



ALMA Cycle 3 Call for Proposals Released

Phil Jewell, NRAO Deputy Director & Assistant Director for NA ALMA Operations

The North American ALMA Science Center (NAASC) at the National Radio Astronomy Observatory is pleased to announce that the Joint ALMA Observatory has released the Cycle 3 ALMA Call for Proposals, which may be found on the [ALMA Science Portal \(https://almascience.nrao.edu/proposing/call-for-proposals\)](https://almascience.nrao.edu/proposing/call-for-proposals).

ALMA capabilities added for Cycle 3 include Band 10, and baselines up to 10 km for Bands 3, 4, and 6.

With Cycle 3, ALMA enters into a new phase, where investigator-driven science observations dominate activities while continued improvements and developments are also explored. The available observing modes include standard and non-standard modes. Standard observing modes are those that have been used in previous Cycles and for which the data can be reduced by the pipeline. Data taken in standard observing modes will be pipeline-calibrated and imaged. Their quality is assured by ALMA staff and will meet the standards set by the Observatory. Non-standard modes are observing modes that are less well characterized, or for which the data need to be processed by ALMA staff.

The Cycle 3 proposal submission deadline is 15:00 UT on Thursday, 23 April 2015.

We encourage you to take advantage of the resources of the NAASC, which include personalized proposal preparation support through the [ALMA Helpdesk \(https://help.almascience.org\)](https://help.almascience.org) and the opportunity to visit the NAASC for one-on-one assistance.

Upcoming Events



[2015 NRAO Postdoctoral Symposium \(https://science.nrao.edu/science/meetings/2015/postdoc-symposium\)](https://science.nrao.edu/science/meetings/2015/postdoc-symposium)

Apr 6 - 7, 2015 | Socorro, NM



[NRAO Community Day at the Space Telescope Science Institute \(https://science.nrao.edu/facilities/alma/naasc-workshops/nrao-cd-stsci\)](https://science.nrao.edu/facilities/alma/naasc-workshops/nrao-cd-stsci)

Apr 13 - 14, 2015 | Baltimore, MD



[ALMA Cycle 3 Call for Proposals Deadline \(https://almascience.nrao.edu/proposing/call-for-proposals\)](https://almascience.nrao.edu/proposing/call-for-proposals)

April 23, 2015



[ALMA Data Reduction Party \(https://science.nrao.edu/facilities/alma/naasc-workshops/nrao-cd-](https://science.nrao.edu/facilities/alma/naasc-workshops/nrao-cd-)

[drp/index\)](#)

May 6 - 8, 2015 | Charlottesville, VA



The Future of Planetary Radio Astronomy with Single-dish Telescopes Workshop

[\(https://science.nrao.edu/science/meetings/2015/planetary-radio-astronomy-future/\)](https://science.nrao.edu/science/meetings/2015/planetary-radio-astronomy-future/)

Jun 9 - 10, 2015 | Green Bank, WV



NAIC/NRAO Single Dish School (<https://science.nrao.edu/science/meetings/2015/summer-schools/>)

Jul 5 - 10, 2015 | Green Bank, WV



NRAO NAASC Interferometry School

[\(https://science.nrao.edu/science/meetings/2015/summer-schools/\)](https://science.nrao.edu/science/meetings/2015/summer-schools/)

Jul 12 - 14, 2015 | Green Bank, WV

ALMA Data Reduction Party

Alison Peck



Are you the PI of a successful ALMA project? Have you received a giant, beautiful dataset that you need to get the best science from? You are not alone! Many of us have been or are in this situation, and the North American ALMA Science Center has exactly what you need to figure this out. Come join us, and your colleagues, for a free, three-day [ALMA Data Reduction Party](https://science.nrao.edu/facilities/alma/naasc-workshops/nrao-cd-drp/index) (<https://science.nrao.edu/facilities/alma/naasc-workshops/nrao-cd-drp/index>) that will take place 6-8 May 2015 at the North American ALMA Science Center in sunny Charlottesville, Virginia.

We will provide access to our data reduction cluster, data analysts to prepare your dataset locally, and help you understand the calibration and preliminary imaging that has been done on your dataset. Staff scientists with CASA expertise will also be available to help you decide if you can push the imaging further, if self-calibration will improve your results, and how to analyze and display your fabulous data in a way that allows you to extract the exciting science results that you know are in there. All you need to bring are your laptop, your enthusiasm, and your questions.

