



Day-time Operation Report

- Activities of Technical Support Division-

James Ferreira (Summit Mech Tech Sr. Supervisor/Subaru Telescope)
& Eiji Kambe (an interim Chief)

on behalf of Technical Support Division

who are we and what we do?



As of November 2019, Technical Support Division consists of

Summit Mech. Techs (Daycrew 1): **dome enclosure**
Ferreira, Conol, Spencer + Akiona (new member)

Summit Telescope Techs (Daycrew 2): **instrument exchanges**
Apliche, Kerns, Boggess, Villegas-Villeza Jr. (0.5 FTE) + [TBDs]

Summit Work Sched. Coordination: **summit work sched. coordination**
Iwashita (temporary at present)

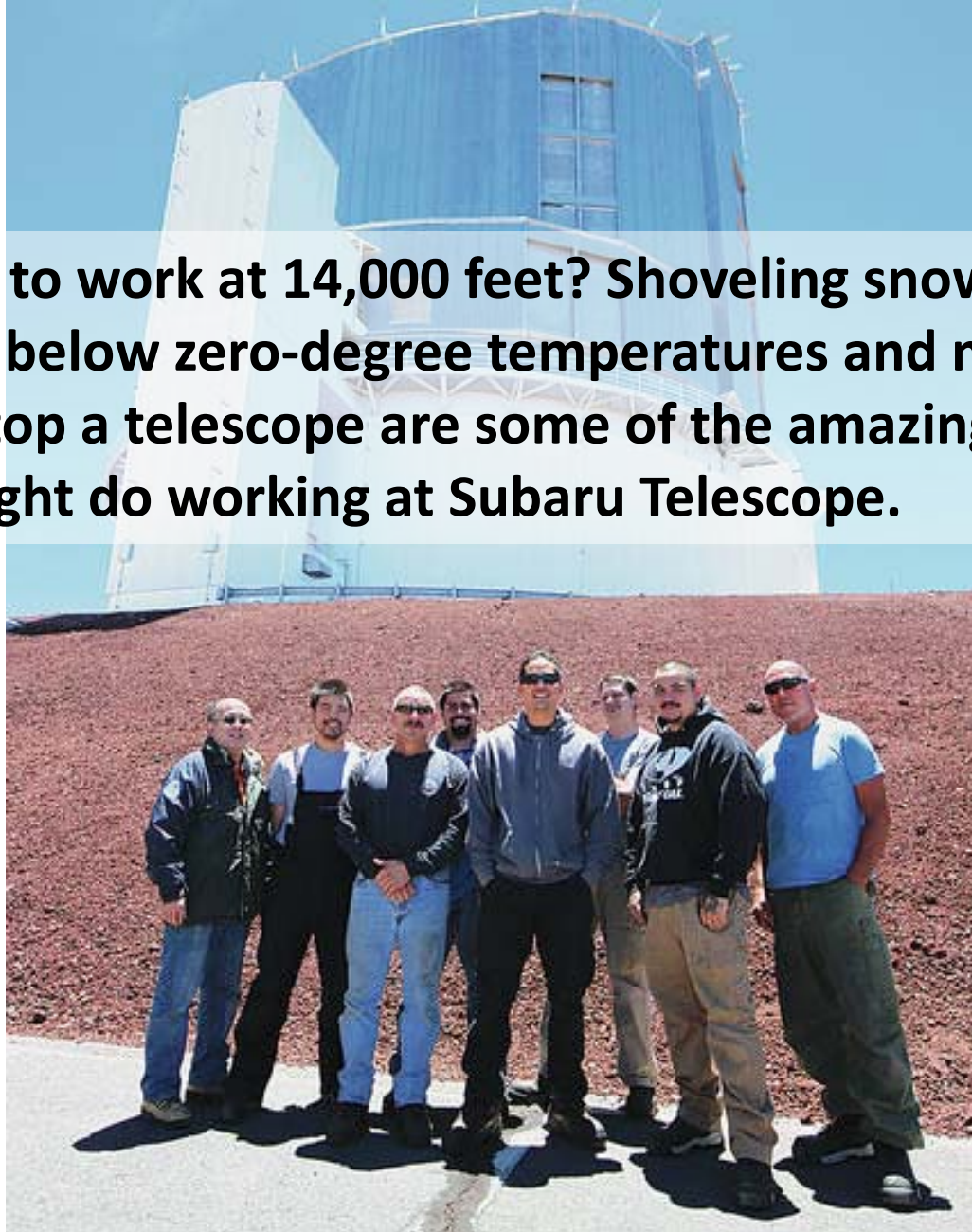
Facility maintenance Techs: **facility and facility equipment**
Tamae, Villegas-Villeza Jr. (0.1 FTE) + [TBD; an Engineer]

Motor Pool/Transfer Techs: **vehicles + shuttle service + exterior**
Balbarino + Villegas-Villeza Jr. (0.4 FTE)

We provide technical supports for summit work and Subaru operation



What is it like to work at 14,000 feet? Shoveling snow, maintaining equipment in below zero-degree temperatures and mounting a 3-ton camera atop a telescope are some of the amazing and unusual things you might do working at Subaru Telescope.



