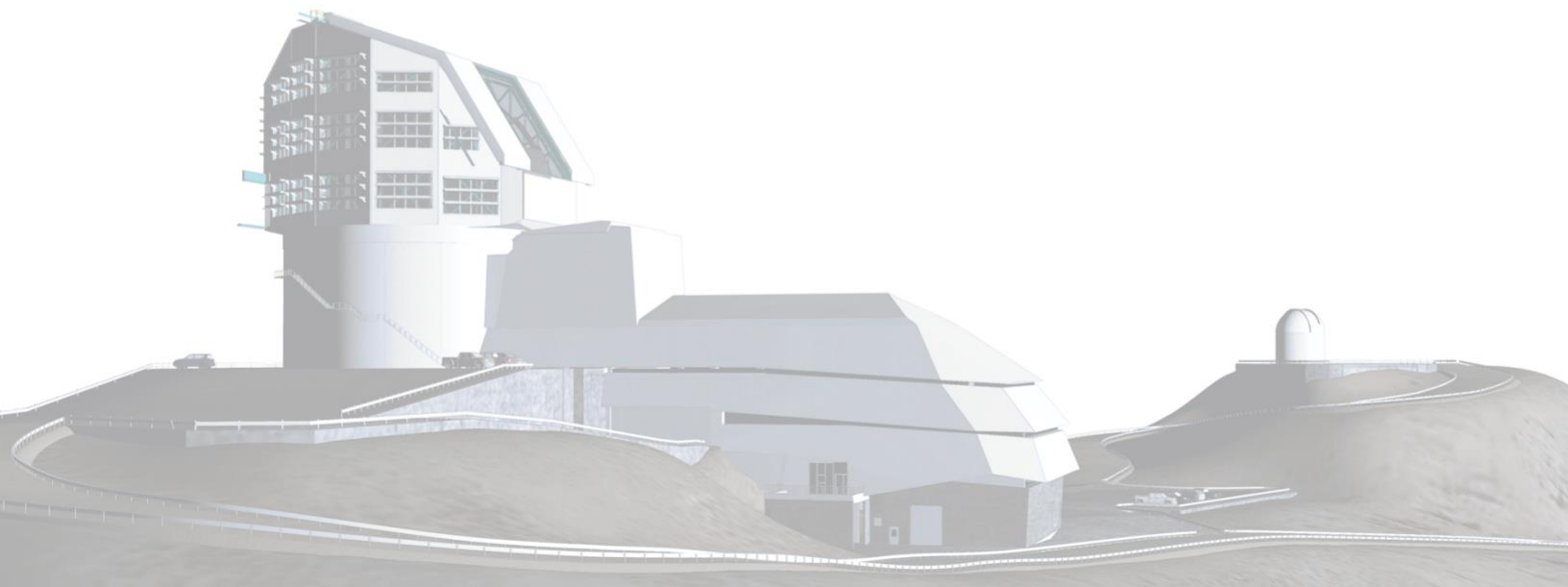




Rubin Observatory Science Collaboration Federation Charter

**Prepared by the Rubin Observatory Science Advisory Committee and
Rubin Observatory**

Latest Revision Date: July 23, 2021



Change Record

Release	Date	Description	Owner Name
1	November 2020	Draft from SAC to Rubin Management Board	Strauss, Blum et al.
1.0	June 24, 2021	Approved by Rubin Management Board	Blum
1.01	July 07, 2021	Update to Rubin Document Format, minor text edits. Changes approved 7/23/21	Blum
1.02	July 23, 2021	Public Version	Blum
1.03	July 23, 2021	DEI council launch changed from 6/30/21 to 9/30/21	Blum

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[Note to the reader: the indented paragraphs in this document provide additional details to the principles that are stated in the paragraph directly above them. We envision that this document will be made public via a web page and the indented paragraphs will be hidden by default but made available to the reader by toggling between hiding and showing the text.]

1 Introduction

The Rubin Observatory Legacy Survey of Space and Time (LSST) Science Collaborations (SC) have a long and successful history of developing the science justification for the survey and making a dedicated effort to make the science vision a reality. This Federation Charter seeks to recognize those contributions with the establishment of mutually agreed-upon principles, rules, rights, and privileges of the Science Collaborations and the obligations of Rubin Observatory to the Science Collaborations to support their activities which benefit the entire Rubin Community.

This document formalizes the SCs and their relationship to Rubin Observatory, and describes rules of self-governance (i.e. independent of Rubin) and rights of the Science Collaboration members.

