serena, Chile), Dara Norman (NOIRLab)

There is no question that the new generation of astronomers, as well as researchers in several other disciplines, will lead cutting-edge research by taking advantage of the increasingly large datasets that are becoming available online. In preparation for this new scenario, the La Serena School for Data Science (LSSDS) seeks to provide late-undergraduate and early-graduate students with the statistical and computational tools to succeed in this quest.

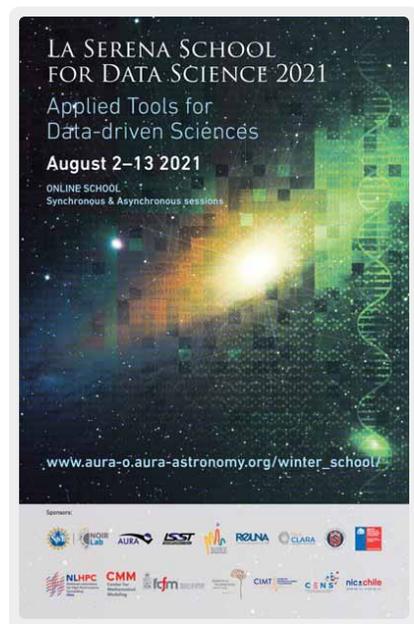
Hosted annually at the AURA campus in La Serena, the school has gained popularity steadily since it was first launched in 2013. In 2019, it received about 250 applications, mainly from students in the US and Chile. While the school was canceled in 2020 due to the COVID-19 pandemic, it will be **hosted fully online**—for the very first time—this year, **2-13 August**, because of the continuing uncertainty regarding the pandemic.

As in previous years, the 2021 curriculum is being carefully crafted by the Scientific Organizing Committee based, in part, on the content of previous, successful schools and feedback from former participants. The 2021 school will retain its usual hands-on focus, with lectures from international experts—on topics such as Supervised and Unsupervised Machine Learning, High Performance Computing (HPC), Databases, Statistics and Deep Learning—as well as the valuable “Group Projects”, in which interdisciplinary and diverse groups of students can apply the tools they have learned by solving problems under the guidance of a professor. The online format will include daily (limited) synchronous and asynchronous sessions over the 10-day program.

Thanks to funding from the NSF and other international partners, applications from students in US, Chilean, and Ecuadorian (members of CEDIA) institutions are eligible for full scholarships covering all school expenses. Participants from disciplines such as Astronomy and Astrophysics, Physics, Computer Science, Bioinformatics, Statistics, Math and any other data-intensive fields are welcome to apply.

Applications will be accepted until 2 April 2021.

Please, visit http://www.aura-o.aura-astronomy.org/winter_school/ to submit applications or to find further information about the school.



2021A US Gemini Science Program and Scientific Publication Report



Letizia Stanghellini and Vinicius Placco (US National Gemini Office)

The Gemini proposal statistics for the 2021A semester were consistent with trends established over the last few years. The NOIRLab Time Allocation Committee (TAC) received 143 Gemini North proposals requesting ~193 nights (14 of which were for Subaru exchange time), and the estimated oversubscription at the time of the TAC meeting was 2.6. For Gemini South, the TAC received 101 proposals requesting approximately 98 nights; the estimated oversubscription was 1.4. Figure 1 shows the historical demand for Gemini, both in nights and number of proposals.

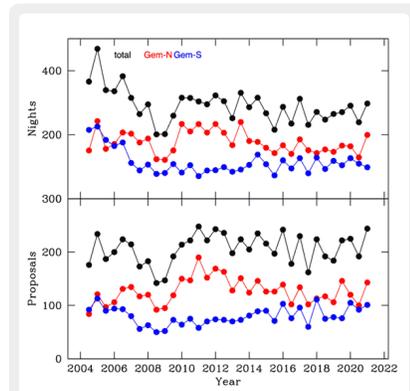


Figure 1. Historical demand for Gemini telescope time via the US National TAC.

While GMOS remains the most highly requested instrument on both telescopes, IGRINS, Maroon-X, and GNIRS are also highly sought after. Figure 2 shows the fractional time (in nights) requested for instruments on the Gemini North and Gemini South telescopes in 2021A. IGRINS is the second most requested instrument on Gemini South, after GMOSS, while Maroon-X was the second most requested instrument, after GMOSN, on Gemini North.

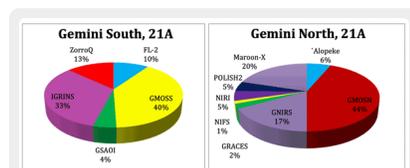


Figure 2. 2021A time requests to the NOIRLab TAC by instrument.

US community publications that make use of Gemini time have continued to grow. Figure 3 shows the number of papers published each year from the US community, as of the end of 2020. The number of refereed papers resulting from the NOIRLab TAC allocations are in blue, while the red histogram includes fast turnaround (FT), Large and Long (LPL), and Science Verification (SV) programs with US PIs. The red histogram does not include publications based on FT and LT programs with US co-Is. Thus it is a lower limit to the total number of publications by the US Gemini community.

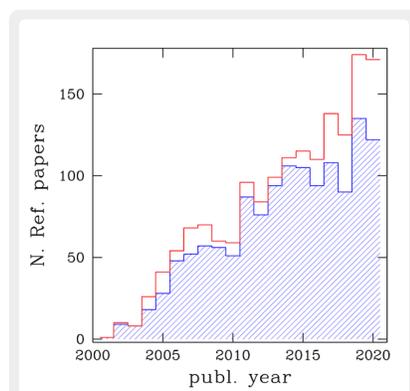


Figure 3. The number of publications based on programs selected through the US National TAC.

The number of refereed papers from 2020 that are based on US Gemini time (often in multi-partner programs) and allocated through the NOIRLab TAC is 122, which is lower than in 2019. On the other hand, the difference is compensated by the number of papers published by the US community (US PIs) based on FT, LP, and SV programs, which is ~50, 10 more than in 2019.

Contact Us

We welcome your input on this issue of *Currents*. Please contact us at 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*.

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