<https://www.hawaiitribune-herald.com/2018/05/17/community/backstage-pass-imiloa-hosting-meet-and-greet-talk-story-session-with-subaru-telescope-team/>

Summit Mech. Techs (Daycrew 1): **dome enclosure**
Ferreira, Conol, Spencer + Akiona (new member)



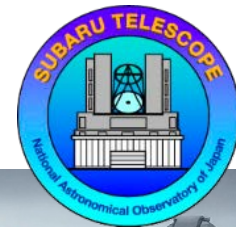
Daycrew 1 leave Hilo at 6 am and arrive at the Summit Facility around 8 am. They work 10 hours a day from Monday through Thursday for 40 hours a week (*one-third of their work is for travel*).

- = The Main Shutter, Top Screen, Ventilators, **LGR maintenance**.
- = **Remove snow and ice from the Dome Roof**.
- = The Dome Siding, lightening cable system maintenance using sky-climber.
- = The Rear and Side Ventilators chain maintenance.
- = Water Proof Up-Grade of Side Ventilator Doors.
- = **PFS Clean Room Floor and walls installation**.
- = Water clean up at the Ventilation Floor and the Observation Floor.
- = Transport freight to and from the Summit.
- = Take care of Airgas (liquid oxygen) delivery.
- and more

Lateral Guide Roller (LGR) Maintenance

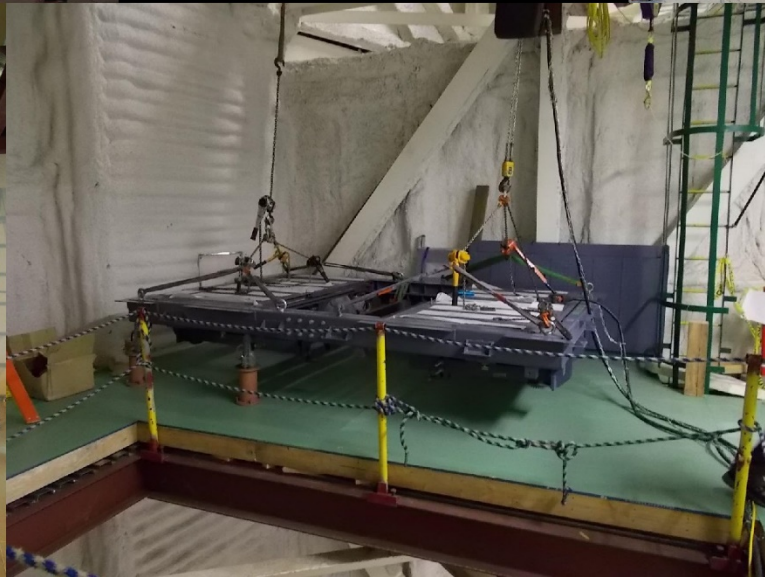
Disassembly, Cleaning,
Regreasing, Reassembly





New Development

PFS
Infrastructure



Summit Telescope Techs (Daycrew 2): **instrument exchanges**

Apliche, Kerns, Boggess, Villegas-Villeza Jr. (0.5 FTE) + [TBDs]



= **top unit exchanges**: Popt2, IRM2, CsOpt, NsOpt

= cassegrain unit exchanges: FOCAS, MOIRCS, COMICS, MC-BOX, ...

= other exchanges:

