Rubin Observatory

# In-Kind Proposal Workshop

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Rubin Observatory Project and Community Workshop 2020

NSF NOIRLab AURA SLAC U.S. DEPARTMENT OF ENERGY

# In-Kind Proposal Workshop

Tuesday 11 Aug 2020, 12:00 PDT

Wednesday 12 Aug 2020, 10:30 PDT

(Identical repeated sessions)

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## Session Webpages:

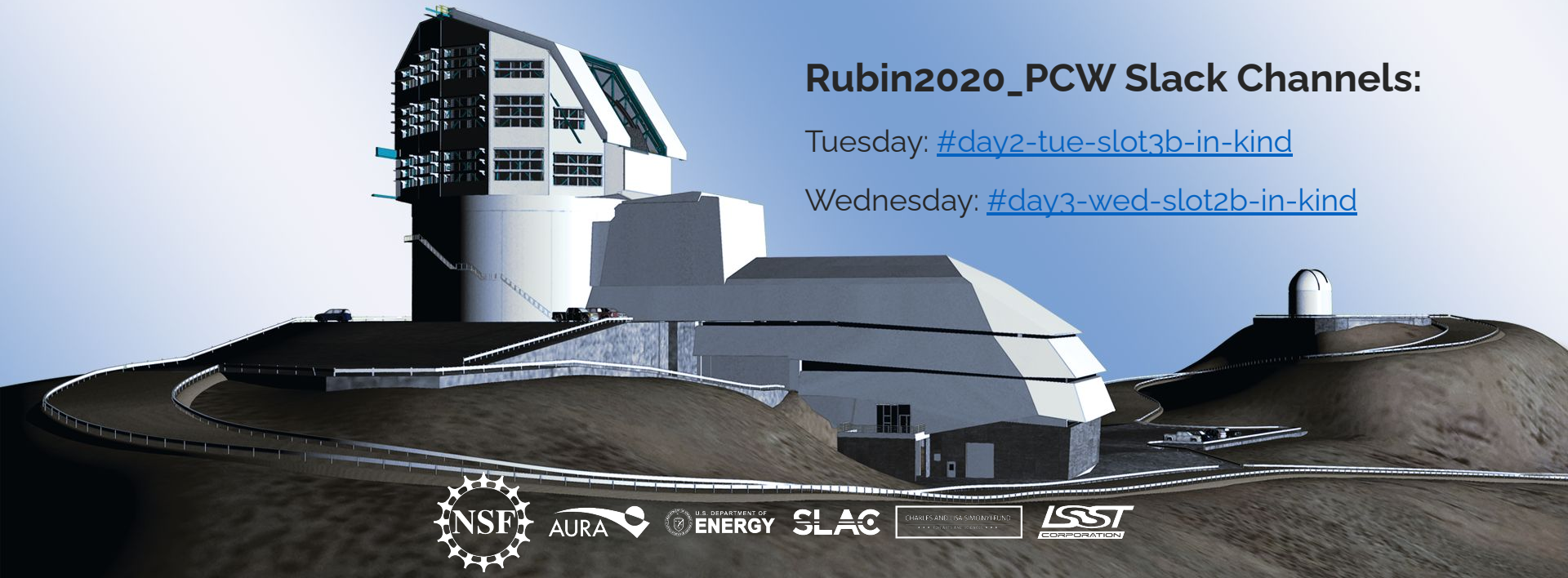
Tuesday: In-kind Proposal Workshop

Wednesday: In-kind Proposal Workshop (repeated)

## Rubin2020_PCW Slack Channels:

Tuesday: #day2-tue-slot3b-in-kind

Wednesday: #day3-wed-slot2b-in-kind



# Friendly Reminders

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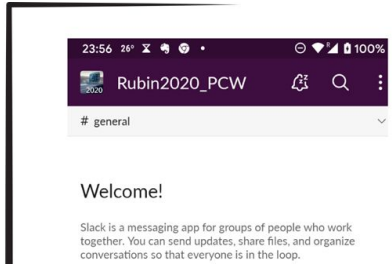
**All talks at this workshop will be recorded.**

If you do not wish to be recorded, you are welcome to keep your camera off.

