

## **UCOAC MEETING MINUTES**

### **MAY 28, 2020**

**ATTENDEES:** Aaron Barth (UCI), George Becker (UCD), Mike Bolte (UCSC), Jeffrey Cooke (Swinburne), Michael Cooper (UCI), Michael Fitzgerald (UCLA), Alex Filippenko (UCB), Andrea Ghez (UCLA), Garth Illingworth (UCSC), Anna Korrosy (UCSC), Mariska Kriek (UCB), Claire Max (UCSC), Ben Mazin (UCSB), Ian McLean (UCLA), Connie Rockosi (UCSC), Natasha Pedroza (UCSC), Andy Skemer (UCSC), Tommaso Treu (UCLA), David Wittman (UCD), Shelley Wright (UCSD)

#### **COVID-19 OBSERVATORY UPDATES**

The UCO COVID-19 committee has been meeting twice a week to ensure the health and safety of all personnel, and to coordinate the response to COVID-19 at Lick. The robotic telescopes at Lick have continued operating without interruption. PANOSSETI resumed testing on April 1. Observing with the Nickel restarted on April 10 in “pajama mode”, i.e. observing from home. The hope is to resume science observations on the Shane soon, also utilizing pajama mode. Public access to Lick is closed, and all of the summer programs have been cancelled. There are two new series of online UCO [events](#) - Living Room Lectures and Ask an Astronomer. The graduate student workshop and docent meeting for October will likely be held remotely.

Keck closed for operations on March 24. On May 15, Keck I reopened for science, followed by Keck II on May 25. There is no support for ToO observations yet, and there will be no on-site training for the near future. Complicated instrument changes (Cassegrain) are currently limited in order to minimize contact between the observatory personnel. Both pajama mode and remote observing from official facilities are supported. The observatory prefers experienced observers for pajama mode.

Providing shared guidance on protocols for remote observing rooms was discussed, as well as sharing approaches for seeking campus approval for room use. It was taken as an action for UCO to support single occupancy observing rooms. Currently the UCLA, UCSD, and UCR remote observing rooms are open for use, provided the number of people using them is limited. UCSC is still awaiting permission to open their observing rooms.

#### **KECK SSC UPDATE**

Aaron Barth (UCI) has taken over as the UC Co-Chair on the Keck SSC. Mariska Kriek (UCB) has joined as a new UC committee member.

Although both K1 and K2 are operating, the majority of the Keck staff is still working at home and limitations on operations are in place. Keck is operating with a subset of its instrument complement while summit staffing is restricted. Currently available instruments include NIRC2, KCWI, HIRES, MOSFIRE, and OSIRIS. Some other instruments including DEIMOS may be available for observing starting in June.

There has been an assessment of the long-term impact of COVID-19, with an expectation that FY21 will be severely impacted. While pajama mode is current supported for observing, it is anticipated that it will not be supported in the long term due to increased load on observatory operations and security.

The segment repair is resuming, and the K2 tertiary is showing some bonding cracks. The Maunakea access road is open and remains so, but there is a contingency plan in place if the road becomes blocked again.

There is currently a [Keck white paper](#) call for instrument development, with a deadline of June 24. There is a total of \$400k of funding available. Of this, \$150k is slated for concept designs and \$250k for Phase-A designs, with mini-grants and proposal development funds to be drawn from this total sum of money. The UCOAC expressed concern about the lack of clarity in the instrument development timeline and the definition of the various design stages.

LRIS was discussed. The instrument is beginning to break down. There is encouragement from the SSC to explore a second-generation LRIS. It was suggested that a Keck SSC sub-committee is formed to review the need for a replacement for LRIS.

### **UCLA IR Lab Update**

Ian McLean is retiring after 31 years as director of the UCLA Infrared Lab. Mike Fitzgerald has now taken over as the IR Lab director, and the UCO Director has appointed him as Associate Director for the UCLA IR Lab. The IR lab was founded in 1989 by Ian McLean and Eric Becklin. They have produced many instruments for Keck and Lick. Their new instrument projects include IRIS (TMT), Liger (Keck), OSIRIS and NIRSPEC upgrades (Keck), HISPEC (Keck), MODHIS (TMT), KPIC FIU (Keck), SCALES (Keck) and PSI (TMT).

