

THE ^{DAVID} DUNLAP DOINGS

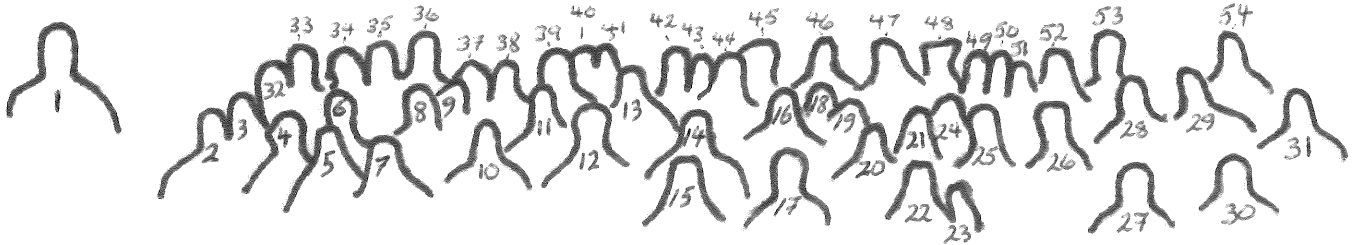
Vol. 25, No. 1

January 31, 1992



Christmas Countdown 1991
photo: Karl Kamper

FINDING CHART FOR COVER PHOTOGRAPH



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|----------------------|---------------------------|-----------------------|
| 1. Mike Fieldus | 20. Christine Clement | 39. Ernie Seaquist |
| 2. Ian Shelton | 21. Ji Hee Kim | 40. Bill Clarke |
| 3. Francine Marleau | 22. Gloria Seaquist | 41. Ian Short |
| 4. Shen Chew | 23. Adam Seaquist | 42. John Wang |
| 5. Sandra Scott | 24. Lee Meng Song | 43. Hubert Deguise |
| 6. John Pimentel | 25. Siqin Huang | 44. Don MacRae |
| 7. Dave Earlam | 26. Rosemary Diamond | 45. James Brown |
| 8. Omar Lopez-Cruz | 27. Howard Yee | 46. Mark Neeser |
| 9. Ray Carlberg | 28. Katerina Papadopoulos | 47. Dan Hudon |
| 10. John Percy | 29. Peter Papadopoulos | 48. Tom Bolton |
| 11. Stefan Mochnacki | 30. Ruth Daly | 49. Pierre Gravel |
| 12. Phil Kronberg | 31. David Salloum | 50. Frank Hawker |
| 13. Maurice Clement | 32. Patricio Ortiz | 51. Albert Hartviksen |
| 14. Don Fernie | 33. John Harper | 52. Paul Hendry |
| 15. Teresa Kroeker | 34. Jim Thomson | 53. Peter Ip |
| 16. John Lester | 35. Mike Jewison | 54. Esmail Mawjee |
| 17. Joan Tryggve | 36. Archie Ridder | |
| 18. Marlene Cummins | 37. Charles Dyer | |
| 19. Sang Hee Kim | 38. Gang Li | |

CONGRATULATIONS

To Dale Frail (PhD 1989) for the accolades he and Aleksander Wolszczan have received on their discovery of planets circling PSR 1257+12. So far as we know, Dale is the first Canadian astronomer to have his picture on the front page of *The Toronto Star*!

To Patricio Ortiz on successfully defending his thesis, A CCD BVRI Photometric Study of Star Clusters in the Large Magellanic Cloud, last October. Our apologies for not having noted this in our previous issue.

COMINGS AND GOINGS

Helen Hogg attended an Awards Banquet at the University of Waterloo last November 12 to make the first presentation of the Helen Sawyer Hogg Scholarship in Astronomy to George P. Pinho.

We welcome a new telescope operator to the Observatory. Mark Fabro started training at DDO in early January, including an introduction to ice volleyball under DDO rules. Mark has an honours BSc degree in Physics from the University of Guelph.

John Percy attended IAU Colloquium 134 (Non-Linear Phenomena in Variable Stars) in Mito, Japan, January 6-10, 1992. He gave an invited review on "Supergiant Variable Stars: Recent Observational Results" and, with Janet Mattei, presented a poster on the AAVSO database of variable star observations, and how they can be used to study non-linear phenomena. The meeting was rather small and most of the participants were from the host country, but it did provide a useful opportunity for interaction between the Japanese and non-Japanese astronomers. Toronto graduate Dimitar Sasselov gave one of the more interesting contributed papers, and showed off his video of hydrodynamic phenomena in pulsating star atmospheres.

Bob Garrison had another good run in Chile over Christmas, with 13.5 out of 14 nights clear (no snow closing the road as on Mt Graham). The seeing on 24/25 and 25/26 December wasn't as spectacular as sometimes in the past, but it was a respectable 1-1.5 arcsecs. Three Carnegie astronomers looked on with envy, because their telescopes were closed for the holidays. What a waste.

Bob Garrison went to the AAS meeting in Atlanta, where he attended the meeting of the Education Committee. He reports that the number of stellar papers, and stellar spectroscopy papers was markedly higher than in the past several years, while the number of cosmology papers was down - a result of the Hubble trouble?