**Videos are posted the next working day.**

Each session will be posted on YouTube and embedded on the session's page.



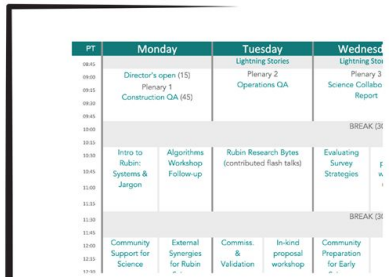

**Ask questions through the Slack channel or the Zoom chat.**

**Give Slack questions a thumbs-up.**

Questions with more thumbs up may get priority if time runs short.

**Show your appreciation.**

Feel free to applaud at any time but especially at the end - Slack has a clap emoji.




**You can access the presentation material on the session page.**

# Friendly Reminders

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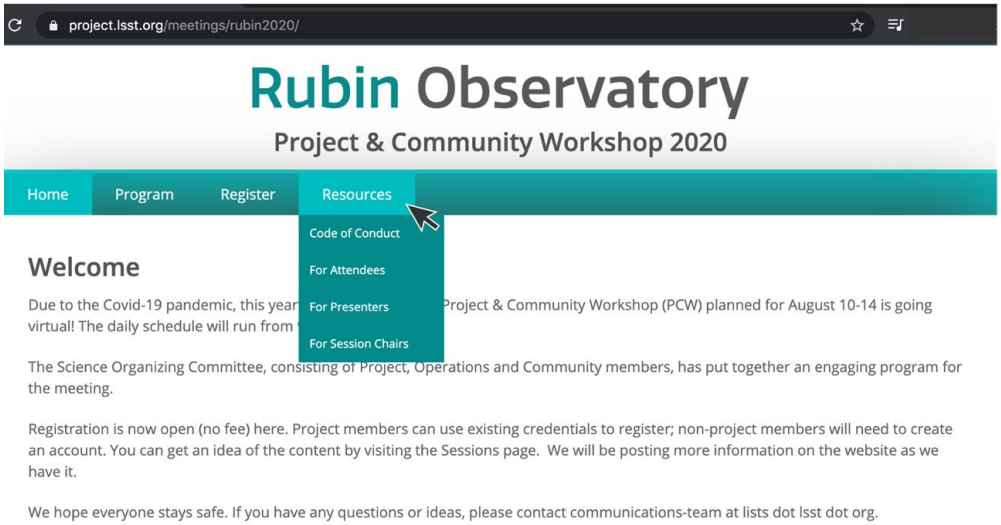
You agreed to abide by the Code of Conduct at registration - it can be found here on the website




Rubin adheres to the principles of Kindness, Trust, Respect, Diversity and Inclusion in order to provide a learning environment that produces rigor and excellence.

Any discriminatory behavior against colleagues on any basis, such as gender, gender identity, race, ethnic background, national origin, religion, political affiliation, age, marital status, sexual orientation, disabilities or any other reason will not be tolerated.

If I witness any form of bullying, harassment or aggression I will follow the reporting instructions in the Code of Conduct.

# In-Kind Workshop Goals

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- Get a brief overview of the Rubin LSST in-kind program
- Look ahead to the Fall review process, and then data rights agreement (DRA) development in Winter/Spring
- Explain the feedback you've received, and talk through the guidelines in the Handbook for Proposal Teams
- Walk through an example proposal, and see how it would be programmatically rearranged into the initial draft of a Statement of Work (for a DRA), and Detailed Plan that supports tracking of the proposed contributions

We assume you've read parts of the Handbook, but not all of it,
and that you have questions....