Registration for this event is free and travel support will be provided, but space is limited, so please sign up early to secure your spot!

See you in May!

ALMA Program News

Al Wootten



Credit: P. Carillo - ALMA (ESO/NAOJ/NRAO)

ALMA will resume Early Science observations on 31 March 2015, as previously announced, with the antennas in a compact configuration: a hybrid of C34-1 (~1.6" resolution at 1.3mm) and C34-2 (~0.9" resolution at 1.3mm). As announced 24 March in a [news item at the ALMA Science Portal](https://almascience.nrao.edu/news/resubmission-of-unfinished-cycle-1-and-2-proposals-for-the-cycle-3-proposal-review-6) (<https://almascience.nrao.edu/news/resubmission-of-unfinished-cycle-1-and-2-proposals-for-the-cycle-3-proposal-review-6>), Early Science will proceed in blocks of two weeks followed by a week of Extension and Optimization of Capabilities (EOC) time. On or about 12 May, a reconfiguration to Array Configuration C34-3/(4) will begin, and subsequent reconfigurations

will occur as detailed in the news item. Please note that the schedule is such that high frequency, compact configuration projects and those projects available only during the daytime, may not be accommodated owing to the poorer atmospheric stability, higher system temperatures, and reduced antenna pointing accuracy during the day.

Note that the National Oceanic and Atmospheric Administration has declared that an El Nino situation exists. These events bring warmer ocean waters off the coast of South America, and may be associated with poor weather periods at ALMA. Interested astronomers may follow the status of ALMA observations via the [Project Tracker \(https://almascience.nrao.edu/observing/project-tracker\)](https://almascience.nrao.edu/observing/project-tracker) and [ALMA Status \(https://almascience.nrao.edu/observing/alma-status-pag\)](https://almascience.nrao.edu/observing/alma-status-pag) webpages.

Transitions

Several astronomers have taken new positions at the DSO. Violette Impellizzeri has accepted the position of ALMA Operations Astronomer as part of the Program Management Group, starting on 21 March, and Sergio Martin has also accepted the position of ALMA Operations Astronomer and will start on 1 July. Two new System Astronomers joined the Data Management Group on 1 March: Neil Phillips and Akihiko Hirota.

Call for ALMA Development Study Proposals

Al Wootten

A Call for ALMA/NA Development Studies was issued 16 March 2015. To support this new Call, an informational webinar was held on Wednesday, 25 March, at NRAO headquarters in Charlottesville, VA. An overview of the current ALMA Development Plan and studies now under way was given. The webinar [presentations are available online \(https://science.nrao.edu/facilities/alma/alma-development-2015/alma-development-informational-telecon\)](https://science.nrao.edu/facilities/alma/alma-development-2015/alma-development-informational-telecon).

This Call is to invite proposals to conduct studies of ideas that may be further developed and implemented in a subsequent funding cycle. The primary aims of this Call for Project Proposals are to:

- encourage the flow of development ideas from the North American ALMA operations community into the ALMA Development Program Plan;
- support the development of conceptual and detailed designs by the North American ALMA operations community for possible future inclusion in the ALMA Development Program Plan; and
- support ALMA-relevant, long-term research and development by the North American operations community.

Limited funding is available from NRAO to support North American-based Projects and will be allocated on a competitive basis. Projects partly or fully supported from external sources are also solicited and, if presented, will be considered in the evolving ALMA Development Plan. All members of the North American ALMA operations partnership, and the North American radio astronomy community at-large, are invited to participate in the ALMA Development Program.

Additional information on this Call for ALMA Development Study Proposals, and reports from prior Calls, are available [online \(https://science.nrao.edu/facilities/alma/alma-development-2015/alma-development/alma-development-north-america\)](https://science.nrao.edu/facilities/alma/alma-development-2015/alma-development/alma-development-north-america).