In 2006 the at-the-time LSST Director (Tony Tyson) and the LSST Corporation Board created the LSST Science Collaborations. The LSST is now referred to as Vera C. Rubin Observatory. The Rubin Observatory Legacy Survey of Space and Time Science Collaborations (SCs) are a diverse and geographically distributed network of scientists collaboratively addressing questions ranging from fundamental physics to data science that can be addressed by the Rubin Observatory LSST. While an early role of the SCs was to make the scientific case for LSST to the 2010 Decadal Survey, the SCs have evolved and grown into eight active teams that are now self-organized and self-managed. Individuals may belong to more than one SC. The SCs have always been autonomous, and they have each developed their own rules for membership and internal operations.

The SCs are a resource to Rubin Observatory: they provide scientific expertise to guide design and operation choices. As an example, the SCs hold the technical and scientific expertise, as well as the direct knowledge of the science that can be achieved through Rubin Observatory data, required to evaluate proposals for international in-kind contributions to maximize the scientific output of the survey for the Rubin Community. As such, each SC is participating in the International In-Kind Contribution Evaluation Committee ([CEC](#)). In light of the increased responsibility that this kind of advisory role places on the SCs, and in order to facilitate the communication and to be able to officially leverage the SCs as a resource.

Rubin Observatory seeks with this document to formalize the federation of the SCs, setting mutually agreeable ground rules for their formation, dissolution, and operations.

While the Rubin Observatory Science Advisory Committee (SAC) remains the primary source of scientific advice to Rubin Observatory, the SCs provide additional scientific and technical expertise and advice. When appropriate, and when resources allow, the Rubin Observatory Construction or Operations Leadership (hereafter, “Project”) may ask the SCs to provide analyses and products that will help guide Rubin Observatory decisions in meeting scientific requirements and maximizing the survey’s success. Getting such work done may require financial resources from the Project.

This SC federation document was prepared by the SAC with substantial input from the SC Chairs. The rules described in this document attempt to reflect the reality of the SCs at the time this charter was drafted, without placing undue or onerous requirements on the SCs. The SAC will review this document roughly once per year in consultation with the SC Chairs via the Science Collaboration Coordinator to determine if it needs modification or amendment. Any suggested changes should be incorporated after consulting with the Project and with explicit agreement of the SC Coordinator representing at least the $\frac{3}{4}$ majority consensus of the SCs.

In this document, *shall* refers to a requirement and *should* refers to best practices that promote the shared values of the LSST science community. Something that is *recommended* or *encouraged* should be carefully considered depending on the circumstances, but may not always be a good fit depending on the context.

2 The rules governing the Science Collaborations

No science areas are “reserved” for any one SC or for any group outside the SCs. Overlap in scientific interests is inevitable between SCs, and cooperation between SCs is encouraged.

2.1 Membership of the Science Collaborations

The Rubin Observatory Project puts no constraints on the membership of the SCs.¹ However, each SC should have well-defined and clear criteria for membership, and a defined process to review applications, involving a named membership committee². There shall be a low threshold for involvement in the SC activities in order to assure that the SCs remain an inclusive environment, and to give equitable access to the SC infrastructure.

Information about the process to apply to join a SC should be included in each SC charter or other official policy document of the SC, and should be described on a public website.

Applications from Rubin Observatory Project personnel should be judged favorably by the SC membership committees. The work that the Rubin personnel are doing in building the Rubin Observatory should be recognized as important to the activities of each SC. This requirement, however, does not overrule the membership requirements or Code of Conduct of each SC.

While each SC should set its own criteria and threshold for membership, there shall be a low threshold for involvement in the SC activities in order to give equitable access to the SC infrastructure, even for those who have not yet contributed a significant amount of work to the SC (e.g., new graduate students or scientists moving into a new research field). Some SCs may choose to do this by defining membership in two or more tiers, e.g., “Associate” and “Full”, with clear criteria by which an Associate Member can be considered for Full membership, and a clear statement of the specific rights and responsibilities that each tier confers. However, all members, no matter what their tier, should be granted access to the main SC communication tools and platforms, such as the LSSTC Slack, protected Community pages, and SC mailing lists.

¹ In particular, the previous restriction from the Project that membership be limited to those with Rubin Observatory Data Rights has been lifted. While the SCs may decide to continue to keep this restriction on their members, each SC resolves to make an explicit decision, and either lift, maintain, or modify this requirement in the coming years, and no later than the last revision of this document before the beginning of science operations.

² At the time of writing some SCs have entrusted the responsibility of reviewing applications to the Chairs, making them a de-facto membership committee. This is allowed under this document.

2.2 Science Community Builder status

The SCs have the right to put forth candidates to Rubin from their membership for LSST Science Community Builder status. This status is described in DPOL-403 of the [Rubin Data Policy](#). A principal benefit of LSST Science Community Builder Status is the provision of permanent data rights (see the [Data Policy](#) for details). The SCs shall define consistent minimum criteria for identifying SC members who should be granted LSST Science Community Builder status in recognition of significant contributions to the infrastructure of one or more SCs -- for example, development of key software and/or significant service to the SCs produced while being a data rights holder.