# You've got the CEC and Rubin Observatory team's feedback: now let's turn your LOI into a proposal

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- Around 40 international teams from 27 countries are looking to make in-kind contributions in return for LSST data rights
- Letters of Intent submitted in November 2019 contain a wide variety of ideas for in-kind contributions
- Following "approval for further development" from the US agencies, the Rubin LSST in-kind Contribution Evaluation Committee (CEC) and the Rubin Observatory team reviewed the ideas for contributions and gave feedback to the teams on July 31
- **We now have 6 weeks to turn your LOI ideas into "full proposals",** guided by a **Google doc proposal template** (that each team has a copy of, to work in), and a **Handbook for Proposal Teams,** that includes several example proposed contributions

# Your team's proposal document contains some example contribution sections and some inline instructions

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- Rough proposal outline: preamble (title, people, abstract), then **one section per proposed in-kind contribution** with subsections as follows:
  - **Background** - relevant experience/expertise, connections etc, to show why this contribution makes sense
  - **Activities** - qualitative description of what you will do
  - **Deliverables** - quantitative description of what you will deliver
  - **Expected Rights to the LSST Data** - how many PIs' data rights do you expect to receive in return, and why?
  - **Key Personnel** - who will be responsible for delivery and reporting, and which group will "receive" the contribution (and help report)?
- Instructions are in ***violet***, delete them at the end when done
- **One sentence summaries** follow longer-form descriptions (see later)

# Proposal evaluation: data rights agreements are the end goal, your proposal is part of the DRA development and negotiation

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- The proposed contribution structure is like a *derivation*, going from what you can offer and why, through to what you think that contribution is worth
  - *It's up to you to open the bidding, having followed the guidelines*
- Rubin will negotiate a final PI value with you this Fall/Winter, as follows:
  - The CEC will review your proposals, and advise the Rubin Director of each contribution's *scientific* value.
  - Rubin and NOIRLab staff will carry out a *technical* review, for feasibility, and again advise the Rubin Director
  - We will summarize these reviews for you, and indicate Rubin's PI value counter-offer or technical or scientific concerns, by December 15, before seeking Mgmt Board and Agency approval & modification
  - We'll then negotiate to convergence with you, as we develop the text of the data rights agreement in parallel

# How to think about your proposals? We are all in this together!

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- The Rubin In-Kind program can be thought of as a large international collaboration: we'll get the best out of your in-kind contributions if we all work together to make them work well. You are not competing with each other - program is inclusive & collaborative
- All in-kind contributions need to be embedded in a ***recipient*** group (eg AEON, the Photo-z Coordination Group, the TVS Science Collaboration, etc). We encourage you to reach out and start collaborating with them!
- The Rubin International Program Coordinators (IPCs) can help you get connected.
  - **Steve Ridgway:** NOIRLab observatories, AEON network
  - **Greg Madejski & Knut Olsen:** IDACs Coordination
  - **Phil Marshall & Greg Madejski:** Software Development coordination and Science Collaboration interactions

# The CEC/Rubin feedback is there to help you turn the best of your LOI ideas into high value proposed contributions

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- Feedback on your LOI ideas comes in two forms:
  - Direct, but terse, guidance in your **letter** - includes suggested recipients
  - Lengthier, uniform guidance in the **Handbook for Proposal Teams**
- In-kind contributions must *"expand the resources available to the US science community,"* and come in 6 categories:
  1. Telescope time & active follow-up programs
  2. Datasets
  3. Software development effort
  4. IDACs and other computing resources
  5. Contributions to Rubin construction, commissioning or operations
  6. Program management

# Big telescope time is high priority, small telescope time is expected to come in via AEON

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- Telescope time contributions come in two flavors: open time vs active follow-up programs
  - Open time is contributed to NOIRLab to be allocated to US PIs via a NOIRLab-managed TAC process.
  - Active follow-up programs are executed by the facility's staff, and the reduced data products returned to the US PIs. Target lists competed by NOIRLab TAC
- AEON integration: required for small (<4m) telescope time, recommended for all participating facilities
- Estimating the PI data rights value:
  - Total operational cost of the time, multiplied by weighting factor that captures scientific value of the data. Weight involves many aspects, and can be small
  - The CEC can provide the weighting factor based on data entered into the Telescope & Dataset Evaluation Form (slide after next). Get started on this ASAP!