The Future of Planetary Radio Astronomy with Single-dish Telescopes Workshop

Alyson Ford, on behalf of the SOC



Green Bank Telescope

A workshop titled *The Future of Planetary Radio Astronomy with Single-dish Telescopes* (<https://science.nrao.edu/science/meetings/2015/planetary-radio-astronomy-future/>) will be held at the NRAO facilities in Green Bank, WV on 9-10 June 2015. Registration is now open. The deadline for [registration](https://science.nrao.edu/science/meetings/2015/planetary-radio-astronomy-future/registration) (<https://science.nrao.edu/science/meetings/2015/planetary-radio-astronomy-future/registration>) and [abstract submission](https://science.nrao.edu/science/meetings/2015/planetary-radio-astronomy-future/abstract-submission) (<https://science.nrao.edu/science/meetings/2015/planetary-radio-astronomy-future/abstract-submission>) is 30 April 2015.

Radar studies of near-earth asteroids, mapping of planet and lunar surfaces, chemical compositions of comets, asteroids, and planetary atmospheres, and origins of solar systems, are just some of the exciting topics currently being studied through the use of large single-dish telescopes. This workshop will bring together researchers to discuss how the large single-dish telescopes such as the 100-m NRAO Green Bank Telescope (GBT) and the 300-m Arecibo Observatory can best contribute to future research in these and other topics, including new and improved capabilities and instrumentation.

The intimate setting of the NRAO – Green Bank facilities fosters highly interactive meetings. Attendance will be limited to ~ 30 participants, and we aim to provide plenty of time for discussions. We expect the agenda to evolve as we hear from potential participants.

There is no registration fee, and meals and local housing will be provided without charge. Weather permitting, workshop participants will be treated to a detailed tour of the GBT.

Scientific Organizing Committee Local Organizing Committee

Lance Benner (JPL)

Alyson Ford

Don Campbell (Cornell)

Frank Ghigo

Alyson Ford (NRAO)

Christine Plumley

Frank Ghigo (NRAO)

Jessica Taylor

Amy Lovell (Agnes Scott College)

Mike Nolan (Arecibo)

2015 Jansky Fellowships Awarded

The NRAO Jansky Fellowship program provides outstanding opportunities for research in astronomy. Jansky Fellows formulate and carry out investigations either independently or in collaboration with others within the wide framework of interests of the Observatory. The program is open each fall to candidates with interest in radio astronomy instrumentation, computation, and theory, and prior radio experience is not required. Multi-wavelength projects leading to a synergy with NRAO instruments are encouraged.

We are pleased to announce that two new Jansky Fellows will be joining NRAO in the fall of 2015.



Tanmoy Laskar is completing his Ph.D. from Harvard University, working with Professor Edo Berger on the diversity and versatility of γ -ray bursts. He is an expert at multi-wavelength observations and modeling, as well as radio instrumentation, and studies time-domain astrophysics with a focus on energetic transients. Tanmoy will begin his Jansky Fellowship at the University of California, Berkeley in fall 2015.



Dustin Madison is completing his Ph.D. at Cornell University with Professor Jim Cordes, after which he will join NRAO in Charlottesville. Dustin works with pulsar timing observations to detect and characterize gravitational waves from sources such as binary supermassive black holes. His work has been primarily as a member of the North American Nanohertz Observatory for Gravitational Waves (NANOGrav), a group utilizing the high-precision pulsar timing capabilities of the 300-m Arecibo Observatory and the 100-m NRAO Green Bank Telescope.

Recent Media Releases



[Race to Detect Gravitational Waves Advances: New NANOGrav Physics Frontiers Center](https://public.nrao.edu/news/pressreleases/nanograv-pfc)
(<https://public.nrao.edu/news/pressreleases/nanograv-pfc>)

30 Mar 2015



[ALMA Opens for Public Visits](https://public.nrao.edu/news/announcements/alma-public-visits) (<https://public.nrao.edu/news/announcements/alma-public-visits>)

12 Mar 2015



[Image Release: Mysterious Phenomena in a Gigantic Galaxy-Cluster Collision](https://public.nrao.edu/news/pressreleases/galaxy-cluster-collision)
(<https://public.nrao.edu/news/pressreleases/galaxy-cluster-collision>)

10 Mar 2015



[Image Release: Venus Revealed in Radio Light](https://public.nrao.edu/news/pressreleases/venus-surface-gbt)
(<https://public.nrao.edu/news/pressreleases/venus-surface-gbt>)

9 Mar 2015

Career Opportunities

New Postings

[ALMA Postdoctoral Fellows:](https://cw.na1.hgnccloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101040&source=jobList) ([https://cw.na1.hgnccloud.com/nrao/loadJobPostingDetails.do?](https://cw.na1.hgnccloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101040&source=jobList)

