

Minutes of the UCOAC Meeting
UCLA, 2015 Oct. 22

Attending in person: Aaron Barth (UCI; Chair), Claire Max (UCSC; UCO Director), Alice Shapley (UCLA), Lori Lubin (UCD), Andrea Ghez (UCLA), Ian McLean (UCLA), Alex Filippenko (UCB), Gillian Wilson (UCR), Ben Mazin (UCSB), Tommaso Treu (UCLA).

Attending remotely: Crystal Martin (UCSB), Shelley Wright (UCSD), Brad Holden (UCSC), Anna Korossy (UCSC), Sandra Faber (UCSC), Chris Fassnacht (UCD), Graeme Smith (UCSC), Mike Bolte (UCSC), Connie Rockosi (UCSC).

Meeting Introduction. The UCOAC congratulated Claire Max on her appointment as UCO Director. Max presented an overview of the current UCO budget. The \$5M annual operating budget provided by UCOP will be increased by increments of \$1M in 2015-16 and \$0.5M in 2016-17 and again 2017-18. This funding will be used to increase the annual support to the UCLA IR Lab, to hire new staff including a UCO Deputy Director, for the UCO Mini-Grant program and support of faculty activities for UCO, and for a variety of other needs. Additionally, one-time funds have been provided by UCOP for specific needs such as deferred maintenance at Lick Observatory. Max noted that UC President Napolitano has been very supportive of astronomy and of the UC Observatories. The UCO Director will report to UC Provost Dorr, and UCSC emeritus vice chancellor Klinger will serve as faculty advisor to UCO.

Ben Mazin described his needs for dedicated engineering staff at UCSB in order to make progress in designing MKID-based instrumentation for Keck and TMT. He has submitted a request to UCO for long-term funding to support a mechanical engineer, and if offered, this support might be matched by a contribution from UCSB to hire a second engineer. UCOAC members were generally supportive of this idea and this was suggested as a major topic of discussion for the winter UCOAC meeting.

Max described the motivation for creating a UCO Deputy Director position and presented a draft of some aspects of the job description. The Deputy Director role would be similar to a "chief operating officer" focusing on internal management and logistics, freeing up the Director's time to focus on strategy, fund raising, and the Keck and TMT partnerships. The Deputy Director would manage the logistics of the TAC process for Lick and Keck, and would work with the UCO business manager on financial planning, contracts and grants, among other responsibilities. Hiring the Deputy Director will be a priority for 2016 but is less urgent than some other UCO hiring needs.

Max also described staff effort toward designing the new UCO web site, which is now functioning well and a major improvement over the old UCO and Lick sites. There is still a good deal more work to do to complete the site, but the UCO staff member who was primarily responsible for designing the site is now working only part-time.

Keck SSC Report. Crystal Martin presented news and updates from the most recent Keck SSC meeting in June and issues for the upcoming SSC meeting in December.

Regarding funding proposals, an NSF MRI proposal to fund the NIRSPEC upgrade was approved in 2015. An ATI proposal to fund a PSF reconstruction capability for AO was declined. A pre-proposal was recently submitted to the NSF MSIP program for the KAPA AO system for Keck II.

KCWI is now planned for delivery to WMKO in November 2015 with first light in December. NIRES is anticipated to have a pre-ship review this fall and has been having issues with electronic noise and with detector noise resulting from radioactive lens coatings. The K1 deployable tertiary project is proceeding well. SHREK passed its system design review in September and recent progress on SHREK design was described as "enormous", but the future of the instrument is somewhat uncertain due to the recent departure of instrument PI Geoff Marcy from UC Berkeley. Comments from UCOAC members indicated that the community still regards SHREK as a high scientific priority, and that SHREK would represent a major gain in efficiency for radial velocity work compared with HIRES. The Keck segment repair project is progressing, with a recent dry run on a test segment and pathfinder segment work being done this summer and fall, with the plan to be in full production by spring 2016.

WMKO provided funding for three studies through its annual white paper call. The approved studies were a design study for a Keck II deployable tertiary, a laser comb study for NIRSPEC, and a study of avalanche photodiodes for exoplanet work.

Anne Kinney began her appointment as WMKO Chief Scientist in August 2015 and is leading a strategic planning process including formation of task forces to examine Keck's synergy and relationships to other large projects over the coming years including TMT, JWST, WFIRST/Euclid, GAIA, etc. The task groups are to have in-person meetings in December. Also, a meeting was held in Japan to discuss Keck-Subaru synergy, with participation from all WMKO partner institutions.

TMT. Claire Max described progress on WFOS, explaining that a great deal of progress was recently made in optical design work, while there are still issues to be solved with flexure and distortion. UCO is currently planning to hire a project manager and a PI for the WFOS project, supported by TMT and by UCSC.

Sandy Faber described her recent work in establishing exchange programs with institutions in China to foster collaboration and long-term partnerships. Programs are being established to enable research visits by undergraduates, joint Ph.D. supervision programs, and faculty exchanges. UCSC Chancellor Blumenthal is also meeting with high-level officials in China. Undergraduate exchanges have already begun with visits by Chinese students to UCSC in 2015. Faber encouraged other UC campuses to get involved in exchange programs.

Ben Mazin noted that the membership of the TMT SAC is dominated by astronomers with research interests in extragalactic astronomy, and suggested that it would be beneficial to have more SAC members with expertise in exoplanets or other Galactic astronomy topics.

Mike Bolte presented a brief update on the current situation on Maunakea and on the pending court cases in Hawaii.

Lick Observatory. Funding from the Google gift to UCB has been used to support hiring a new telescope operator who is being trained this fall and winter. Possible future initiatives include hiring a new support astronomer, and hiring a research astronomer at UCSC who would take on some responsibilities for Lick work similar to duties that Brad Holden has been carrying out.

Mirror re-coating has recently been done for the APF secondary and tertiary, and for the Nickel primary. Next priority is the Shane primary, followed by the APF primary, which presents major challenges in terms of removing the mirror.

New external partnerships are beginning to bring in significant funding in exchange for Lick observing nights. These include partnerships with the China telescope access program and with the Breakthrough Foundation for APF time, and a nearly-finalized arrangement with Seoul National University for Shane time.

An important goal is to carry out a scientific strategic planning process to guide instrumentation development and scientific programs at Lick over the next decade and beyond. The SeriesC consulting firm is working on a plan for how Lick can position itself to best enable fund raising efforts.

Following the meeting, Brad Holden submitted an update via email on the status of the Kast red CCD upgrade. The new detector will be a Subaru Hyper Suprime-Cam reject, which has more than enough working area to be used with Kast. The current schedule is for the upgrade to be done in January. As part of the upgrade, some components including power supplies and ion pump controller will also be upgraded, with an added benefit that the instrument will be lighter than before.

Executive Session.

The UCOAC went into executive session to review mini-grant proposals submitted in summer 2015. Eight mini-grant proposals were submitted, by teams from several different UC campuses and labs. The proposals spanned a range of topics related to Keck, Lick, and TMT, and included projects for design of new instrumentation, upgrades of existing instruments, and development of software pipelines.

The funding allocated by UCO to this mini-grant call is \$150K, and this funding is oversubscribed by approximately 2.5:1 by the eight proposals received. UCOAC members reviewed the proposals focusing on their relevance to UCO's goals of excellence in instrumentation and technology development, support of the capabilities of the Keck, Lick, and TMT observatories, benefit to the UC astronomical community, technical feasibility, and management plan. PIs will be notified shortly of the outcome of the proposal review.