# LSST:UK Newsletter 1 (June 2020)

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#### Introduction

This is the first LSST:UK Newsletter, so we should explain why it is appearing and why now. When we started the *lusc-announce* email list, we said that it would be a low-traffic list, and a number of people have told me that they appreciate that we have stuck to that, so that they know that any message they receive on the list will be significant. As we approach survey operations, there will be more information to share with the community, and we have decided to aggregate the non-time-critical material into regular newsletters, rather than increase the frequency of emails on the *lusc-announce* list. Now seems a good time for the first newsletter because many people will be wondering what impact Covid-19 will have on the Rubin Observatory and on LSST:UK. As discussed below, we do not have the full answer on that yet, but we have some information now and will pass on more as the situation becomes clearer.

Newsletters will be circulated as PDF attachments to emails to the *lusc-announce* lists, with a table of contents presented in the main body of the email. A version will also be available on the LSST:UK Confluence Wiki site, since it is expected that many newsletter items will link to longer documents available on the wiki. Our intention is to produce newsletters each month with the hope that a regular schedule will encourage members of the LSST:UK community to plan ahead and provide updates on their work within the Science Collaborations and the STFC-funded LSST:UK Science Centre programme. Those with ideas for future newsletter items should contact the LSST:UK Project Managers ( George Beckett and

@ Terry Sloan : lusc\_pm@mlist.is.ed.ac.uk), while everyone is encouraged to subscribe to the Rubin Observatory Digest for more general news from the US observatory team.

Ø Bob Mann

#### **Re-naming LSST**

As most of you will know, the LSST has been renamed in honour of Vera Rubin. A press release from the announcement is available at https://www.lsst.org/news/vropress-release while an official usage guide can be found at https://project.lsst.org /documents/name-use-guide. The latter includes the following summary statement: "For the first ten years of operation, Vera C. Rubin Observatory will perform the Rubin Observatory Legacy Survey of Space and Time, using the Rubin Observatory LSST Camera and the Simonyi Survey Telescope". So, the acronym LSST lives on in the name of the survey, while the telescope has been named in recognition of the early funding provided by Charles Simonyi.

Since our involvement is with the survey, rather than the observatory, per se, it seems fine for us to remain as *LSST:UK*. However, in case we decide, or are asked, to change our name in due course, we have reserved the rubin.ac.uk domain, which currently redirects to the www.lsst.ac.uk website.



[Image - View of Rubin Observatory, May 2020. Credit: LSST Project/NSF/AURA]

Bob Mann

#### Impact of Covid-19 on the Rubin Observatory and LSST:UK

Construction activities on Cerro Pachon were halted on March 20th, in advance of the start of lockdown restrictions in Chile. Small teams of Rubin construction staff are now visiting the site regularly, but only to check that it remains secured and as ready as possible for the onset of winter. SLAC, similarly, was closed in late March, but limited access to the camera lab became possible during late May, so some work on the full LSST camera is now happening. The commissioning camera, ComCam, arrived in Chile in April, but the summit closure means that it is still sitting in La Serena; further details can be found at https://www.lsst.org/news/comcam-progress-la-serena. Observatory staff in Tucson and elsewhere are working from home, and, like the rest of us, adapting as well as possible to a life on online meetings, but with an inevitable reduction in efficiency overall.

The US agencies are, sensibly, viewing the Covid-19 pandemic as an event to be managed outside normal project contingency arrangements, and the Observatory are currently discussing with them a "*rebaselining*" of the final stages of the construction project and the start of operations. The outcome of that will not be known for some months, but it seems inevitable that the overall project schedule will slip by something like 6-12 months, meaning that full survey operations are now expected to commence at some point in 2023, rather than in October 2022, as originally planned. On a more positive note, the rebaselining <u>may</u> allow the reinstatement of some activities that seemed likely to be dropped from the commissioning schedule when, earlier this year, construction delays were to be accommodated within the project contingency.

Consideration of the UK's in-kind contribution to Rubin operations under the new model for international participation continues, but at a slower pace than planned, due to Covid-19. The Contribution Evaluation Committee (CEC, composed mainly of representatives of all the Science Collaborations) is still evaluating the Letters of Intent submitted by international partners. The CEC was initially expected to provide feedback on the Lols by the end of May, but that has now been delayed to the end of July, with international partners then having until late September to produce full proposals for the composition of their in-kind packages.

