The ALMA Proposal Preparation Process

How to get started and what to expect

Emily Moravec

Slides from Marcel Neeleman

This talk is for you if…

You are new to ALMA and …

- You have not yet had experience with the relevant documentation.
- You have not downloaded the ALMA Observing Tool (OT) or even know where to get it.

You are familiar with ALMA and …

- You have an exciting science case that requires the ALMA facilities.
- You wonder what Cycle 10 capabilities are now available.
- You would like to know what updates/changes have been made in the proposal preparation process.

This talk will be available online for reference after this workshop.

Timeline

Date	Milestone
12 April 2023 (15:00 UT)	Release of Cycle 10 Call for Proposals, Observing Tool, and supporting documents, and opening of the Archive for proposal submission
10 May 2023 (15:00 UT)	Proposal submission deadline for Cycle 10 Call for Proposals
28 June 2023 (15:00 UT)	Deadline to submit reviews for the distributed peer review system
August 2023	Announcement of the outcome of the proposal review process
1 October 2023	Start of ALMA Cycle 10 Science Observations (anticipated)
30 September 2023	End of ALMA Cycle 10

Proposal Checklist

- Read relevant documentation (CfP, Guide, Primer, etc.)
- Create/update ALMA account at the Science Portal (almascience.org)
- Download the Observing Tool (OT) & related guides
- Prepare the Scientific Justification
  - New capabilities for Cycle 10!
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
- Make use of the Helpdesk & the Knowledgebase

Cycle 10 Documentation & Timeline

All documentation is available on the ALMA Website:

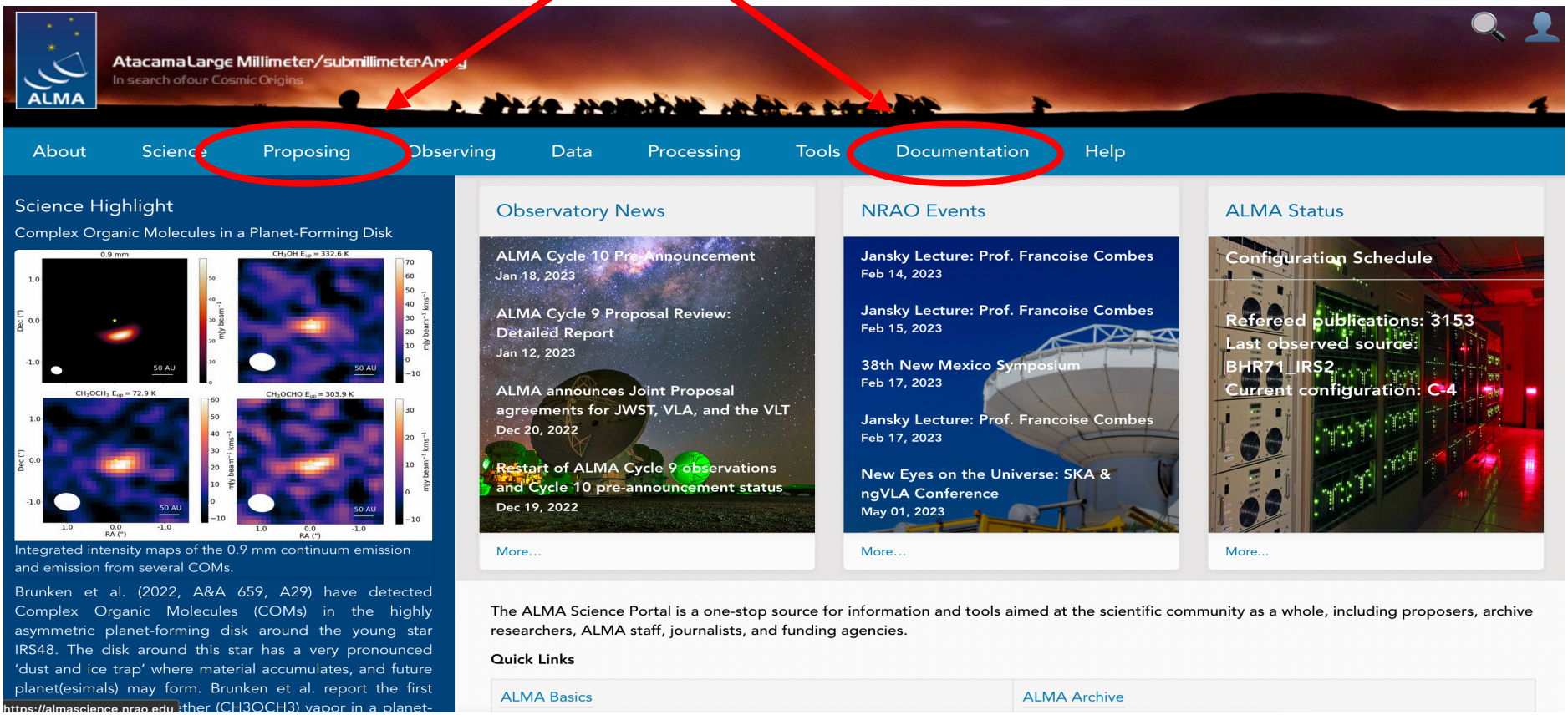
www.almascience.org

- Call for Proposals
- Proposer's Guide
- ALMA Primer
- *OT Quickstart Guide*
- *ALMA Technical Handbook*