[jobPostingID=101040&source=jobList](https://cw.na1.hgnccloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101040&source=jobList)) ALMA started its first Early Science observations in late 2011 and has already produced 200 papers, many in influential journals. At the Cycle 2 Call for Proposals, ALMA received more submissions than any other telescope in history. We are offering Postdoctoral Fellowships to join ALMA at this exciting period during which the array is ramping up to its full operational potential. ALMA Postdoctoral Fellows will be appointed for three years and will spend at least 50% of their time dedicated to their personal research. These Fellowships offer young scientists opportunities and facilities to enhance their research programs through involvement in science activities and close contact with experienced staff at the world's foremost observatory for sub-mm astronomy.

[Tech Specialist III/IV \(Open Rank\):](https://cw.na1.hgnccloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101141&source=jobList) ([https://cw.na1.hgnccloud.com/nrao/loadJobPostingDetails.do?](https://cw.na1.hgnccloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101141&source=jobList)

[jobPostingID=101141&source=jobList](https://cw.na1.hgnccloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101141&source=jobList)) The NRAO Technology Center in Charlottesville, VA is now accepting

applications for a Tech Specialist III/IV (Open Rank). The candidate will devise, layout, fabricate, calibrate, test, analyze, troubleshoot, and/or repair astronomical research-related equipment such as: computers, electronics, electrical, cryogenics, and lasers. This position requires an engineering level of knowledge without requiring an engineering degree.

[Track Equipment Operator I: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101142&source=jobList)

[jobPostingID=101142&source=jobList](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101142&source=jobList) The NRAO in Socorro, NM is now accepting applications for a Track Equipment Operator I. The candidate will regularly assist in the maintenance and repair of heavy equipment, repair and rebuild railroad track, use hand tools and power tools, and move debris away from work site.

[Software Engineer: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101100&source=jobList)

[jobPostingID=101100&source=jobList](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101100&source=jobList) The NRAO in Socorro, NM is now accepting applications for two Software Engineers to join the Science Support and Archive (SSA) development team. The successful candidates will perform routine maintenance and add new features to these tools. In addition, there are numerous opportunities for improving the tools, such as by providing wizards for the creation of certain types of observations, providing more intuitive graphical displays, and making the tools more user friendly.

[Auto Diesel Mechanic: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101061&source=jobList)

[jobPostingID=101061&source=jobList](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101061&source=jobList) The NRAO in Socorro, NM is now accepting applications for an Auto Diesel Mechanic. The candidate will be under minimum supervision while maintaining automobiles, buses, trucks, and hy-rail vehicles in good operating condition. The successful candidate must possess skills and experience comparable to professional certification in diesel heavy equipment repair and maintenance.

[Operations Specialist I: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101041&source=jobList)

[jobPostingID=101041&source=jobList](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101041&source=jobList) The NRAO in Socorro, NM is now accepting applications for an Operations Specialist I who will monitor telescopes, data collection systems, and the correlator; assist engineers and technicians in diagnosing equipment failure; and promote the safety of all personnel working on the array. The successful candidate will be under the general instructions of the supervisor and staff scientists, and will work within established procedures.

[Special Services Assistant: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101021&source=jobList)

[jobPostingID=101021&source=jobList](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101021&source=jobList) The NRAO in Socorro, NM is now accepting applications for a Special Service Assistant. The successful candidate will maintain the leased vehicle fleet and AUI-owned vehicles and perform duties related to office services involving furniture moves, office transfers, meeting configuration setups, moving mail between buildings, courier trips to vendors and banks, and supply transfers between local buildings. The position also assists, as needed, driving passenger vans for conferences, tours, and workshops. This Special Services Assistant will perform these duties under the direction of the NM Business Manager.

[HVAC/ Plumbing Mechanic: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=100301&source=jobList)

[jobPostingID=100301&source=jobList](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=100301&source=jobList) The NRAO in Socorro, NM is now accepting applications for a HVAC/ Plumbing Mechanic at the Very Large Array site 50 miles west of Socorro. The candidate will provide skilled assistance and leadership in the design, construction, installation, repair, operation, and maintenance of refrigeration, air conditioning, ventilation, water, wastewater, fuel and heating systems.

