You too can look through telescope at Physics bldg

Helicopter installing shelter for Physics building's new aquisition - a telescope.
Photo by Robert Smith

by Doug Wagner

At 8:15 a.m. on Saturday November 15th, the Dept. of Physical Plant under Foreman Dan Pretzlaff, and Associated Helicopters, placed a prefabricated hut on the roof of the Physics Building.

The specially designed hut, whose roof can be made to slide completely away from the lower half of the structure during use, will house an eight year old, twelve inch reflecting telescope that the Dept. of Physics will move from their research site in Devon.

The 12 inch will be used for undergraduate instruction and other students and interested members of the public will be encouraged to pursue their own private research under the supervision of a teaching assistant. Both direct observation and photography will be possible. Local weather patterns and the location of the instrument should make 'seeing' quite adequate and work likely to be undertaken could include observation of the Solar Planets and Lunar occultation studies.

The Dept. of Physics spokesman told *Gateway* that he felt astronomy was an almost ideal subject for amateurs, who can reasonably expect to make meaningful contributions to the science. He also said that science should be shared and public interest cultivated, hence the decision to allow interested members of the public access to the telescope.

The 12 inch telescope, the original U of A research instrument, will be replaced by a new 20 inch reflector currently being built by the Dept. of Physics.

The new 20 inch reflector, jointly designed by Dr. J. Winzer, and Dr. D.P. Hube of the Dept. of Physics, will be almost entirely built in the Physics machine shop. The optical work will be done by Barry Arnold, an Edmonton optician and worker in the Dept. of Electrical Engineering's Laser Section. Total cost of the instrument is expected to be about $20,000, for materials, as against $50,000 for a commercial instrument that would lack many of the new telescope's features. A description of the 20 inch instrument has been provided by Dr. Hube.

To partially offset the relatively small size of the new telescope(it will still be the sixth largest research telescope in Canada) a high degree of versatility is being built in. The telescope will be supported on a fork mounting, chosen for its compactness (the telescope must fit into a dome fourteen feet in diameter), and convenience for the observer.

The design of the telescope is based on the classical Cassegrain system with a paraboloidal primary mirror and a convex, hyperboloidal secondary. Two inter-changeable upper ends (the cylindrical part of the tube) will provide f/8 and f/18 focal ratios at the Cassegrain focus. In addition, a third mirror can be introduced to form a folded-Cassegrain system in which light is brought to the so-called Nasmyth focus as the side of the bottom end of the tube. This tertiary mirror is rotatable so that the Nasmyth focus can be placed at any one of six points outside the tube.

Several instruments such as photometers, spectrographs, cameras can be mounted simultaneously on the side of the tube and, by rotating the tertiary mirror, the focus can be quickly switched from one instrument to another allowing near-simultaneous observations in two or more different modes.

A third upper end will permit direct photography through a prime focus corrector for which an 18-inch diameter sheet of opthalmic crown glass has been purchased. The f/8 focal ratio is the same as that on the Canada-France-Hawaii 3.6-metre telescope which is now under construction so that auxiliary instruments designed for the U of A telescope could also be used on the C-F-H telescope.

Almost all mechanical components - the declination and polar axles are the main exceptions - are being made out of aluminum in order to maintain a reasonable weight without sacrificing mechanical strength. The use of castings for the fork, mirror cell and several other major components provides a very rugged structure with little tendency to flex.

During the past week Physical Plant has been making the necessary alterations and additions to the Devon observatory site in preparation for the installation of the new telescope. Construction of the mechanical components will be essentially completed by the end of this year. The first set of optics will be completed within the first two or three months of next year. The telescope should be in operation before next summer, or only 1½ years after the decision was made to construct the telescope.

Chinese Students Association notice to all members:

Due to the persistent mail strike in Canada which may cause financial difficulties for some of our members coming from abroad, the executive committee would like to announce that the Association has recently established about five interest-free emergency loans of up to $200.00 available for members. Please call Mr. Raymond Lau (432-2930) evenings for further information.

This offer will end when the funds are exhausted or one week after the mail strike has ended.

Only members need apply.

U of A oil rich?

The University of Alberta has finalized a mineral rights leasing arrangement with Calgary-based Troy Oils Ltd. concerning a 192-acre plot of land held by the university.

All exploration and production rights for petroleum, natural gas, and related hydrocarbons will be leased on the plot located 30 miles east of Fort Saskatchewan.

Assistant to the Vice-President of Planning and Development, E.R. Shedden, says that although there is a committment made by the oil firm to explore, it is not firm and that it is not too hopeful oil will be found.

If oil is indeed found, the university will receive 16 2/3% royalties on all production.