From: **Michael Strauss** strauss@astro.princeton.edu
Subject: Comments/questions from Jason
Date: January 21, 2014 at 3:06 PM
To: LSST SAC lsst-sac@lsstcorp.org
Cc: Michael Strauss strauss@astro.princeton.edu

Hello all,
Jason Kalirai sent me the following e-mail about various aspects of SAC-related activities. I've embedded my responses here; please chime in with your own opinions! He touches upon a number of major themes I think the SAC will be exploring.

Thanks, Michael

> 1.) How should the SAC communicate with itself?
> Although telecons and in-person meetings are essential, it could help to have a centralized management system for our committee. This would allow SAC members to start different topics simultaneously and for other members to comment and iterate ideas in an organized flow. It also provides a nice way to share plots, diagrams, reports, data requirements, policy, etc. without filling each others' inboxes, and for iteration of recommendations and letters. As I'm sure you know, meeting reminders, calendars, and email alerts are all standard in these systems. Although I suspect we might not have the need to fully utilize the software today, it could become a valuable tool in a few years and the back log of discussions would be nice to capture in one place.
>
> I would recommend Basecamp as one such management software.

This is a good point. We have an LSST wiki which we can use, but it will not do everything that you describe above. We do want to keep our deliberations open whenever possible, but that probably does not require that the general public see all our intermediate drafts, for example!
I am not familiar with Basecamp. Is this a commercial product? We may be able to have the LSST Project pay for it.

> 2.) It would be useful to have a hardcopy of the ORG chart that Steve outlined on the phone, also with some names for the various leads.

The ORG chart may be found here:
https://lsstcorp.org/content/project-org-chart

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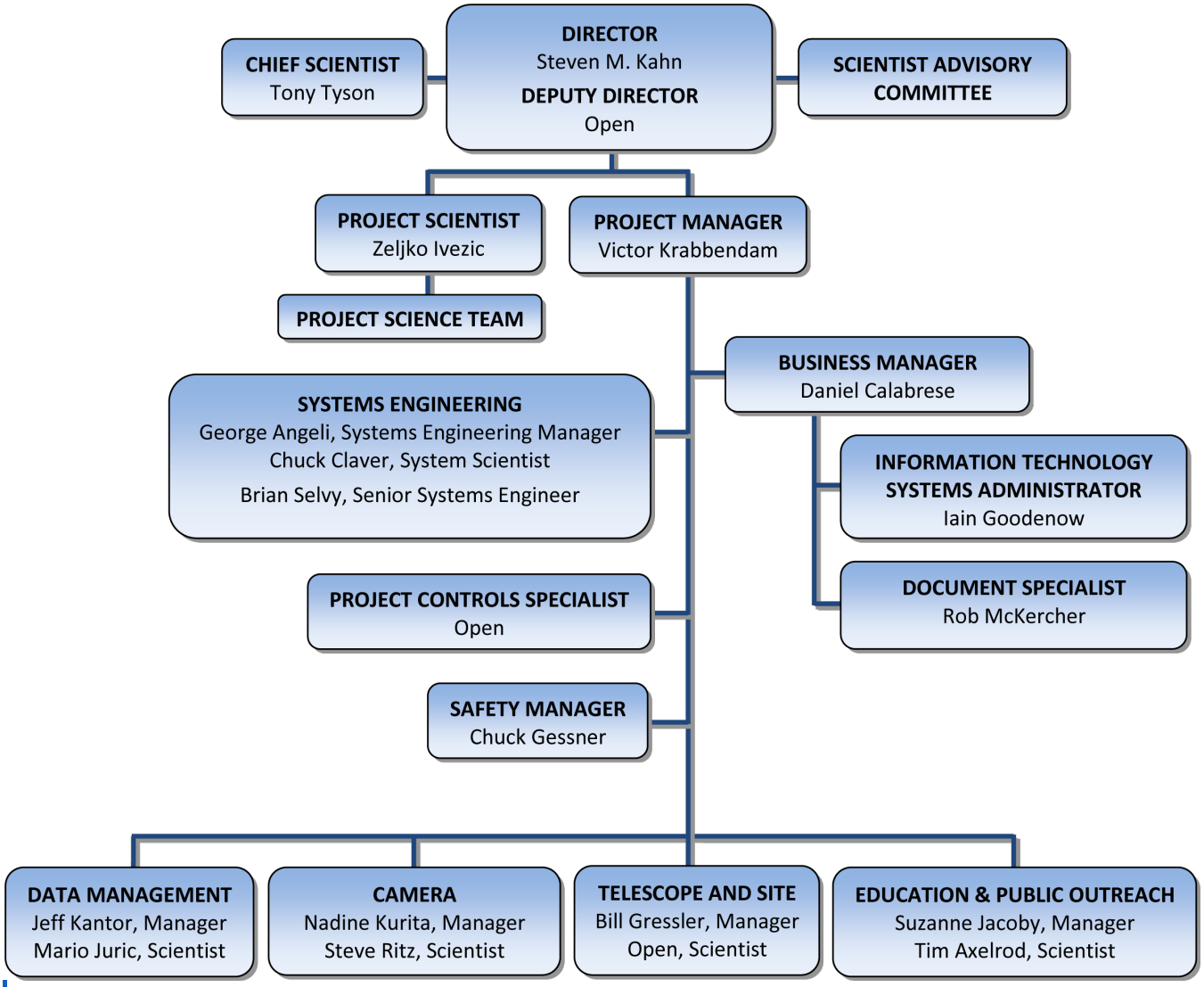
and attached here. You'll notice we're right up at the top! I am happy to answer questions about any of the funny appendages you see here....