[Tour Guides: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101140&source=jobList)

[jobPostingID=101140&source=jobList](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101140&source=jobList) The NRAO in Green Bank, WV is now accepting applications for Seasonal Tour Guides. The candidates will communicate the Observatory's mission to the public and provide assistance in the creation, organization, and delivery of astronomy/science awareness programs for visitors to the Observatory.

[Structural Painters: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101120&source=jobList\)](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101120&source=jobList)

The NRAO in Green Bank, WV is now accepting applications for Temporary Structural Painters. The successful candidates will perform a wide variety of skilled painting operations on telescope structures and associated equipment, and other structures over 30 feet high and up to nearly 500 feet high. A “Lead Structural Painter” will be selected to lead the other temporary structural painters, work with management to create and achieve goals for the project, and evaluate product information from suppliers.

[Maintenance Trainee: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101161&source=jobList\)](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101161&source=jobList)

The NRAO in Green Bank, WV is now accepting applications for a Maintenance Trainee. The successful candidate will maintain ground areas, roads, and buildings by performing a variety of semi-skilled tasks common to maintenance and construction trades under the supervision and instruction of a manager.

[Technical Manager–Telescope Maintenance: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101000&source=jobList\)](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=101000&source=jobList)

The NRAO in Green Bank, WV is now accepting applications for a Technical Manager. Working with the Division Head and the Technical Manager of Operations, the successful candidate will implement maintenance strategies to achieve individual site telescope science objectives. The successful candidate will direct the work of 3 to 5 craftsmen. The manager for the maintenance group solicits, interviews, and recommends the hiring of 15 to 20 seasonal workers for painting and mechanic work, then plans and supervises the seasonal work. This position develops work schedules for the group, and assures that they are aware of required and recommended safe work practices.

[Technical Specialist II: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=100980&source=jobList\)](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=100980&source=jobList)

The NRAO in Socorro, NM is now accepting applications for a Technical Specialist II. Under general supervision from engineers, this position devises, lays out, fabricates, calibrates, tests, analyzes, troubleshoots and/or repairs astronomical research related equipment such as cryogenic microwave front end receivers and associated hardware. The work performed is moderately independent. This is the middle level of three progressively more complex positions.

[Observatory Scientist: \(https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=100780&source=jobList\)](https://cw.na1.hgncloud.com/nrao/loadJobPostingDetails.do?jobPostingID=100780&source=jobList)

The Joint ALMA Observatory (JAO) is seeking an Observatory Scientist with extensive experience for coordinating and organizing scientific activities at the ALMA radio astronomy observatory in Santiago, Chile. The Observatory Scientist will provide ongoing scientific leadership for astronomy staff, and continue to lead the efforts to maximize the scientific performance and impact of the array through continued improvement including, but not limited to, the development program.

From the Archives

Ellen Bouton

About this month's photograph: In December 1995, Geraldo Valladares, Norio Kaifu, Hernan Quintana, Tony Readhead, Paul Vanden Bout, Naomasa Nakai, and Junji Inatani pause for a photo (and perhaps to catch their breath) in front of the NRAO ALMA operations base on Chajnantor, a 20 foot (6 m) long ocean shipping container, still in place on the site. The container provided shelter for personnel and physical support for the instruments. It also had an array of solar panels – visible in back of the container – that could supply continuous electrical power of about 500 W (24 VDC and 110 VAC 60 Hz), with sufficient reserve capacity to



weather a storm of a few days. Ten years later, with circa 2005 instrumentation, this system operated near capacity. Funding for the Chajnantor site characterization ceased in 2005, but some equipment continued to operate, monitoring phase stability, until an errant bulldozer severed the interferometer cable in 2009. During their December 1995 trip, the group pictured here made multiple high elevation visits, going to the "NRAO site," the "European site," and the "Japanese site." Photo by Angel Otarola, with thanks to Al Wootten for caption information.

From the Archives is an ongoing series illustrating NRAO and U.S. radio astronomy history via images selected from our collections of individuals' and institutional papers. If readers have images they believe would be of interest to the Archives, please contact [Ellen Bouton \(#\)](mailto:ellen.bouton@nrao.edu).

Contact the Editor ([mailto:mtadams@nrao.edu?subject=NRAO eNews Editor](mailto:mtadams@nrao.edu?subject=NRAO%20eNews%20Editor))



The National Radio Astronomy Observatory is a facility of the National Science Foundation operated under cooperative agreement by Associated Universities, Inc.