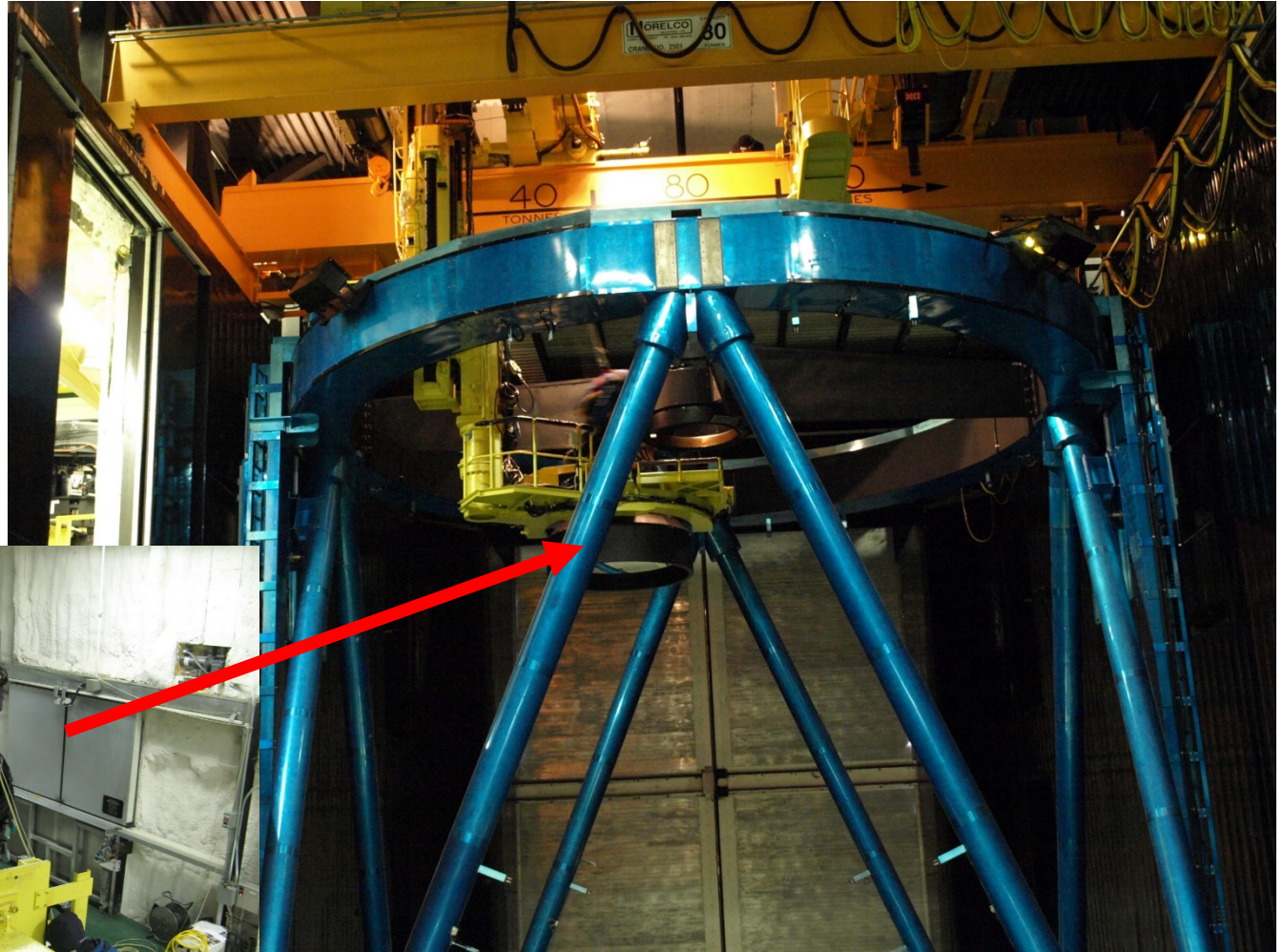
FEU (using TU Exchanger), HSC (install/remove from POpt2),
LLT, NsIR instruments

= **TWS morning check, pre-check**, safety check, weekend watch, etc.

= help Daycrew 1's and Facility's primary work

= CO2 cleaning and Mirror re-coatings with other staff

and more



top unit exchange manipulating an 80t crane, Unit Loader, Man Basket, ...



Facility maintenance Techs: **facility and facility equipment**
Tamae, Villegas-Villeza Jr. (0.1 FTE) + [TBD; an Engineer]

- = **various maintenance of facility equipment** using local vendors
 - Elevators, Heating, Ventilation, Air Conditioning (HVAC) , Fire Extinguishers , Septic Tank and Mirror Wash Pit Cleaning, Emergency Generator, UPS, Cranes and Hoists, Fire Alarm System and FM-200, Underground Storage Tank, Telephone system, Power Supply Lines/Boards/Panels, Plumbing, etc.
- = monitoring and arrangement of various consumables like water, fuel for emergency generator,
- = light work like light bulb changes, plumbing, and many more
- =also helps Motor/Transfer Techs



Motor Pool/Transfer Techs: **vehicles + exterior**
Balbarino + Villegas-Villeza Jr. (0.4 FTE)

= **servicing 14 Subaru vehicles for Subaru operations**

- to provide a safe, mechanically sound vehicles for Subaru operators
- maintain vehicles compliant to Hawaii DOT and Federal Motor

Vehicle Safety Standards

= also servicing BSIT truck, forklifts, aerial lifts, etc.

= **shuttle service** for open-use observers

= we also take care of maintenance of exterior at Hilo base collaborating with other members



Issues

raised by Daycrew 2 at Subaru internal symposium this Spring

Staffing Issues

Daycrew 2- Four members

basically due to shortage of manpower

Training- Takes about one year

Help from other divisions- Takes members away from their work potentially causing them to fall behind

Over working- Daycrew 2 members need to be called in on days off to complete the daily task

if it is too frequent,



Staffing Solution



Increase number of members- We are currently in the process of hiring new members

Part time daycrew- A new position that includes both Hilo facility and summit work
sharing work among Technical Support Division members (see below)

Retaining existing employees- Creating a good working environment and rewarding each individual member on their strengths while helping them overcome their weaknesses

We are going to integrate TSD with daily maintenance members of Telescope Engineering Division so that

- * we can make (top) unit exchanges more flexibly (not to say anytime) and affordably*
- * Daycrew can take trainings do additional tasks, especially on telescope and enclosure maintenance, which will lead to enhance their skills (and salary raise ?!)*

(in future, further integrated group may take care of all regular daily operation at the summit.)



Thank You!

Questions? Ask our Technicians during the coffee break!?