# Datasets can be valuable, but they need to come with support - and their value depends on circumstance

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- External (historical or contemporary) and proprietary datasets
  - Includes “valued-added catalogs” made by federating the external table with the LSST catalog. (Catalogs made from the LSST data alone are considered software contributions)
- Value determined by operational cost of telescope time needed, multiplied by a weighting factor from the CEC (similar to that for telescope time) that values evident new science enabled
- Proposal needs to say where the dataset will reside (best is at an IDAC), and how it will be supported (unsupported datasets are not eligible as in-kinds).
  - If you have a specific IDAC in mind (eg your own), you'll need its endorsement

# Evaluation of proposed telescope time and datasets needs some technical information, best provided in a shared table

Rubin Observatory

Teams proposing telescope time and datasets need to fill out a row in the Telescope & Dataset Evaluation Form at http://ls.st/inkindtelescopedatasetevalform

- In the spirit of collaboration, we're using a single, shared spreadsheet to capture all of your proposed contributions' details, so that you can help each other out as well as get help from IPC Steve Ridgway and others
- The CEC will use the data in this worksheet to compute an estimated contribution value, in the form of a weighting factor to be applied to the operational cost of your contribution.
- *Expect this kind of feedback on request by early September, so please do start entering information early!*

# Evaluation of proposed telescope time and datasets needs some technical information, best provided in a shared table

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**PLEASE TAKE CARE NOT TO OVER-WRITE OTHER TEAMS' DATA!**

# Evaluation of proposed telescope time and datasets needs some technical information, best provided in a shared table

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**Active Follow-up Programs**

For each active follow-up program contribution in your proposal, please fill out a row of cells below.
All facilities participating in an active follow-up proposal should also be logged in the appropriate Telescope evaluation form (O/IR or Radio). Note that the entries in columns A:D should match between this sheet and the telescope evaluation form.

| Program Code | Contribution Number | Contribution Lead | Facility Name | Name | Features | Effective Aperture [m] | Hours / year commitment |
|---|---|---|---|---|---|---|---|
| *e.g. BUL-NAO This is given to you on the front page of your proposal.* | *From your proposal sectioning, eg S1, S2 etc* | *Name and email address of the person leading the contribution (and responsible fo in this row). We ask for email ad can contact each other, either b "mentioning" each other in cell example comment in the O/IR t Name <name@email.address> pasting into a mail agent). For C select cell and see Insert in the* | | | | | |
| BUL-NAO | S1 | Richard Arago <arago@r | | | | | |

**O/IR Telescope Facility Description Form**

For each telescope time contribution in your proposal, please fill out a row of cells below.
Active follow-up program contributions should also be logged in the "Active Follow-up Programs" tab.

| Program Code | Contribution Number | Contribution Lead | Facility Name | Instrument | Features | Effective Aperture [m] | Latitude / deg |
|---|---|---|---|---|---|---|---|
| *e.g. BUL-NAO This is given to you on the front page of your proposal.* | *From your proposal sectioning, eg S1, S2 etc* | *Name and email address of the person leading the contribution (and responsible for the numbers entered in this row). We ask for email addresses so that you can contact each other, either by email or by "mentioning" each other in cell comments (see the example comment on this cell). Format: Name <name@email.address> (to enable easy pasting into a mail agent). For Comment option, select cell* | *Observatory plus telescope, e.g. Lenticular Telescope Prime Focus Spectrograph* | *Separate instruments on the same telescope should be entered in different rows; e.g. Prime Focus Spectrograph; Wide-Field Imager;* | *Brief notes of particular capabilities of this telescope-instrument combination e.g. Robotic spectrograph, R=3000, 2000 fibers* | *e.g. 8* | *e.g. -37.4 deg* |
| BUL-NAO | S1 | Richard Arago <arago@naob.edu.bd> | Lenticular Telesc | PFS | | 8 | -37.4 |

The [Telescope & Dataset Evaluation Form] README explains what to enter where: eg active follow-up program contributions are entered in 2 tabs (facility and program)

# Software development effort must be embedded in a recipient group - the more “directable” it is, the better

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- How to embed a software development effort contribution such that it means the criteria for an eligible in-kind?
  - Effort needs to be integrated into the recipient group. Join the team!
  - “Directable” means the developer makes a work plan with the recipients, and works on what the group needs. “Non-directable” effort is potentially less valuable - so recipients need to endorse the work up front
- Value of software effort is by time committed. “General pooled” effort is directable, but also *deployable by Rubin based on the CEC’s advice* - and will get a 25% better exchange rate. It’s a way to make sure we have all bases covered
- Not everyone can (and should) be developing software: focus on dedicated computing professionals and skilled postdocs, typically working 50% time on the contribution
- Commit to building and maintaining durable, re-usable software, collaboratively.