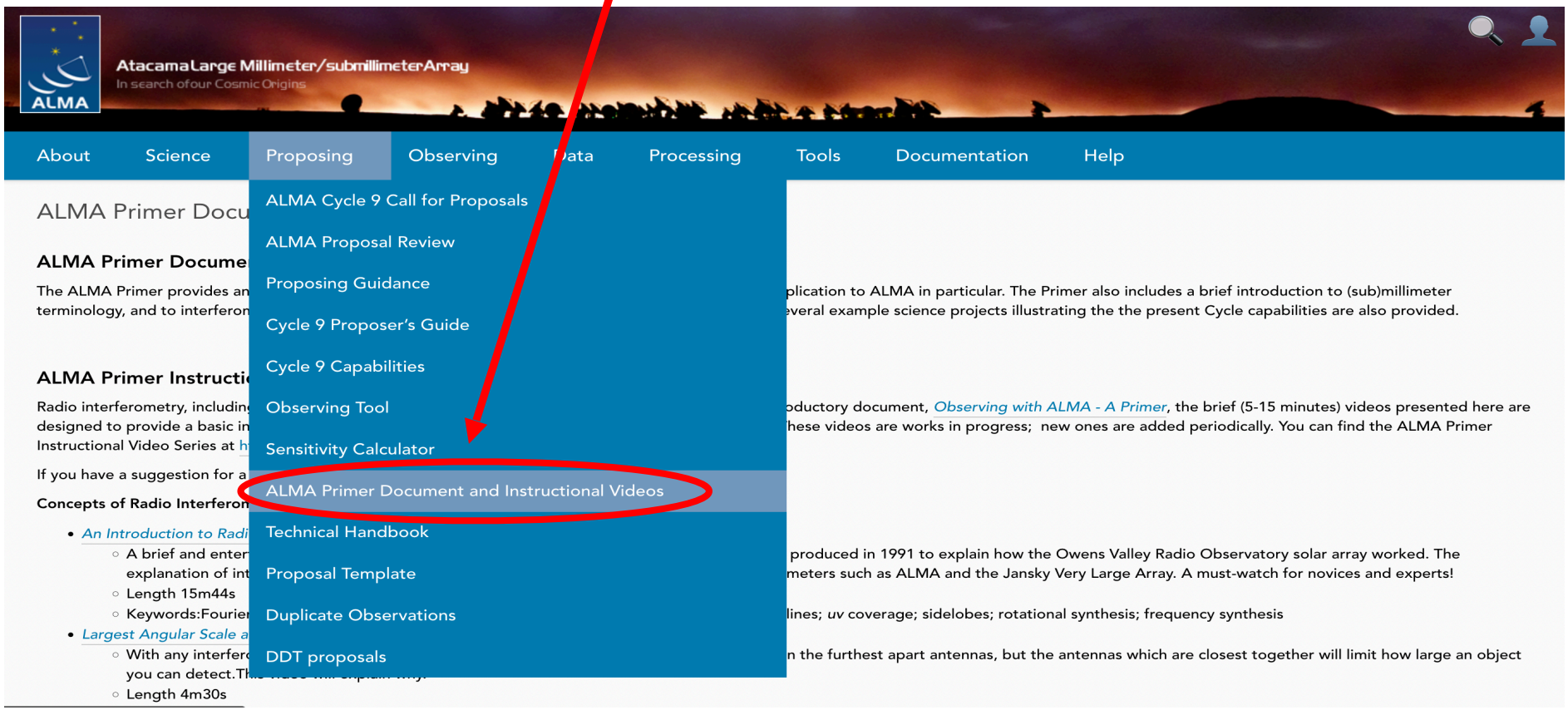
- Timeline for Cycle 10
  - 12 Apr – Call for Proposals
  - 10 May – Proposal Deadline
  - August – Results to PIs
  - Oct. 2023– Start of Cycle 10
  - Sept. 2024 – End of Cycle 10

Proposal Documentation: www.almascience.org

Proposal Information



Proposal Documentation: www.almascience.org

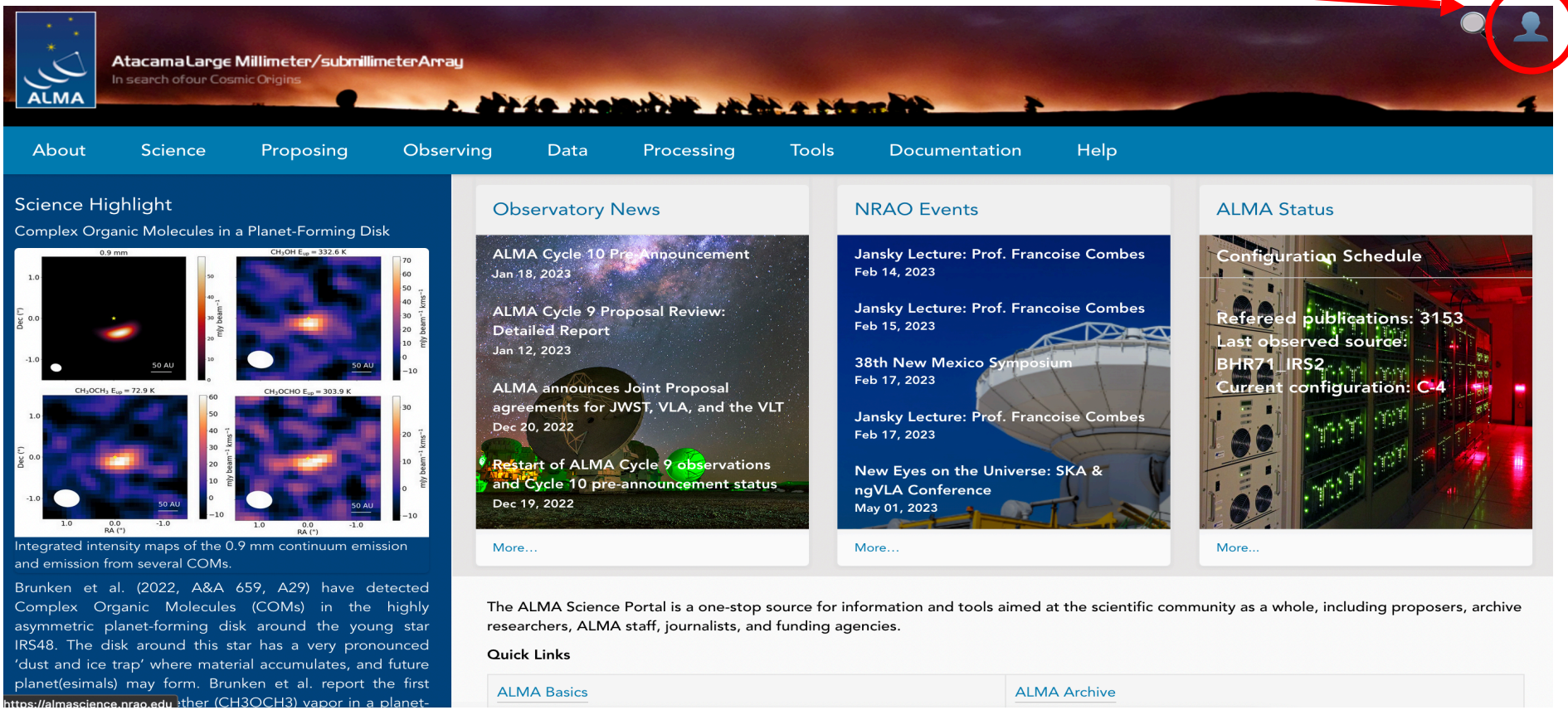


Proposal Checklist

- Read relevant documentation (CfP, Guide, Primer, etc.)
- Create/update ALMA account at the Science Portal (almascience.org)
- Download the Observing Tool (OT) & related guides
- Prepare the Scientific Justification
  - New capabilities for Cycle 10!
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
- Make use of the Helpdesk & the Knowledgebase