IRIS is a major source of funding for the IR Lab and is the first light instrument for TMT (PI Larkin). The final design phase for IRIS nominally ends 11/20/2020. However, progress has been impacted by both COVID-19 and the TMT site selection process. Thus, the final design phase may be extended to Spring 2021. The IRIS contract will be renewed after that, and the TMT project office has made supportive statements.

The OSIRIS imager was upgraded over the last few years (PI Fitzgerald). The final servicing mission happened in January 2020. The position of the pupil was adjusted by shimming the wheel with cold stops. The imager is now operating.

NIRSPEC was upgraded, and is now fully operational (PI Fitzgerald). The funding for the upgrading came through the NSF MRI program, with matching funds from UCLA and UCO.

Liger would be an integral field spectrograph and imager for Keck AO (PI Wright at UCSD, Co-PI Larkin). The design is based on the TMT IRIS spectrograph. NSF funding was pursued for this instrument, but the major issue was the amount of Keck community nights made available for the instrument compared to other Keck instrument concepts. The team has final design funding from Heising-Simons Foundation and white paper calls, and the review is now scheduled for March 2021.

KPIC is now in operation (PI Mawet at Caltech). UCLA is supporting the development with a new optimized cold stop within NIRSPEC for use with the KPIC fiber output. UCLA prepared masks provided by Caltech and installed them during the February 2020 service mission.

The IR lab is supporting work on the SCALES IFU (PI Skemer at UCSC). The IR lab is collaborating on MRI proposals for this instrument.

HISPEC is a next-generation fiber-fed, diffraction limited spectrograph (PI Mawet at Caltech, Co-PI Fitzgerald). MODHIS is a similar capability being developed for TMT. The back-end spectrometer will be the same, but a different fiber injection system will be fed by NFIRAOS. A future goal is for MODHIS/HISPEC spectrometer to be fed by PSI. Following a favorable review of a white paper submitted to the TMT second-generation instrument call two years ago, MODHIS was selected by TMT as a first-light instrument. The team is currently coordinating with the TMT SAC to refine instrument requirements, particularly for the NFIRAOS-facing front end, and are awaiting a contract for work from TMT.

PSI (the Planetary Systems Imager) has been proposed as a 2nd-generation TMT instrument, and continues to progress on several fronts, with heavy involvement from the IR Lab and faculty across the UC.

The IR lab received some base funding from UCO, which partially supports three staff members one graduate student, and some limited summer salary for faculty. UCLA subsidizes one of the engineers, and all remainder engineers are supported by contracts and grants. The lab successfully leverages UCO support, and collaborates with the other UC campuses and Caltech.

### **UCOP ANNUAL REPORT (MRU) UPDATE**

The annual report to UCOP is due in the fall. There is a template to be followed that has a few key elements, including a list of published papers, instrument PIs, observing program PIs, and members of the governance structures. UCO will ask the senior people to check their entries. There is also a list of graduate and undergraduate students, which is the most critical thing for feedback from the campuses, since there is not a central database.

Data to be presented in this report will be due at the end of July 2020. The UCOAC recommended that this is collected through a Google form. If the format is standard, this could be collected from faculty throughout the year. This year there is a new query about the mobility of students and postdocs between UC campuses. UCO will also include service on behalf of UC, such as Astro2020 and other advocacy on behalf of the UC. The report should include the assessment of the fraction of the US Astronomy community that is within UC. UCO will also include education and public outreach.

This document's audience is the UC Committee on Research Policy (UCORP), whose membership changes every year. They report back to the system-wide Academic Senate. A larger, cumulative version of this "MRU Report" is due every five years. UCOAC recommended that UCO share the executive summary or just the narrative with the campus representatives. This narrative then can be repurposed for three possible reasons - UC investment stewardship, fundraising and engagement, and public visibility.