# Computing resources are best contributed as part of a collaborative IDAC network

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- You are strongly encouraged to build an **Independent Data Access Center (IDAC),** rather than provide non-IDAC computing resources ("Scientific Processing Center")
  - Uniform authentication, similar computing environments, uniform database schema all benefit everyone - including you, as the IDAC contributors. There will be greater flexibility and efficiency for both users and providers, through working together in a common network
  - The Handbook points to Rubin technote on IDACs RTN-003 - follow the checklist in the appendix when specifying deliverables
  - Level of resources provided can vary widely - only "Full" IDACs need support the Rubin Science Platform, others can provide their own interfaces to the LSST data

# Proposed contributions to Rubin construction, commissioning or operations are primarily by invitation & direct collaboration

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- Rubin is working directly with a subset of the proposal teams on specific contributions to construction, commissioning and operations
- After an initial period of interaction with individual teams, we will bring you together to collaborate as needed

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# Ensuring the success of your in-kind contributions will take real program management effort

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When the contributions are live, how will we keep track of their performance, and solve problems if they occur?

- Each contribution needs a named "Lead" who is responsible for regularly reporting
- The IPC assigned to that contribution will arrange for the reports to be reviewed (by the stakeholders/recipients) and evaluated (by Rubin or the CEC)
- The Rubin Director (and IPCs) will then report to the Resource Board, so that it can coordinate on solutions to problems arising
- We're asking for each proposal team to nominate a Program Manager, to help the Contributions Leads make their reports, and then work with the relevant Resource Board representative to solve problems

Every data rights agreement will include bonus provision of **1 additional PI**'s worth of data rights, in return for program mgmt work on top of your technical contributions

# The Handbook contains a number of example proposed contributions, to help illustrate the guidelines

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- We may extend the library of examples in response to your needs, and so that other proposal teams benefit
- *Note that the instructions in your proposal document include links to the Google doc current version of the Handbook, which is much better for copying and pasting new proposal sections than the PDF version*