Create ALMA Account: www.almascience.org

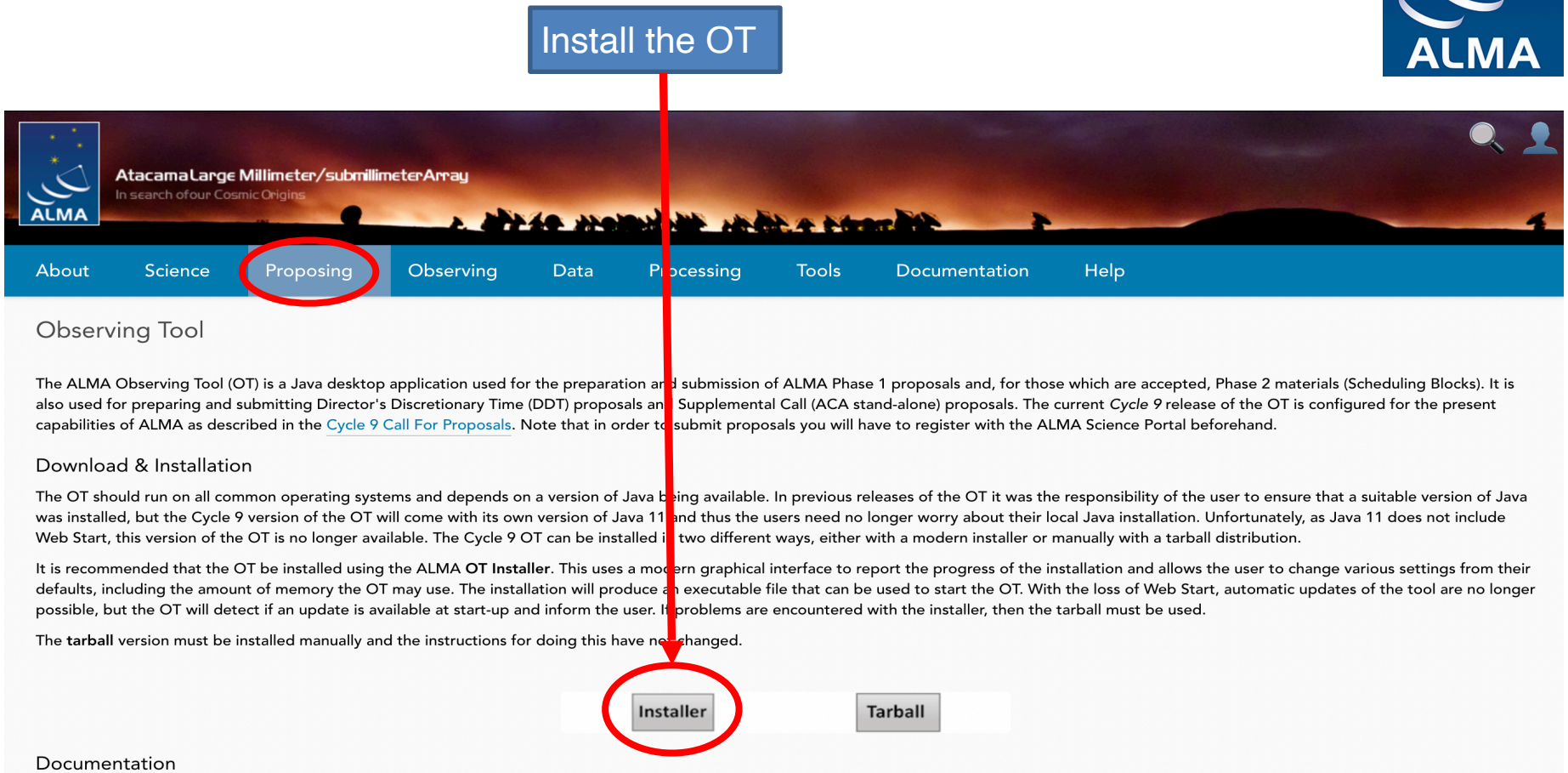
Create/Log-in ALMA account



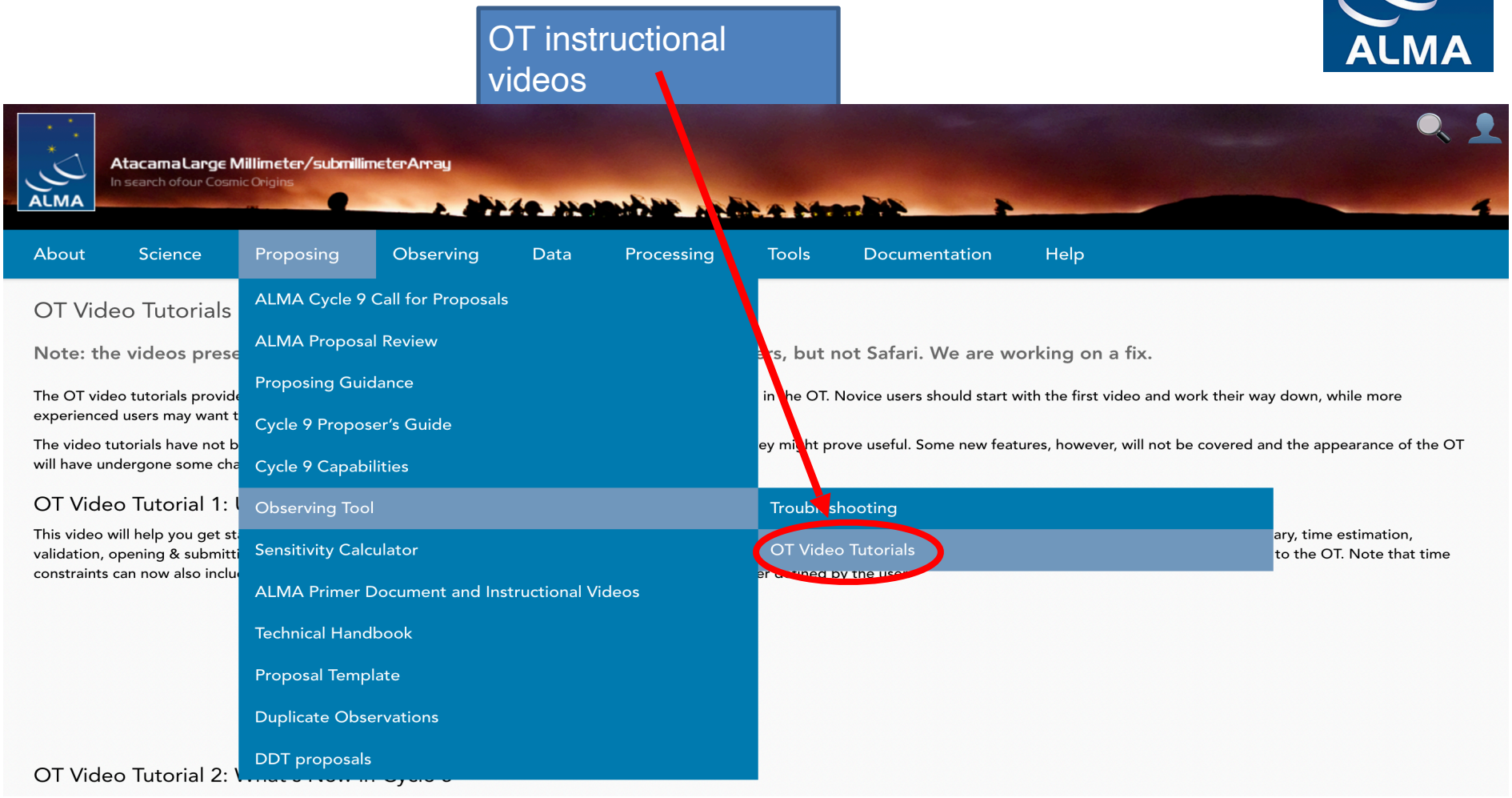
Proposal Checklist

- Read relevant documentation (CfP, Guide, Primer, etc.)
- Create/update ALMA account at the Science Portal (almascience.org)
- Download the Observing Tool (OT) & related guides
- Prepare the Scientific Justification
  - New capabilities for Cycle 10!
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
- Make use of the Helpdesk & the Knowledgebase

Download the ALMA OT: www.almascience.org



Download the ALMA OT: www.almascience.org



Proposal Checklist

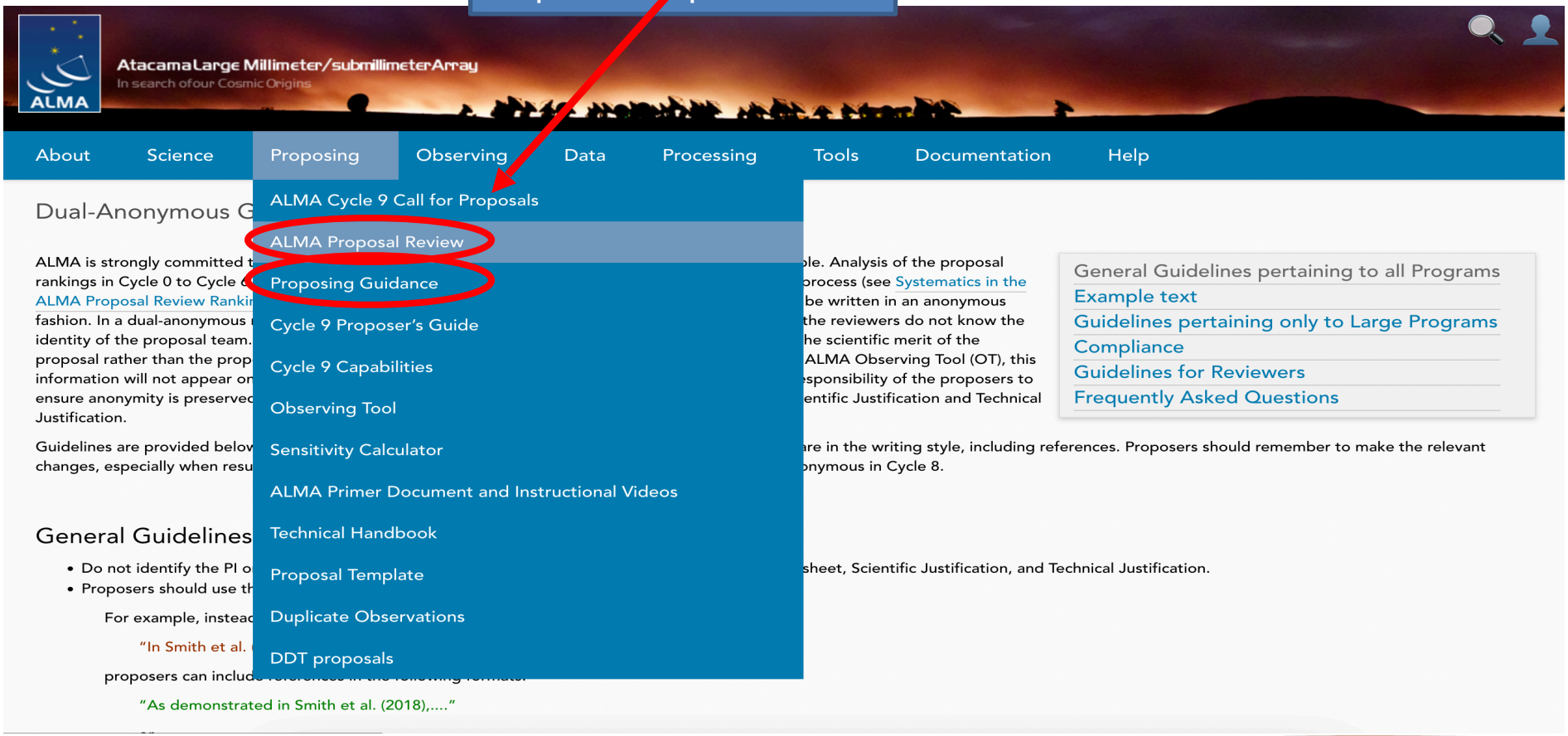
- Read relevant documentation (CfP, Guide, Primer, etc.)
- Create/update ALMA account at the Science Portal (almascience.org)
- Download the Observing Tool (OT) & related guides
- Prepare the Scientific Justification
  - New capabilities for Cycle 10!
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
- Make use of the Helpdesk & the Knowledgebase

Scientific Justification

- Must be:
  - 4 pages (6 for Large Programs) PDF document (20MB max file size).
  - 12+ font written in English (OT will check the font size).
    - This includes figure captions, tables and references!
  - Prepared in accordance with the dual-anonymous guidelines.
- Should:
  - Be written for a knowledgeable, but broad audience.
  - Provide a clear statement of the immediate scientific goals.
  - Demonstrate the suitability of the observations to achieve the scientific goals.
- May:
  - Embed tables and figures within the text.
  - Briefly justify the requested sensitivity and angular resolution and refer to the Technical Justification for a full justification.
  - Include simulations to justify aspects of an observation.

Scientific justification: www.almascience.org

Dual anonymous guidelines
Proposal template



New capabilities for Cycle 10

New in Cycle 10

The following technical capabilities will be available this Cycle for the first time:

- Band 1 on the 12-m Array and for Stokes I only (no Stokes Q/U/V), anticipated to be available from March 2024
- Spectral scans that include Total Power observations
- 4x4-bit spectral modes for improved sensitivity on the 12-m Array (dual polarization)
- Solar observations in full polarization in Band 3 using only the 12-m Array
- Phased array mode in Bands 1, 3, 6 and 7 (the total time available for this mode is expected to be capped at approximately 50 hours)
- VLBI in Bands 1, 3, 6 and 7, including flexible tuning for spectral lines

New in Cycle 10 will be the availability of Joint Proposals with other facilities, including the Space Telescope Science Institute's James Webb Space Telescope, the National Radio Astronomy Observatory's Karl G. Jansky Very Large Array, and the European Southern Observatory's Very Large Telescope.

