



CHRISTMAS MESSAGES

The DDOer's Christmas season has just been ushered in with my wife's annual Christmas Party at Observatory House. There were 115 who came, and no doubt the snow warnings kept many of the others away. Thirty who came were children and we had a merry time.

The New Year holds great promise for us, especially because we'll be bringing our observing station into operation on Las Campanas in Chile.

May I, on behalf of our present staff and students, wish all our readers a MERRY CHRISTMAS too, and a HAPPY 1971.

Donald A. MacRae,
DIRECTOR

Season's greetings from the graduate students and their families to the members of the Astronomy Department and their families. May you have a very MERRY CHRISTMAS and a HAPPY NEW YEAR. We hope the days ahead will bring you naught but the very best.

Bob Hawkins
President of GASA

Those of us who produce the Doings wish a VERY MERRY CHRISTMAS and a HAPPY NEW YEAR to all our readers both here and elsewhere.

JFH, JT, UD, DM

SOME OF 1970'S HIGHLIGHTS

We can look back on 1970 as a year of innovation and improvements at the Observatory. Among the items that spring to mind we could mention the following:

The Las Campanas Observatory in the Chilean Andes has been completely planned and the components are nearing completion. Within the past week the agreements between the University of Toronto and the University of Chile and between the University of Toronto and the Carnegie Institution of Washington have both been signed; and the components of the dome and the materials for the laboratory and living-accommodation building are now on the high seas.

At the David Dunlap Observatory the gatehouse at the Hillsvie entrance has been completed and is now occupied by Mr. McDonald and his family. Within the past month, pipe has been laid and connected for the supplying of Richmond Hill water to the Observatory and Observatory House and to the three brave new red fire hydrants. The Bayview artesian well, which was once proposed as an adequate supply for the village of Richmond Hill, will henceforth be confined to lawn-watering duties.

Within the Observatory there has been a complete overhaul of the electrical service necessitated by the greatly increased demands. New transformers and distribution panels now have the capacity to supply 800 amperes compared to the previous 400. Another area of major improvement is the darkroom, which has been completely made over and re-equipped.

In the research area we could (to pick a few only) mention the concerted attack on the Sculptor Cluster variables by Dr. van Agt who has already more than doubled the number of known variables from 237 to 500; the rapid fluctuations in the light of BL Lacertae published by Dr. Racine; the establishment of abundance anomalies in the remnant of the Cas A supernova by Dr. van den Bergh and Dr. Manuel Peimbert of the University of Mexico; the changes discovered by Dr. Garrison in the spectra of certain B-stars since the days of Annie Cannon; and the firm establishment by Dr. van den Bergh of 3C386, a dwarf elliptical galaxy, as a radio source.

COMINGS AND GOINGS

Attending the A.A.S. meeting in Tampa on Dec. 6-9, were Drs. Bolton, Marks, Racine and van den Bergh and Bill Harris. A paper on "Photometry of M67 to $M_V = +12$ " was presented by Dr. Racine.

Dr. van den Bergh and Dr. van Agt attended the Conference on Horizontal Branch Stars at the State University of New York on Dec. 3-4. Dr. van den Bergh also gave an informal colloquium at Yale University on Dec. 5.

Between the 15th and 24th of October, Dr. Kronberg and Claude Faubert spent a number of days observing quasars with the 3-element interferometer at NRAO, Green Bank, West Virginia, U.S.A. at its new operating wavelength of 3.7 cm. Then at the end of November they spent 4 days at N.R.A.O. Charlottesville, Va., U.S.A. fighting the NRAO computer to analyze the results of their observing session in October. They had partial success! The results, when complete, will give detailed radio maps and quasars with a 2" arc resolution both in total radiation and polarization. In angular resolution the radio astronomers have finally caught up with the optical astronomers.

Dr. Kronberg visited London, Ont., on Oct. 29, giving a colloquium at the U.W.O. Astronomy Department on "Polarization Studies of Extragalactic Radio Sources", and a talk to the London Centre of the R.A.S.C. on "Some New Discoveries in Radio Astronomy".

Dr. Seaquist and Philip Gregory spent a week in December at the Algonquin Radio Observatory observing with the 100 channel spectrometer at 10,522 MHz (85 alpha recombination line of hydrogen). Their efforts were hampered by partial failure of new, previously-untested equipment, but they did get an impressive spectrum of ORION A.

Jack Winzer was also frustrated (but he by bad weather) during a 15-night photometric observing run with one of the 16-inch reflectors at Kitt Peak Observatory.

Dr. Anand and Serge Pineault are attending the Fifth Texas Symposium on "Relativistic Astrophysics" in Austin, Texas, on Dec. 13-18.

SEMINARS

December

December seminars were as announced except that Dr. Roberta Humphreys of Steward Observatory, Tucson, gave a seminar on "Supergiants in the Carina-Centaurus Region" at the Observatory on Dec. 1; and Tom Bolton's talk scheduled for Dec. 8 was postponed.

January

Tues. 12th D.D.O. 4 p.m.	Tom Bolton, "Spectral Synthesis Investigations of Low-Dispersion Spectra".
Tues. 19th D.D.O. 4 p.m.	Dr. George Abell, UCLA, "The Luminosity Function of the Virgo Elliptical Galaxies".
Wed. 20th, McLennan 4 p.m.	Dr. George Abell, "Clusters of Galaxies and the Cosmological Distance Scale".

Others, if any, to be announced in vol. 4. no. 1 .

PAPERS SUBMITTED IN DECEMBER.

- S.P.S. Anand and Gregory Fahiman "Rapidly Rotating Polytropes in the Post-Newtonian Approximation to General Relativity".
- S.P.S. Anand and Gregory Fahiman "Rapidly Rotating Supermassive Stars in the First Post-Newtonian Approximation to General Relativity".
- S.P.S. Anand and John Kormendy "The Structure of Rapidly Rotating Relaxed Globular Clusters".
- S. van den Bergh "The Post-Eruptive Galaxy M82".
- Robert Roeder "A Selection Effect in the Measurement of QSO Redshift".

Anniversary

Congratulations to Mr. and Mrs. Frank McDonald who celebrated their 25th Wedding Anniversary on Sunday last.

Non-Zero Population Growth

If memory serves correctly, at the end of 1935 there were on the Observatory staff, four academics, six support and one graduate student, with their ten dependants, making a grand total of 21 for the Observatory "Family". In the 1970 census recently distributed there are 21 academics (including post-doctorals and visitors), 23 support and 29 graduate students, for a total of 73. If we include wives, husbands and descendants, the grand total is 216.

For the Birds

Dr. Hogg draws our attention to the November 1970 bird census of the Richmond Hill Naturalists. Among the 41 species noted, the following were observed on the Observatory grounds; red-breasted nuthatches, brown creepers, winter wrens, brown thrashers, golden-crowned kinglets, ruby-crowned kinglets, palm warblers, myrtle warblers and Lincoln sparrows.