# The proposal is designed to support programmatic rearrangement into an initial draft SOW and "Detailed Plan"

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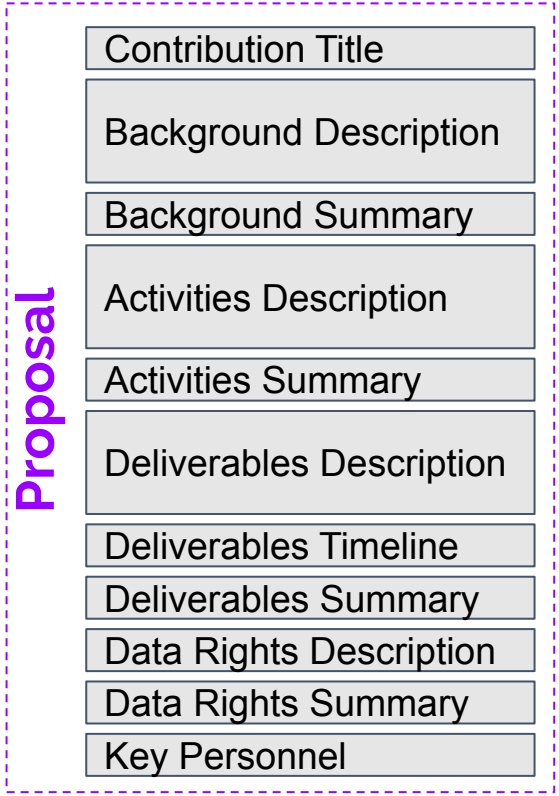
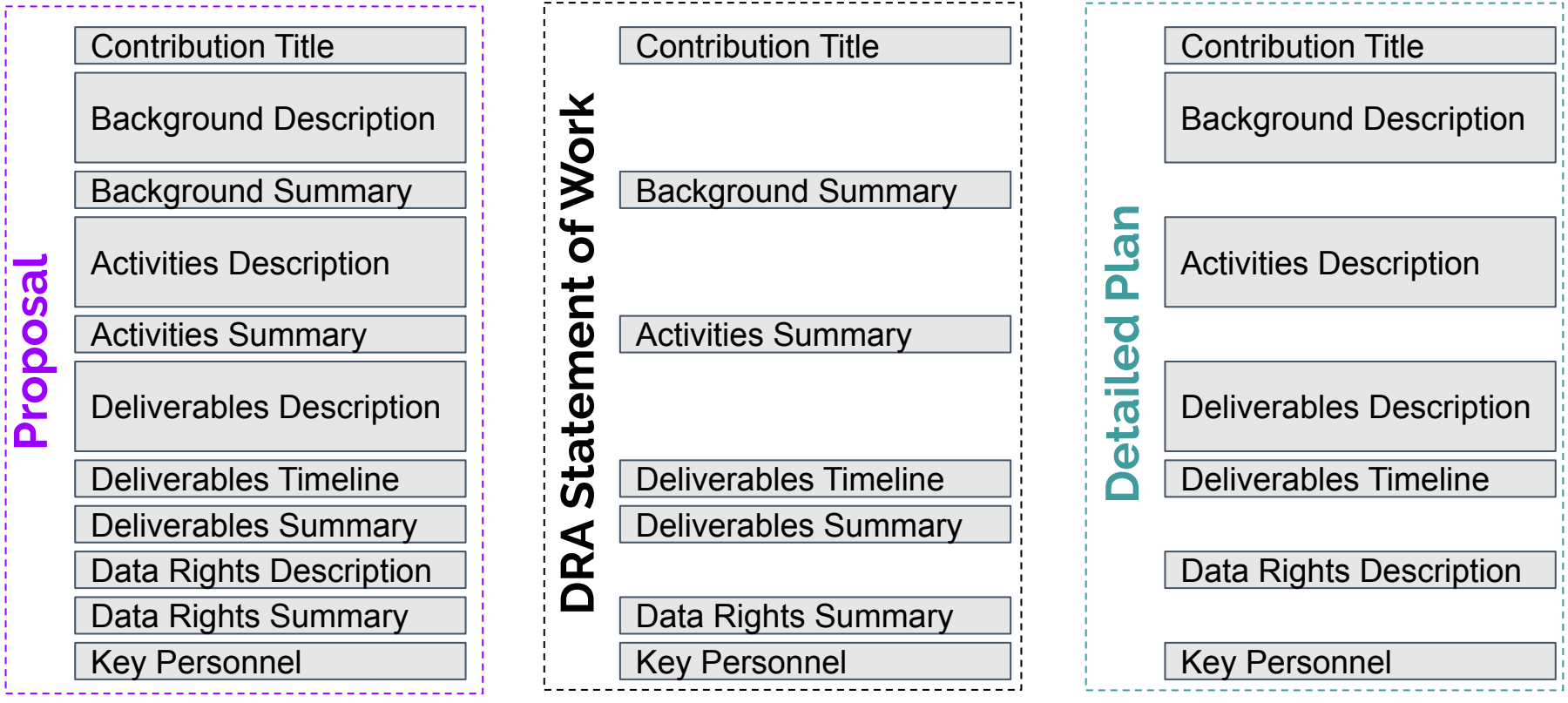



- The logical flow of the proposal mirrors (and was inspired by) that of a typical DRA statement of work
  - Divide into discrete contributions
  - For each contribution, go from why, to how, to what in return for what, to who.
- The one-sentence summaries will seed an initial draft of your actual DRA SOW
- The longer form descriptions constitute a detailed plan for executing your contributions - and include a set of trackable goals