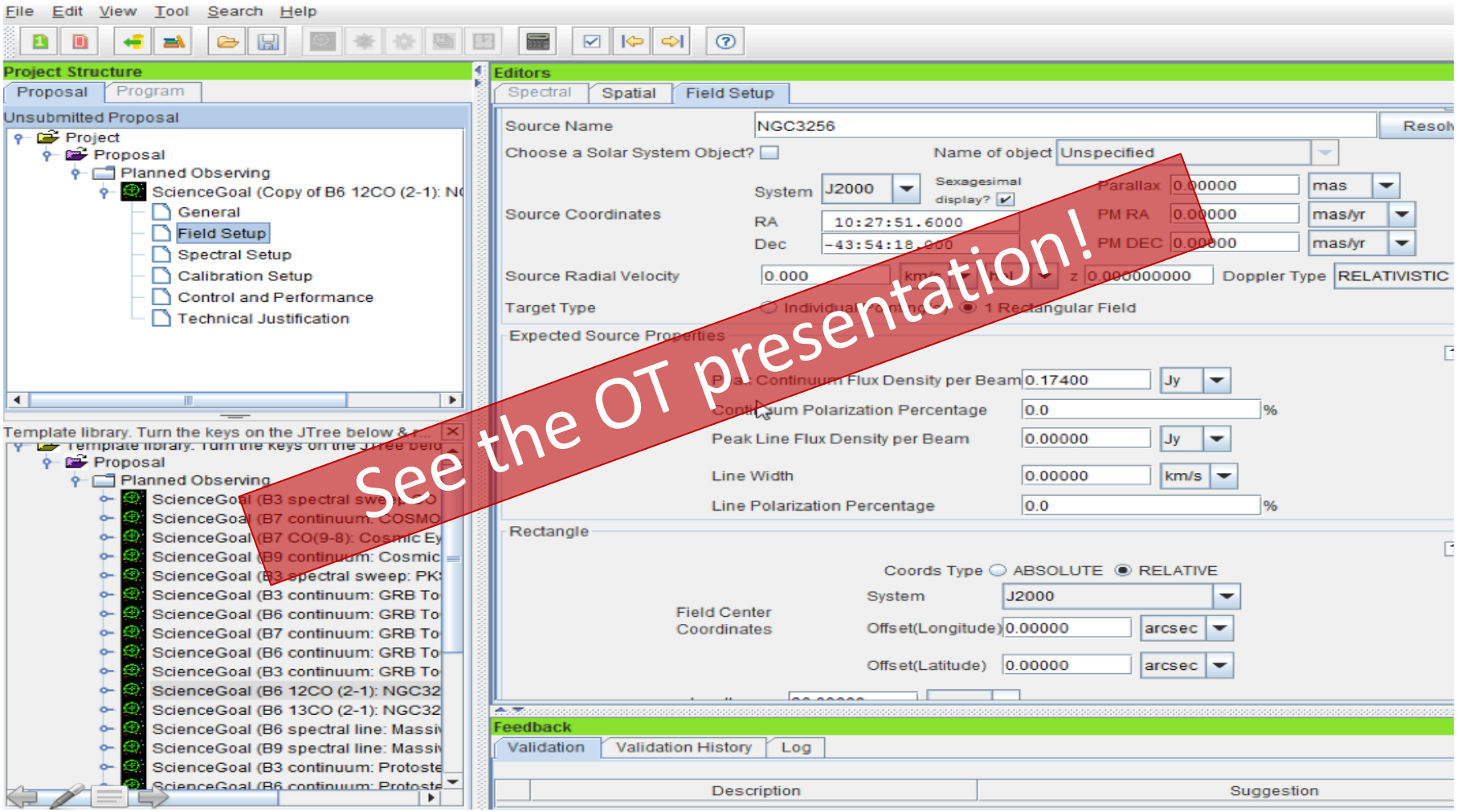
Also new this Cycle, Band-to-band phase calibration will be available for high frequency observations on both the 7-m Array and all 12-m Array configurations. The total time available for projects needing band-to-band phase calibration is expected to be capped.