As described in the Rubin Data Policy, LSST Science Community Builder status can only be achieved by SC members who generate the relevant contribution(s) while they have data rights. SC members shall go through a nomination and confirmation process internal to the relevant SC or SCs that shall be described in a document in preparation, and candidates thus selected shall be subject to confirmation by the Rubin Observatory Director.

2.3 Governance of the Science Collaborations

The SCs are coordinated by a Science Collaborations Coordinator selected by the SCs. Each SC shall have and maintain a charter describing its leadership and membership structure, a separate code of conduct that requires all members to treat one another professionally and with respect, and a publication policy.

The SC Coordinator is elected by the SC members, with one vote per SC. The SC Coordinator's term is three years; a given Coordinator may serve more than one term. The SC Coordinator is responsible for ensuring the flow of communication between the SCs, and communication between the SCs and Rubin Observatory.

The initial charter of a SC and any significant changes to follow shall be approved by a vote involving at least the Full members of that SC or their elected policy-making body.

The leadership structure of the SC should be described in its charter. This leadership structure should include one or preferably two individuals at the top, termed "chair", "co-chair", "spokesperson", or the equivalent. These individuals will be the default

point of contact between their SC and the Rubin Observatory. Each SC should define their internal organizational structure, including, for example, working groups and task forces. The internal structure does not have to be the same for all SCs.

Selection of SC chair(s), leaders of internal working groups, and other leadership positions, should be conducted openly within each SC. Chairs should be chosen through an election involving at least the Full members, where applicable. Elections are encouraged for all other leadership positions within the SC as well, and the selection process should encourage and support diverse and early career scholars to take leadership positions.

While each SC shall have a publication policy, an SC's publication policy may be as simple as stating that the project personnel in the SC are required to abide by the Rubin Observatory Project-wide [publication policy](#). Significant changes in an SC's publication policy should be approved by a majority vote involving at least the Full members of that SC. Each SC publication policy shall be consistent with Rubin Observatory collaboration-wide publication and Rubin Data Policy.

The SCs are encouraged to share charters and codes of conduct, to learn from one another what works well, and what can be adapted for the particular needs of each collaboration. More generally, active communication between SCs is strongly encouraged, and will be facilitated by regular meetings of the SC Chairs called by the SC Coordinator, as well as by a Diversity, Equity, and Inclusion Council with representatives from each SC (see below).

3 The Rights of the Science Collaborations

The SCs have the right to (i) direct communication with the Rubin Observatory Data Management team (DM, or equivalent bodies in future phases of the Observatory) via a designated liaison facilitated by the Rubin Community Engagement Team (CET), (ii) regular interaction with Rubin via dedicated online meetings of the SC chairs with the Rubin Operations Leadership and technical team. It is expected that SC members will routinely be selected to serve regular terms on the Rubin Science Advisory Committee, the in-kind Contribution Evaluation Committee, and other committees as appropriate.

In the regularly scheduled meetings, the Rubin Construction Project PST and Operations Directorate should update the SCs about the status of Rubin LSST in general, and on specific topics as requested by the SCs or suggested by Rubin leadership. The SC Coordinator will organize these meetings in coordination with Rubin leadership.

Each Rubin liaison to the SCs should participate in the activities of the SC. They should participate in relevant SC meetings, within reason, and report on DM, construction, and Rubin operations activities to the SC at least quarterly, at a cadence agreed-upon with the SC.

The SC Coordinator shall hold a seat on the SAC.

The SCs have the right to representation on the Contribution Evaluation Committee (CEC) to evaluate contributions, especially those contributions whose designated recipients are one or more SCs. The SCs shall be represented on this committee by a primary and an alternate representative. The SC representatives on the CEC should be chosen from among the SC membership. The alternate should be available to serve both when the primary is not available and in case of conflict of interest for the primary representative.

Rubin will ensure that the SCs have the communication and web infrastructure support they need, as resources and US government regulations allow.. Possible support includes, but is not limited to:

Access to the communication platforms that are available to Project personnel³.

Access and use of a persistent database of SC membership⁴ and the associated mailing lists.

A central webpage as a portal to the SCs, hosted and supported by Rubin.

4 The Responsibilities of the Science Collaborations

The SCs should be available, within reason, to provide advice on scientific and technical

³At the time of writing, access to video conferencing and Slack is supported by the LSST Corporation.

⁴At the time of writing, the database is maintained by the LSST Corporation.

matters to Rubin Observatory, including participating in committees, as is the case for the CEC, and in working groups. Rubin will provide the support needed for SCs to give that advice, including travel support, as allowable.

The construction PST and operations Directorate hold regular joint meetings with the SC chairs. At least one of the chairs of each SC (or their designated proxy) should participate in each of these meetings.