# The proposal is designed to support programmatic rearrangement into an initial draft SOW and "Detailed Plan"

Rubin Observatory



# The proposal is designed to support programmatic rearrangement into an initial draft SOW and "Detailed Plan"

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## S1.3 PLANNED ACTIVITIES

### *S1.3.1 Activity: Description*

*Instructions: Please give a high level summary of the mode of access proposed (open time, active follow-up, or otherwise), and outline what you will do to enable that, following the guidelines in the Handbook. Most contributions are expected to be made through a NOIRLab TAC or the AEON network: if proposing an exception that, please provide justification here. Please comment on the flexibility of scheduling at your facility.*

*Instructions: 400 words or fewer.*

NAOB will make it possible for users with active time allocations to submit requests for observations that will be executed at the Lenticular Telescope. We intend to have the submission of requests for observations through a programmatically accessible interface conforming to the AEON standards: the work to upgrade the facility to integrate with AEON is already underway. In particular, whenever possible, we envision to employ queue scheduling with observations carried out by observatory staff. NOAB will fully reduce the raw data to provide calibrated spectra and thus the data processing is NAOB's responsibility, but NAOB will provide the access to data pipelines at NAOB, necessary for the observer to reduce the data on their own. Whenever possible, the raw data will be available within 24 hours of data taking, and fully reduced and calibrated data will be available within one week of data taking (in most cases, within 48 hours of data taking). NAOB already has excellent documentation for the instrument as well as for the data pipelines. Regarding the time allocation, the LSST Science Community will have 8 dark time nights, and 8 bright time nights per year. To ensure broad and fair access to proposed follow-up programs, it is envisioned that the allocation of this resource will proceed in terms of equivalent hours of observing time, managed through a semester-based NOIRLab TAC process.

### *S1.3.2 Activity: One Sentence Summary*

The spectroscopic follow-up, conforming to the AEON standards, will proceed in terms of equivalent hours of observing time, managed through a semester-based NOIRLab TAC process.

## S1.4 TECHNICAL OBJECTIVES AND DELIVERABLES

### *S1.4.1 Deliverables: Description*

## Project Agreement: Contribution 1

### Phases, Tasks, and Division of Responsibilities

This contribution will take place when Rubin Observatory is taking data. NAOB will provide observing time on the 8 meter Lenticular Telescope, primarily to spectroscopically follow-up transient astronomical objects detected by the LSST.

### Deliverables

The NAOB team will deliver spectra obtained via spectroscopic observations of targets corresponding to data obtained over 8 dark time nights, and 8 bright time nights per year on the telescope, equivalent to about 5% of the "on-sky" telescope time, for the duration of the 10 year LSST survey, for a total of 160 nights.

In return, the proposed SLAC commitment is to provide LSST data rights for 13 NAOB PIs.

### Timeline and Goals

Year 1, starting in FY 2024: First set of Lenticular spectra of LSST-discovered transients.

Year 2 - 10, starting in FY 2025: Follow-up of the LSST transients with the Lenticular Telescope. Success metric: delivery of the equivalent of 8 nights per year of Lenticular Telescope spectra (or equivalent) to the LSST science community.

### Key Personnel

Contribution Lead: Dr. Richard Arago, richard.arago@naob.edu.bd; NAOB, 3 Bulge Avenue, Disk City, Bulgediskia

Program Manager: Dr. Gabriella Da Vinci, gabriella@naob.edu.bd; NAOB, 1 Bulge Avenue, Disk City, Bulgediskia

IPC: Dr. John Doe, Rubin Observatory International Program Coordinator, SLAC; 2575 Sand Hill Road, Menlo Park, CA 94025, USA

Contribution Recipients: NOIRLab Observatories

# 6 weeks is not long - but our streamlined process should help you complete your proposals by Sept 25

Rubin Observatory

- We will continue the conversation started today:
  - Working in the proposal document we provided allows you to get help from us (Rubin) in place, via inline comments, if you need it
  - The Handbook contains a Directory of recipient groups: please reach out to the primary contacts first, and then be redirected
  - The various recipient groups will likely use LSSTC Slack as well as (and likely more than) email - please let us know if you need an invitation (especially if you are not a current MOA holder - temporary Science Collaboration membership is available)
  - Your formal points of contact remain Bob Blum & Phil Marshall