See the Capabilities Presentation

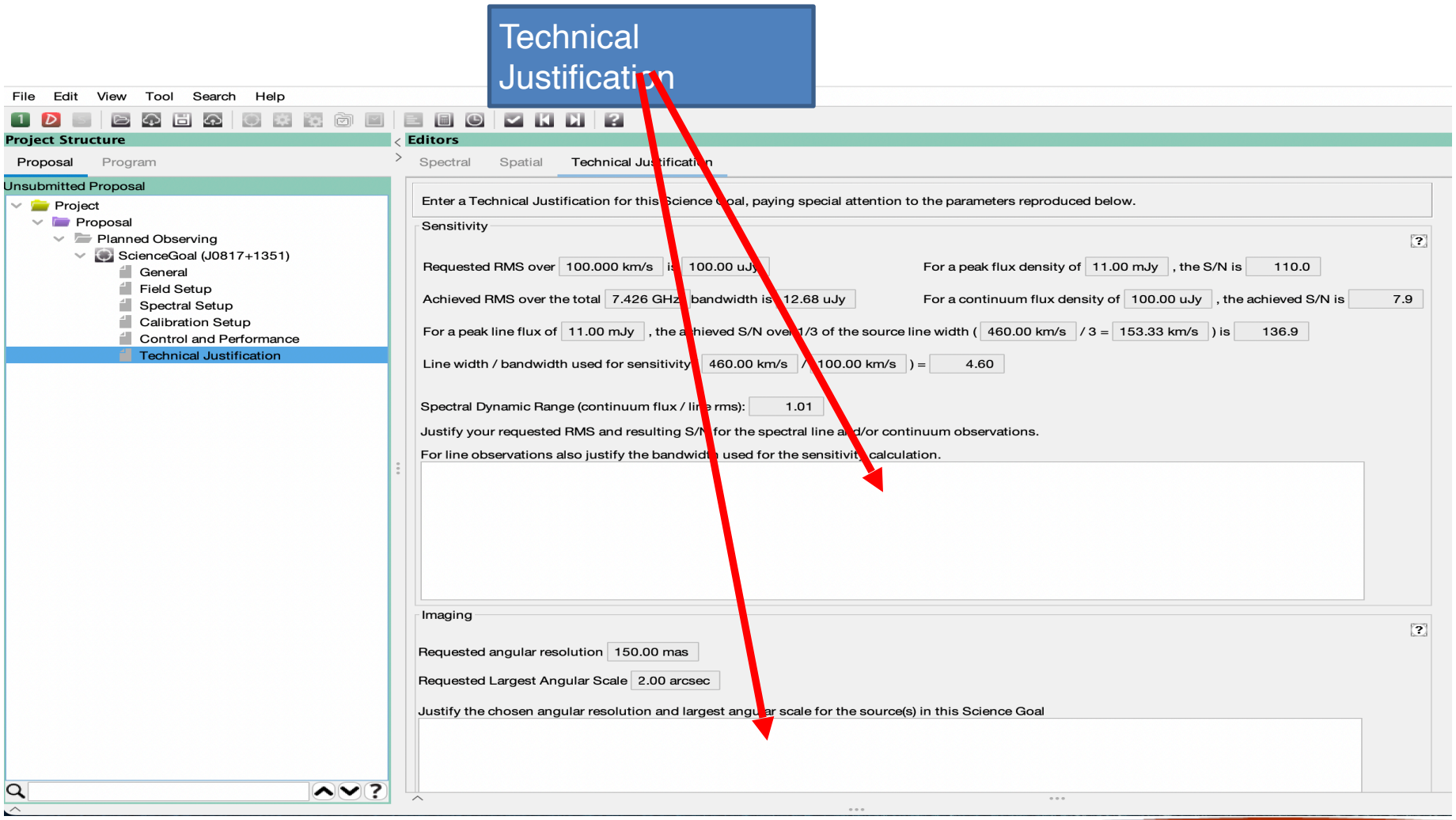
Proposal Checklist

- Read relevant documentation (CfP, Guide, Primer, etc.)
- Create/update ALMA account at the Science Portal (almascience.org)
- Download the Observing Tool (OT) & related guides
- Prepare the Scientific Justification
  - New capabilities for Cycle 10!
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
- Make use of the Helpdesk & the Knowledgebase