In order to ensure that the Rubin LSST community is a just and equitable environment, the SCs shall coordinate their efforts in diversity, equity, and inclusion. To this end, a Diversity, Equity and Inclusion Council of the SCs shall be created. The Council shall include one representative from each SC, the SC Coordinator as an ex-officio member, and additional at-large members to broaden the Council's perspective.

The Council members will elect their own chair. The Council shall serve as a resource to all SCs, a place for the SCs to share experiences and best practices, and a mechanism to distribute the diversity and inclusion workload collaboratively. The council shall draft a charter describing their charge, operations, and responsibilities by September 30, 2021, in close coordination with the SAC, the Rubin Diversity Advocate and/or the Rubin Workplace and Culture Advocate, and the AURA Chief Diversity Officer. The Council shall write an annual report of the status and activities regarding diversity and inclusion of each SC. This report shall be posted on the public SC website, providing accountability for this effort.

Each SC shall write an annual report on their activities.

The annual report of the SCs should be collected by the SC Coordinator and delivered to the Rubin Observatory Director and the SAC. The report should be no longer than 2 pages. These activities should also be described in a presentation to the Rubin leadership with participation from all SCs. This could happen at one of the monthly SC-Rubin PST meetings, or at the annual Rubin Project and Community Workshop. This presentation should also provide an opportunity for the SCs to describe what they need in order to properly function, grow, and deliver science and scientific and technical advice, and to advocate for these needs to Rubin as appropriate.

Many of the above-described rights and responsibilities involve a considerable amount of work from the SCs and/or their representatives: e.g., participating in committees and providing detailed input and feedback on technical and policy questions from the Project. The SCs should be empowered to advocate for their needs.

The SC Coordinator is charged with examining what the SCs need to properly function, grow, and deliver science and support Rubin Observatory, and with advocating for these needs to Rubin Observatory, as appropriate. The Rubin Observatory commits to listen and where possible advocate for and pursue support, including compensation, for the work of the SCs in service to the Observatory.

5 Ratifying the List of Science Collaborations

5.1 Adding new Science Collaborations

The Rubin Observatory Operations Director approves the formation of and formally recognizes SCs, on the advice of the Rubin Observatory SAC, for SCs that are founded under this charter.

The eight existing SCs as of 2020 will be asked to formally request recognition, with the expectation that it will be granted. This request should be in the form of a letter to the SAC chair, including the SC charter and code of conduct, and describing the current membership of the SC.

Additional SCs may be formed as well, on any science theme of relevance to Rubin Observatory. A group interested in forming a SC recognized by Rubin under this charter shall prepare a formal letter to the chair of the SAC, giving the rationale for a new SC.

While overlap with existing SCs is allowed, the SAC discourages direct duplication without an explicit reason. Thus the letter shall describe how the new SC relates to existing SCs, and if relevant, include a strong and clear motivation why a separate SC is needed on the same topic or related topics. The letter shall also include an outline of the proposed SC charter and code of conduct and also identify a core group of people willing to serve as an initial leadership team for the new SC. Finally, the letter shall state that the new SC will follow the guidelines described in the present document.

The SAC will review the letter and will consult with and consider feedback from overlapping existing SCs and the SC Coordinator. The SAC reserves the right to give feedback to the letter writers to strengthen it further. The SAC should take no more than 6 weeks to review the letter from the time it is received. The SAC shall then recommend to the Rubin Observatory Director whether a new SC should be approved or not, with a final decision expected 4 weeks after that date.

5.2 Dissolving a Science Collaboration

A formally recognized SC which wishes to be disbanded or to merge with another SC should send a letter to the SAC chair, describing a plan for the continuity of the scientific effort.

This letter should provide a complete rationale for dissolving the SC. The letter should summarize the discussion within the SC showing that the majority of members support the dissolution. The SC is encouraged to consult with the Rubin Director beforehand to ensure continuity of the science effort within the Rubin Community, and the letter should describe how this continuity would work. If members plan to join other SCs focussed on related themes, the letter should describe the communication with those SCs. The SAC shall make a recommendation on how to proceed to the Rubin Observatory Director, who will have the final say. The SC can expect a decision within 10 weeks of the initial request.

6 Concluding Remarks

While the Rubin Observatory LSST Science Collaborations have been autonomous from Rubin Observatory in the past, and thus have had little or no financial support from Rubin This document lays the foundation for a more substantive role and connection between Rubin Observatory and the Science Collaborations. This connection is driven in part by the key role the SCs play in the CEC; there may be additional such committees or tasks in the future for which the SCs are asked to provide comparable input. Rubin Observatory recognizes that the effort of SCs through committees such as the CEC is substantially more than typical advisory committees, and thus is committed to finding ways to support (including financial compensation and travel support) such activity as appropriate and allowable.