Work continues within the STFC-funded LSST:UK Science Centre programme. Since this is mainly software development, staff are able to work from home, albeit with the inevitable reduction in efficiency, and with some staff particularly affected due to the individual personal circumstances. The Work Package most directly affected has been the sensor characterisation work being performed at Oxford, due to lack of access to lab facilities, but, as described by @ Daniel Philip Weatherill below, overall progress within that Work Package has been very good. Like all STFC grant-funded projects,

we were asked, in early April, to provide an initial assessment of the likely impact of Covid-19 on our work and that exercise is likely to be repeated in the coming months.



#### The UK DAC Roadmap

The DAC team have published a plan to deploy and maintain a prototype DAC infrastructure throughout Phase B, providing a preview of the capabilities that will be available to UK-based astronomers during operations, provide a training platform on which research groups can develop the skills and experience they need to fully exploit LSST data, and to enable development, validation, and integration activities for DEV teams. Details of the Roadmap are available on the Science Centre space.

The first release, called **UKDAC0** (fig. right), is a very limited release aimed at DAC team members, to help build experience with the component elements and to support investigations into capabilities for hosting ancillary datasets. In October, we hope to launch **UKDAC1**, which will be accessible to invited astronomers from the Consortium, and to include the PanSTARSS survey catalogue.

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#### **Appointments**

Several LSST:UK members deserve our congratulations for recent appointments related to their involvement in the Consortium. In chronological order of announcement:

@ George Beckett

- @ Stephen Smartt (LSST:UK Project Scientist) has been elected as a Fellow of the Royal Society in recognition of "his pioneering use of digital sky surveying, enabling the detection of stars before they explode, and the discovery of the first electromagnetic counterpart to a gravitational wave source".
- @ Meg Schwamb (LSST:UK Solar System Point of Contact) has been re-elected for a second three-year term as co-chair of the Rubin Observatory LSST Solar System Science Collaboration.
- @ Aprajita Verma was re-elected, and @ Catherine Heymans elected, to three-year terms on the LSST:UK Executive Group, with

Catherine replacing @ Alastair Edge who did not seek re-election. Alastair deserves our sincere thanks for five years' engaged and informed

service on the Exec Group, and, in particular, for his chairing of the Phase B Work Package Selection Committee which turned out to be both more onerous and more important a task than it appeared when he took it on, and set us up very well for the negotiations currently underway over the UK's in-kind contribution.

So, congratulations to Stephen, Meg, Aprajita and Catherine and many thanks to Alastair!

Ø Bob Mann

Recent CCD characterisation results from WP3.9

Although work in the lab is currently all but suspended due to the COVID-19 situation, we are busy working on several aspects of data analysis and simulation for the deliverables of WP 3.9. One highlight is the work on charge trapping and charge transfer inefficiency in LSST sensors via measuring the properties of single electron traps in the silicon lattice in-situ. For anyone interested in some context and explanation to a general audience, please see <u>this longer piece</u>.

② Daniel Philip Weatherill

## Recent LSST:UK outputs

LSST:UK has recently produced the following technical reports.

Title	Author	Description
D1.1.1 Long-term Plan (Mar '20)	Bob Mann	This is the principal, top-level planning document for UK participation in the Legacy Survey of Space and Time (LSST) to be conducted at the Vera C. Rubin Observatory.
D1.2.1 Science Requirements Document (Mar '20)	Stephen Smartt	This document captures the requirements on the LSST:UK Science Centre (LUSC) from the LSST:UK science programme, including indirect requirements on other organisations that are met through collaborative relationships with the LUSC.
D2.1.1 DAC Roadmap and Integration Plan for DEV Activities	George Beckett	The roadmap for the UK-based Data Access Centre that will serve Rubin Observatory data products to UK-based astronomers as well as enhanced capabilities (bespoke software and datasets) to support UK science priority areas.

@ Terry Sloan

### Forthcoming relevant meetings and the pool travel fund

An up-to-date list of upcoming LSST and related meetings is available from the LSST:UK Wiki (see Relevant LSST Meetings). While travel is significantly restricted during the current lockdown period, a number of high-profile meetings have been moved on-line, potentially providing more opportunity for people to "dip in" to interesting sessions.

Of particular note:

- The LSST Project and Community Workshop 2020 will run as a virtual event, during 10th–14th August 2020. More information is expected in coming weeks see https://project.lsst.org/meetings/rubin2020/. Registration is open, but non-Project staff have to create an account first.
- The DESC Summer 2020 collaboration meeting will run as a virtual event, during 20th–24th July 2020. More information is available on the DESC Confluence pages (login required).

The LSST:UK Pool Travel Fund remains open for future events that are beyond the expected lock-down period. However, those wishing to book travel should consult with their institution's travel office (or equivalent), make sure to have appropriate insurance in place, and to explore flexible travel and accommodation options, where costs permit.

@ George Beckett