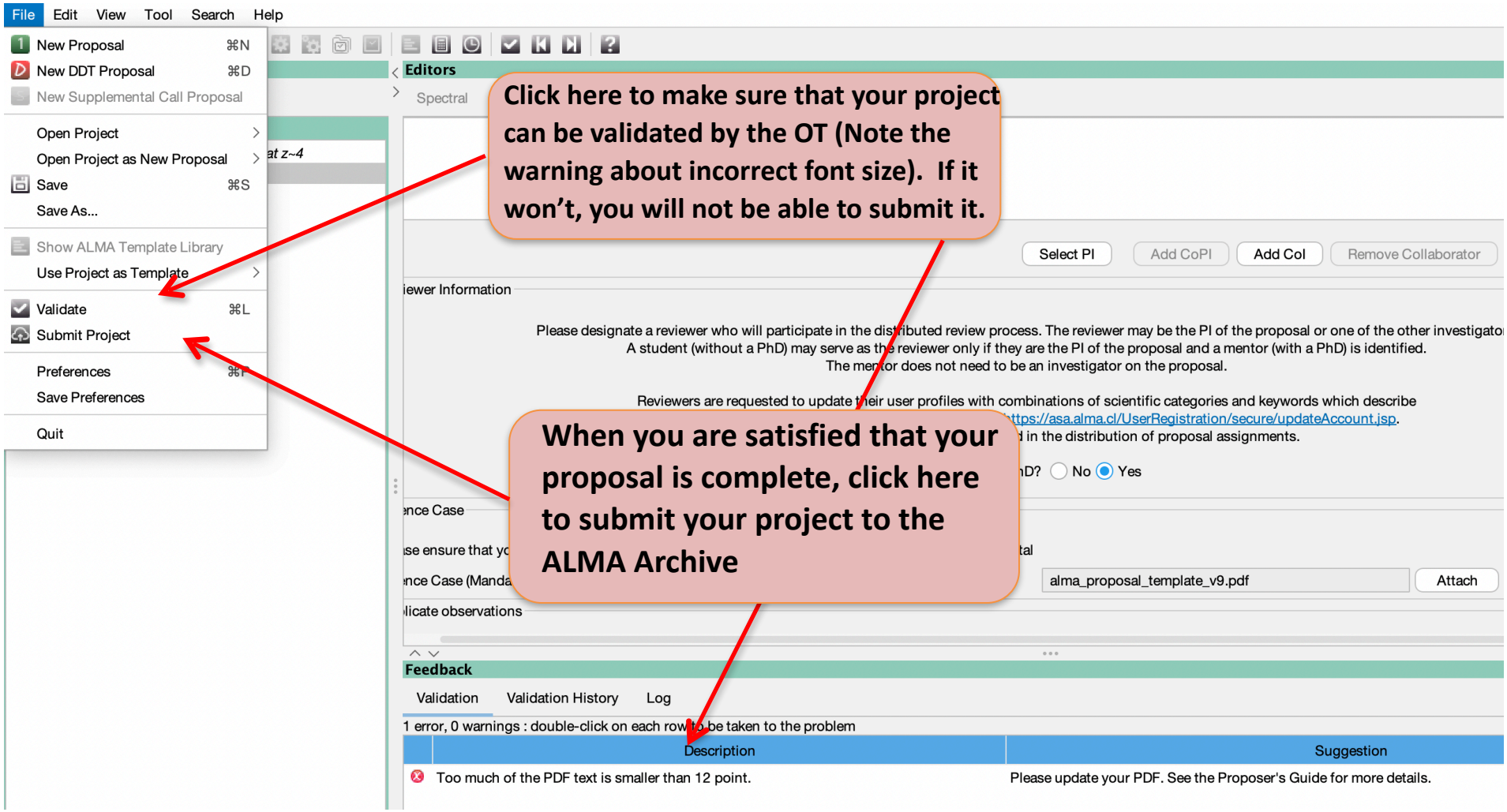
Preparing science goals in the OT



Preparing science goals in the OT



Submitting a proposal in the OT

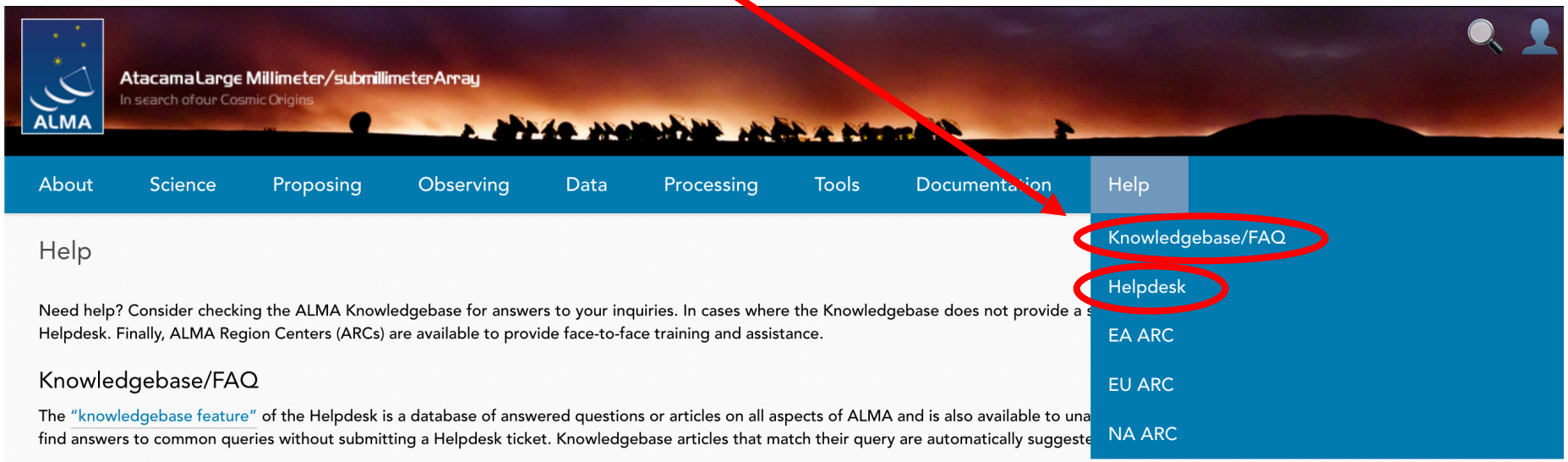


Proposal Checklist

- Read relevant documentation (CfP, Guide, Primer, etc.)
- Create/update ALMA account at the Science Portal (almascience.org)
- Download the Observing Tool (OT) & related guides
- Prepare the Scientific Justification
  - New capabilities for Cycle 10!
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
- Make use of the Helpdesk & the Knowledgebase

Need help?: www.almascience.org

Helpdesk
Knowledgebase



Help

Need help? Consider checking the ALMA Knowledgebase for answers to your inquiries. In cases where the Knowledgebase does not provide a s
Helpdesk. Finally, ALMA Region Centers (ARCs) are available to provide face-to-face training and assistance.

Knowledgebase/FAQ

The "knowledgebase feature" of the Helpdesk is a database of answered questions or articles on all aspects of ALMA and is also available to una
find answers to common queries without submitting a Helpdesk ticket. Knowledgebase articles that match their query are automatically suggeste

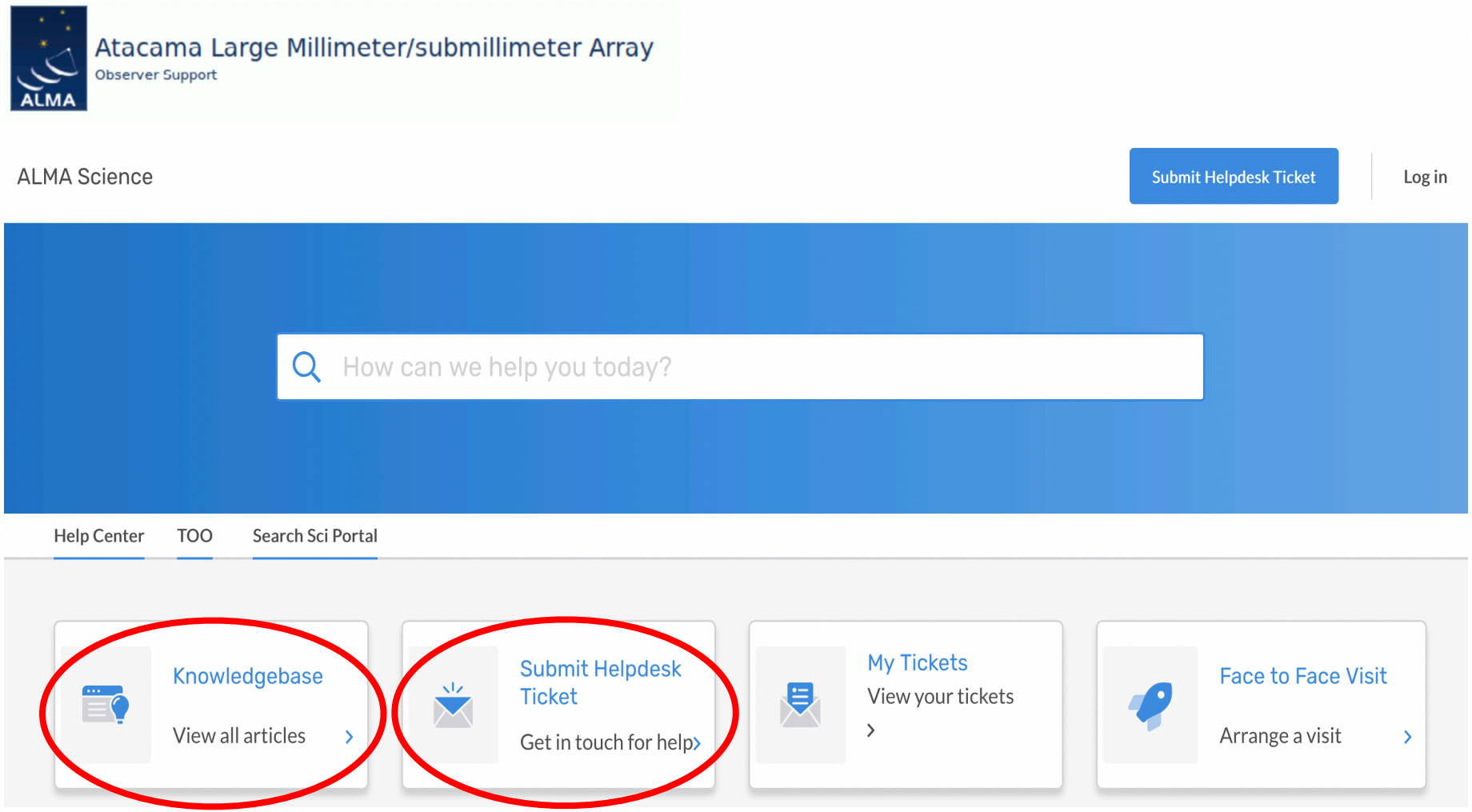
ALMA Helpdesk

When a user submits a ticket to the ALMA Helpdesk, the tickets are directed to one of the ARCs, where support staff are available to answer any question related to ALMA, including but not limited to ALMA policies, capabilities, documentation, proposal preparation, the OT, Splatalogue, and CASA. Users may also request information on workshops, tutorials, or about visiting an ARC or ARC node for assistance with data reduction and analysis. Users must be registered at the ALMA Science Portal to submit a Helpdesk ticket. Generally, ALMA staff aim to answer Helpdesk tickets within two working days.