3.) I was curious on whether you saw the SAC as having a roll in interacting with congressional and OMB/OSTP staff? For example, as a first action, given the positive language on starting LSST in the omnibus, should some part of the LSST project write a letter of thank you to the appropriate House/Senate committees? Such a letter would also give the project an opportunity to briefly summarize to these stakeholders the wonderful astronomy that will be enabled by their commitment. Of course, establishing this type of relation might have its real pay off down the line, when (internal or external) issues will (inevitably) come

> up.

The LSSTC Board and AURA of course have been working closely with those on the hill. For example, the last two Aprils, the LSST Board meeting has been held in Washington, and we've spent the day before the meeting visiting congresspeople and staffers, and telling them about LSST. This work has been coordinated by Bill Smith (AURA president), and Bill was giving us a blow-by-blow (by e-mail) as the Omnibus bill went through Congress. I certainly can see the SAC being part of this process into the future. You are right that it would be a good idea to follow up now that the Omnibus bill is through. I wrote to Bill to get his take. He wrote back immediately saying: "I have thanked the Committee staff. I have not thanked individual offices that were visited though. I will communicate to the Institutional members that this would be a good idea. thanks for the suggestion."

> 4.) I asked Steve about the schedule beyond first light due to a science angle. With all big projects, it can be important to "hit the ground running". In the case of LSST, the first data release happening >3 years after the start of commissioning (e.g., 6-12 months commissioning --> 1 year early science verification --> last quarter 2022 start of first year --> end of 2023 first data release) could lead to missed opportunities given the timing of other major programs like JWST. I hope the SAC can be helpful in defining a process to allow community data analysis of "special fields" earlier than this timeline. For example, we may want to think of front loading the deep drilling fields in the schedule since they are likely to become "legacy" fields in astronomy that would motivate multi-wavelength observations from missions like JWST. More generally, some parts of the southern sky are clearly more interesting than others and the SAC should evaluate the science return from annual data releases in that context.

Absolutely. This is exactly the sort of thing the SAC will be key in helping us think through. The question of who gets access to commissioning data, in what form and on what timescale, both to help in the commissioning process itself, and to do science, is a biggie, one that we've gone back and forth on quite a bit. I see the SAC as a body that can give a strong and public opinion about this. A closely related issue is planning the science commissioning, including deciding on which fields, as you suggested.

> 5.) I don't think the topic of "who gets access to the high level data products" came up. Do you think we should put this on our agenda for the face to face?

Sure. But the quick answer is that the data releases will be available to the full US community, and that before the data are released, they are not going to be in a form that anybody could use them to do science.

> 6.) I fear that the NSF model of funding research through general AST grants is not going to work well for LSST. It would be great to see a funding program where scientists can propose for grants that are dedicated to the archival analysis of LSST data. There are different models for how large science programs are funded, and it might be helpful to expose the SAC to these so we can discuss the pros/cons of different approaches for LSST. I'm not just talking about astronomy, and I'm not just talking about the US. I realize that its hard to change the NSF paradigm, but LSST might be the best opportunity to fight for it.

This is a big issue, one which we all worry about a lot. We've talked to NSF about this a lot, but they are wedded to their approach. NASA sees its various satellites as missions, in which the science papers are the result of those missions. It is this spirit that allows HST to fund the scientists who get telescope time. NSF sees the product of LSST as the data, full stop. DOE (which is *only* interested in Dark Energy) does want to see science papers.

> 7.) I was very happy to see that Outreach was in the agenda. As you know, NASA's space-based programs for Education and Public Outreach (EPO) are very visible. In my opinion, we have a remarkable opportunity for LSST to lead new generations of EPO for ground-based astronomy. Specifically, I liken LSST to building a huge map of the Universe, and this can be really exciting to the public (analogies with humans building the first maps of our planet through exploration). There are already tools that exist to showcase a view of the Universe, such as Google Sky and Microsoft's World Wide Telescope. These tools are very popular, but, their current information content js a drop in the bucket when compared to the LSST yield. It would be great to try and get these groups excited about LSST. If we are successful, this could be

> extremely rewarding and cost effective. Maybe we could invite the leads of these programs (and others) to one of our future SAC meetings when we discuss outreach.

Absolutely. There is a chapter in the LSST Science Book about EPO: http://www.lsst.org/files/docs/sciencebook/SB_4.pdf and the plans have matured considerably since that was written. Ideas like those you suggest are certainly part of the plans, but I am not up to date on all of this. Yes, by all means, we can include this in our SAC agenda.

> 8.) Could major components of LSST, such as searching for transients, be done in citizen science projects? The entire survey may have a large cross section with citizen science. We should talk about this, and consider inviting the Citizen Science folks (like Chris Lintott) to one of our meetings.

There has been some talk about this in the EPO, and some of the science collaborations are thinking about this as well. For example, the identification, classification and modeling of strong lenses are notoriously difficult to automate, and the strong lensing science collaboration has discussed ways to get a citizen science project to help out with that. See the final section of: http://www.lsst.org/files/docs/sciencebook/SB_12.pdf

There are a lot of possibilities here; perhaps Lucianne or Mansi can comment on this sort of approach for transients.

Thanks for all the interesting ideas. Everybody, please post your own thoughts or questions as you see fit.

Cheers, Michael