

AOC NEWS



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NEW FACES

Welcome aboard - Prescilla Mauldin, Administrative Services; Lia Romero, Engineering Services; Walter Brisken, Eric Reynolds (UNM Coop), and Ed Szpindor (EVLA), Electronics; Nick Peereboom, ALMA; Pat Palmer, Visiting Scientist; Sonja Mendoza and Greg Patterson, VLA Array Operations.

FRIDAY THE 13TH!

It was almost 5:00 p.m. on a Friday, in July. Everyone was looking forward to the weekend. However, this was not just any ordinary day. It was Friday the 13th! At this late hour it was noticed and reported that the AOC building was warming up. OH NO, not again! New Mexico Tech P-plant personnel, Jimmy Chávez and Joey Baca were notified. They tried resetting the chiller but this didn't work, so Scott Waddle, from Southwest Trane was called in. He discovered that the compressor to chiller number one had burnt out. BAD NEWS! After many hours of working in sweltering heat and a noise level which required ear plugs, the compressor was replaced and chiller number one was up and running at 1:30 a.m., Sunday morning.

Big Thank You to Scott, Jimmy and Joey. Their efforts toward maintaining a comfortable temperature in the AOC were successful. We appreciate the prompt response and their persevering until the compressor was replaced.

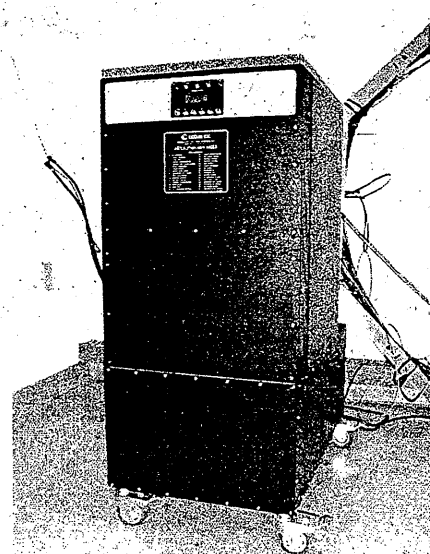
FROM STUDENT TO NRAO STAFF

Walter Brisken was an undergraduate at Caltech where he studied Physics and Astronomy. Although he was mainly interested in physics, he always ended up getting astronomy summer jobs, first looking for high redshift quasars with optical data and later observing at the Big Bear Solar Observatory. He continued his physics education at Princeton, but again ended up doing astronomy, this time in Joe Taylor's pulsar laboratory. During his days as a graduate student, Walter spent about one year at the AOC in Socorro working with Miller Goss, on high precision pulsar astrometry projects. This work formed the core of Walter's graduate thesis. After acquiring his Ph.D., Walter is once again back in Socorro. However, this time he is working in the Electronics Division; he wanted to have more contact with radio astronomy hardware.

NEW MASER

On July 12, 2001, a new Hydrogen Maser was delivered to the AOC. This was our first maser purchase since July 1992. NRAO Socorro now owns 14 masers. Each VLBA site has one maser that serves as its frequency and time reference. These masers were manufactured by Sigma Tau, a company in Tuscaloosa, Alabama. We have a maser at the VLA that was built in the early 1980s, by a Swiss company called Oscilloquartz.

The masers have been quite reliable, but when a recent repair



New Maser - MHM-2010

estimate from Sigma Tau came in very high, a decision was made to purchase a new maser. In early December 2000, an MHM-2010 maser was ordered. The MHM-2010 is Sigma Tau's newest model. It is very similar to our VLBA-112 masers. In fact one of the main reasons Sigma Tau decided to redesign their masers was that some components they had purchased from other vendors had become obsolete. Also, in at least one instance, they were able to take one of their electronics modules consisting of about four

printed circuit boards and replace with one printed circuit board. Since our MHM-2010 is only the tenth maser of this model built so far, there is some concern about how reliable it will prove to be. However, the fact that Sigma Tau has built about forty VLBA-112s gives us much assurance in the quality of their products.

Leon Abeyta

VISITOR CENTER UPDATE

Some changes are in the works for the VLA Visitor Center. The long range plan is to build a new, larger visitor center; however, "long range" means at least five years from now. In the interim, we will remodel the current visitor center to accommodate a gift shop. There have been numerous tourist requests for such, and having it staffed will mean there will be a person there to answer tourists' questions about the VLA.

Several ideas about remodeling were explored by the Visitor Center Committee. The most efficient, in terms of both cost and time, is to reduce the size of the theater by half. The construction work will start in January and should be finished by mid-February. A Grand Opening is tentatively scheduled for Memorial Day 2002, though we hope to open for business in March.

Proceeds from the gift shop will go to pay the salaries of the gift shop employees and sustain the inventory. If there are any proceeds beyond that, they will go into the Education and Public Outreach budget. In the past the P.R.A. has run a successful mail order business. Since that business will be absorbed by the gift shop, NRAO will make an annual contribution to the P.R.A. to fund their activities.

Robyn Harrison

SPOTLIGHT ON ACHIEVEMENTS

Miller Goss and Lew Serna presented the Star Award to three ES

Star Award Recipients: Melcom Peralta, Jim Rexrode and Gene Cole



Division employees at the VLA. Gene Cole, Melcom Peralta, and Jim Rexrode received their individual awards for outstanding contribution to the Observatory on July 11, 2001. Through their own initiative they have enhanced efficiency, promoted safety and conserved resources at the NRAO. Congratulations!