### **UCO BUSINESS - DEPUTY DIRECTOR'S REPORT**

The Deputy Director researched the history of the [Super-LOTIS](#) facility and UCO's role. There was a discussion of whether there is system-wide interest in Super-LOTIS. The camera broke in 2012, and there hasn't been much UC interest, and it's not that robotic. UCO will find out the latest status of Super-LOTIS and current use. UCO will need to decide on whether to release ownership of the facility or whether there's interest within the UC community on future use. There was a question about whether UCO should step back at look more generally about use of robotic telescopes for time domain work.

The subcommittee on revision of the Keck LMAP (Large Multi-Year Project) process is still working on their findings and report. The LMAP subcommittee will finalize their report for the UCOAC to vote on before the next Keck call.

There was discussion regarding UCO Davidson and Kellogg endowments. Davidson is able to support Lick/Keck travel, and some of the endowments are earmarked for remote observing support. Since there is no travel during COVID19, the UCOAC recommended rolling the FY20 funds into FY21, and UCO would solicit input at a future meeting about potential uses, e.g., UC grad/postdoc workshops.

### **UCO BUSINESS – DIRECTOR'S REPORT**

There was an overall discussion of the mini-grant call for FY 21. There are two types of projects that are supported - instrumentation and service. Instrumentation is self-explanatory. Service is meant to support leadership roles on instruments, major fundraising for UCO, or chairing of major committees. The list and budget of accepted mini-grants from last year was reviewed. Since the Keck White Paper call is out now, the UCO mini-grant call will come after the Keck White Paper results with a Fall deadline. The director would like to maintain flexibility between the instrumentation and service funds. Additional consideration will be given to proposals that involve multiple campuses.

Following the discussion of long-term plans for remote observing support, it was decided that the requests for remote observing support would be separate from the mini-grant program. A charge will be circulated for a proposal call specific to remote observing support for each campus.

### **KECK WIDE-FIELD IMAGER (KWFI), PRESENTED BY JEFF COOKE**

KWFI is a conceptual design of a prime focus UV camera for Keck II with a ~1 degree field of view. The optical design has four element lenses that feeds a tiled array of CCDs. Costs are kept low by using the lenses as an ADC. In order to have the instrument at prime focus, one option is to use a dedicated carriage that holds the camera and/or to explore an idea for a deployable secondary mirror. There were concerns about this because of the laser launch on the side of the secondary currently. There was a question about complexity since the secondary does tip/tilt and phasing of the telescope. But having a deployable secondary may have a scientific advantage.

Funding is being sought through Keck Phase A funding or white papers, and an Australian ARC LIEF grant, with Swinburne also promising strong support. A few other questions came up, including the weight of the instrument. The requirement is 2 tons at the top. There were also questions about medium-

band filters. This was because of ADC concerns and mitigation - if you have no ADC, you go into more narrowband filters.

#### **TMT UPDATE (EXECUTIVE SESSION)**

The UCOAC received a presentation regarding TMT status and site matters related to ORM and Maunakea. TMT personnel gave the UCOAC a meeting on the technical site measurements of ORM and Maunakea on May 12, 2020. UCOAC members reviewed the site documentation and gave feedback to TMT. The TMT SAC was happy with the feedback from the UCOAC. TMT is finalizing documentation about ORM and Maunakea sites and will move ahead with webinars to now engage the TMT community worldwide.

Tommaso Treu (UCLA) is no longer chair of the SAC (that is now Greg Herczeg at KIAA Peking). Tommaso will stay on as the deputy chair of the TMT SAC and will continue to interface with Astro2020 and NSF.

There will be a meeting with UC Regents in July on the status of TMT. Efforts are ongoing to engage with the NSF. In coordination with the GMT and NOIR, a proposal for funding the US-ELT program was submitted to the NSF. There was a discussion of costing and funding gaps. There was a discussion about construction delay costs.

#### **EXECUTIVE SESSION TOP LEVEL SUMMARY**

The executive session focused primarily on the annual review of the UCO budget. The overall budget was discussed, as was the funding for the UCO shops and how resources were allocated to different projects. There was a discussion of the potential impact of COVID-19 on the overall funding situation for UCOP/UCO in FY21 and handling potential budgetary cuts. There was a discussion of UCO affiliated faculty positions and the need for a clear process of allocation. A UCOAC sub-committee will be formed to develop a UCO affiliate faculty position definition and policies.