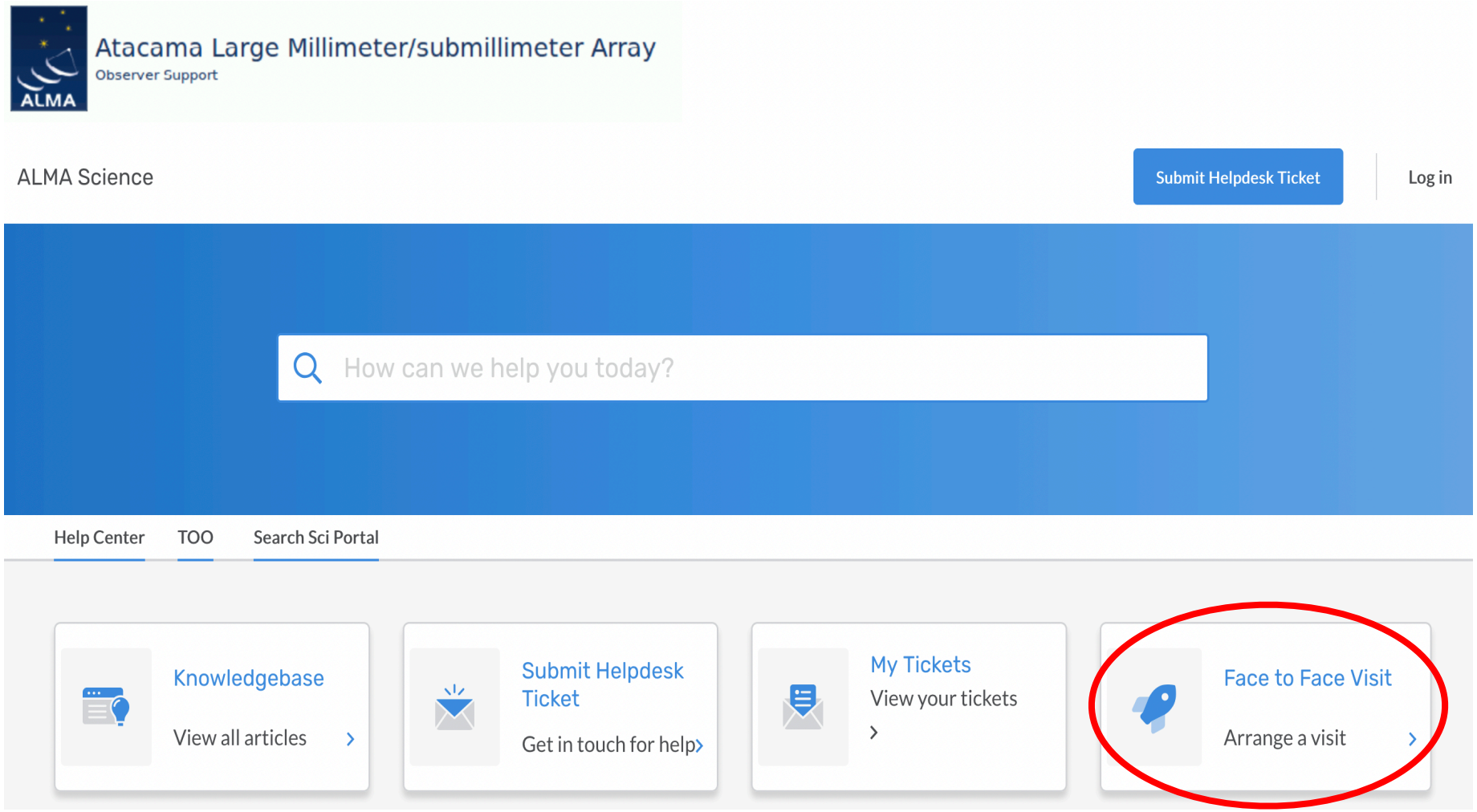
ALMA Regional Centers

The interface between ALMA and the astronomy community is provided by the three partners through the ALMA Regional Centers (ARCs). These ARCs are located at NAOJ in Mitaka, Japan, for the East Asian partner, at ESO in Garching, Germany, for the European partner, and at NRAO in Charlottesville, USA, for the North American partner.

The ALMA helpdesk



The ALMA helpdesk



After submission

- Remember, you can resubmit as often as needed, but keep in mind that the server is quite busy right before the deadline.
- The proposal deadline is strictly enforced.
- Distributed peer review will be used for all proposals requesting less than 50 hours on the 12-m Array, and ACA stand-alone proposals requesting less than 150 hours on the 7-m Array.
- In this review system, for each submitted proposal the PI (or one of the delegated co-Is) will be responsible for reviewing up to 10 other submitted proposals, thus increasing the involvement of the ALMA community in the review process **– if you don't submit reviews, YOUR proposal will be rejected!**
- Large proposals will be reviewed by science review panels.
- All proposals will be subject to a technical assessment by a group of JAO and ARC experts.

After submission

- Proposals will be assessed on the basis of their overall scientific merit and its potential contribution to the advancement of scientific knowledge.
- The outcome of the proposal review process will be communicated to the PIs of all valid submitted proposals - expected around August 2023.
- Any change requests need to go to the Helpdesk, and possibly a formal change request
  - Being prompt helps ensure your project can be observed!
- Then wait – dynamic scheduling means your Contact Scientist does not know when your project will run. As observations are made, updates are shown in the SnooPI tool on the Science Portal:

https://almascience.nrao.edu/observing/snoopi

For more info:
www.almascience.org

The Atacama Large Millimeter/submillimeter Array (ALMA), an international astronomy facility, is a partnership of Europe, North America and East Asia in cooperation with the Republic of Chile. ALMA is funded in Europe by the European Organization for Astronomical Research in the Southern Hemisphere (ESO), in North America by the U.S. National Science Foundation (NSF) in cooperation with the National Research Council of Canada (NRC) and the National Science Council of Taiwan (NSC), and in East Asia by the National Institutes of Natural Sciences (NINS) of Japan in cooperation with the Academia Sinica (AS) in Taiwan. ALMA construction and operations are led on behalf of Europe by ESO, on behalf of North America by the National Radio Astronomy Observatory (NRAO), which is managed by Associated Universities, Inc. (AUI), and on behalf of East Asia by the National Astronomical Observatory of Japan (NAOJ). The Joint ALMA Observatory (JAO) provides the unified leadership and management of the construction and operation of ALMA.

www.nrao.edu
science.nrao.edu
public.nrao.edu

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