Lew Serna

NRAO SUMMER STUDENT PROGRAM

Each summer NRAO takes part in the NSF Research Experiences for Undergraduates (REU) program. This provides a number of students the opportunity to come to work at NRAO. In addition to the REU students, there are also graduating seniors and graduate students who take part in our summer program. This year we had a large group (15 students) at the AOC participating in the summer program.

Over the course of the summer, the students spend most of their time working with their advisors on their particular project (astronomy, computing or engineering). However, there also were a number of other activities including a lecture series designed to give an

introduction to radio astronomy and highlight some areas of active research at NRAO.

Near the beginning of the summer we took a trip to Kitt Peak, AZ and spent a day on the mountain getting an amazing tour of the optical facilities, from Nigel Sharp, NOAO Tucson Scientific Staff. There was a beautiful evening thunderstorm, that is if you were not the person scheduled to observe! Many of us watched from the dome when the famous Kitt Peak lightning poster was photographed. The next day we toured the VLBA dish on Kitt Peak before going to the Tucson NRAO offices and the Mirror Lab, where most of the big optical mirrors are created.

The Summer Students also had two slots of VLA time to undertake projects they selected, scheduled and reduced. The group is currently working together writing a paper from their observations.

Finally, as part of our public outreach program, the students provide guided VLA tours on weekends throughout the summer.

As the end of the summer program draws near they are scheduled to give talks on their projects. These talks started July 25 and continue on (August 1, 7, 8, and 15) at noon in the auditorium. You are most welcome to drop by to hear what they have been up to this summer.

Tracy Clarke

COMING SOON - VLBA STATION TECHNICIAN WORKSHOP

We look forward to a visit by the VLBA Station Technicians, who will be here to attend a Workshop on November 4-9, 2001. Tazewell Reed will stay an additional six to seven days to receive standard Station Technician training. Site Techs planning on attending this meeting are:

Tazewell Reed, St. Croix, USVI; Mark Alfero, Hancock, NH; Mike Burgert, North Liberty, IA; Gary Tobias, Ft. Davis, TX; Paul Johnson, Los Alamos, NM; Kelly Gatlin, Pie Town, NM; Eric Carlowe, Pie Town, NM; Rayford McFarlin, Kitt Peak, AZ; James Brown, Owens Valley, CA; Robert Sanderson, Brewster, WA; and Lyman B. Hancock, Mauna Kea, HI.

Some of the items to be covered in the workshop include:

1. Standardized Hot/cold Load Measurements for Receivers.
2. Calculation of Y factor and Receiver Temperatures.
3. Searching for Interference using Spectrum Analyzers.
4. DAQ upgrade (Disks vs. Tape)
5. Tachometer Replacement Project progress.
6. Encoder/NPL Accuracy Improvement Project progress
7. Antenna Surface Holographic Measurement.
8. Latest VLBA Science
9. CPR Certification.

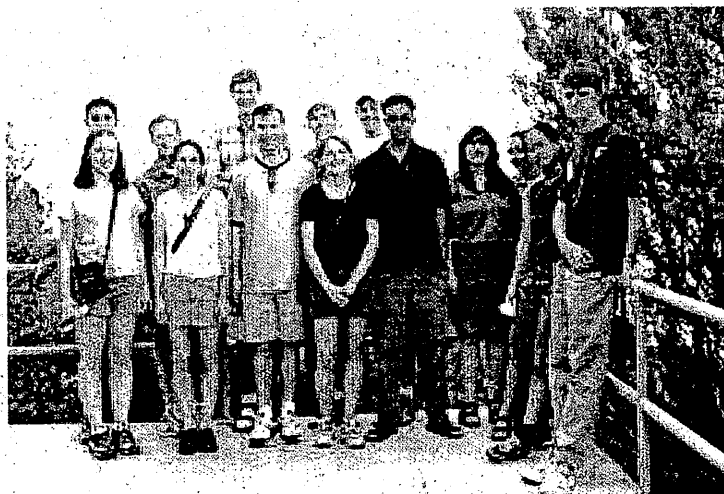
Paul Rhodes

ARRANGING A TELECONFERENCE

NRAO has arranged with MCI WorldCom for audio conferencing services. This service is intended to supplement, not replace our current conferencing service in Charlottesville. There are two main advantages of this additional service: (1) Charlottesville's participation is not required; (2) participants must have an access code before they may join the conference. MCI conference services must be reserved at least 30 minutes in advance.

The NRAO representatives making the reservation will assign the passcode and be given the conference dial up number. Regular recurring conferences may be scheduled; these would have the same number and passcode. Contact Betty Trujillo or Lori Appel for more information. You require reservations for an audio conference through MCI conference services. Remember, using Charlottesville's hub will be the least expensive. The teleconference reservationist/s will assist in setting up the reservation through either service.

Betty Trujillo



Front Row: Jennifer Donley, Marjorie Frankel, Michael Fine, Katie Devine, Bhasker-Moorthy, Tracy Clarke, Diane Wong, Daniel Perley
Back row: Jason Adelstein, Matthew Kunz, James Anderson, Daniel Stark, Aaron Boley, Crystal Brogan. Missing are Cristina Murray, Laura Lindenmayer and Stacy Teng