Mike Fieldus reports on his visit to Atlanta:

I was at the AAS meeting in Atlanta last week (Jan 11-17), where I ran into many ex-Toronto folks, including Alex Fullerton, Doug Gies, Bob Hill, Peter Leonard, Ron Lyons, Rob Managan and Wendy Freedman. Dot Fraquelli was also there, but I didn't meet her. I have probably forgotten someone, but I think that was it. Oh ya, Bob Garrison was there, and Dick Bond, Mike Merryfield, Omer Blaes and Barbar Ryden from Cita, and Bill Latter (ex-Cita). Okay, if we include ex-Cita, I probably missed lots of them, but....

POTPOURRI

Many readers will recall that since the 1970s there has been an asteroid 2104 Toronto belting about the solar system, the project being an idea of Don MacRae's, and the search for it and subsequent analysis being the work of Karl Kamper based on Schmidt plates taken by Sidney van den Bergh at the Karl Schwarzschild Observatory in Tautenburg, Germany. This was the first asteroid found on Tautenburg plates, but since then some forty more have been turned up there. Karl recently got an announcement showing that most of these have been assigned names from classical composers. There are now minor planets Schubert, Haydn, Mahler, Pachelbel, and so on. Karl, however, was particularly taken with the German transliteration of the name of that well-known Russian composer, Chatschaturjan.

On Sunday February 16, Erindale will hold its annual Science Expo. This is a special 25th anniversary version, which will include a strong historical component including black holes (thanks, Tom Bolton) and moon rocks. All are cordially invited. For more details, see John Percy.

Erindalians were particularly proud to watch the launch of the space shuttle Discovery on January 22, since Canadian astronaut Roberta Bondar is an Erindale PhD graduate (in neurobiology).

GASA Gossip

Mike Fieldus

I just got back from the AAS meeting in Atlanta, where I was lucky enough to run into many ex-Toronto people. You can check the Comings and Goings section to see who was all there yourself, but I will comment that just about everyone of them complained about this gossip column! "It is no good anymore, Mike", they would say, "you just don't say anything scandalous anymore. Are you trying to get a job or something?" (Yes, but that is besides the point). They complained that I didn't reveal who was currently living in sin, or who was seeing who, (or why), or who was going to take the generals next, or who had transgressed the unwritten law "Never send e-mail in anger". My readers, it seems, are just plain tired of reading about Omar sleeping in the lounge all day.

In my own defense, I have to point out that nobody tells me anything anymore. If I walk into a room filled with people, I am greeted with stony silence arising out of the fear that any spoken word will end up in this column. (Okay, so this was my usual effect on a room even before I started writing the column, as Ernie so succinctly pointed out to me at the last social gathering at Elms Lea, but now the silence is so much more intense. For example, I was the last to find out about the police working over Ian Short when they picked him up on soliciting charges (sure, Ian got that black eye and broken arm from a skating fall, sure). I have to draw my own conclusion about why the phone does not ring 5 or 6 times a day for Siqin anymore, just because nobody will talk to me about it (my personal theory says the reason is because she moved offices and isn't on my extension anymore). Finally, nobody has told me yet about Bob and Laura having a baby, I had to wait for that one to come to me in a dream. The only person who will gossip with me is James Brown, and he doesn't know anything about anything anyway.

Okay, okay. I'll try to be serious for a minute and really let you know what is happening around here, such as it is. We are slowly losing our new lounge under an immense pile of empty juice jars. This is one of the downsides to having the lounge in a smaller room...we actually have to recycle, not just talk about it. Unfortunately nobody told the recycling person.

[Editors' note: The experiment of using Room 1422 as a coffee lounge has been declared a major success and will be continued indefinitely.]

After the Christmas Countdown (which was, by the way, very entertaining), several of us students went up to a chalet we had rented for the night at Blue Mountain. This was the idea of Francine and Ian Shelton, who made all the arrangements for us. The idea was to go for the evening, sit around the fire trading stories and having a good time, and then spend the next day skiing before returning home. The timing, however, coincided with the end of exams for all the first year students. The carrying on in the evening went on a little late, and nobody felt much like skiing the next day, so we all just came home. Still, we had a good time and hopefully have started a new tradition to go with the Countdown and Droppings.

Sorry, nothing too exciting this month, either. Maybe later...

LETTERS

Dear Don,

It was sad to read in *Cassiopeia* and *DDD* about the death of Gus Bakos. His arrival at DDO during the winter of 1951-52 added an international flavor to the Observatory and enlivened discussions in the lunch room. I was working on my PhD thesis at the time, and although I have no knowledge of the financial assistance available to Gus, the Department did have some resources to pay graduate students for observing with the 74-inch on the Observatory's radial-velocity programs and for assisting with labs on campus. Presumably Gus was able to share in these funds. He was always cheerful and over the years it was a pleasure to keep in touch through contacts at meetings or by telephone.

Gus may have been the first graduate student to employ photoelectric photometry for a degree from U of T, but surely the pioneer in the field at DDO was Bob Baglow. Bob attempted to use the 19-inch to detect stellar limb darkening in eclipsing binaries. This called for precise photometry and the removal of various other effects in a search for any residual limb darkening. The weather at DDO did not allow Bob to observe during many of the crucial eclipse times, but he got sufficient data during a couple of weeks as a guest at the Steward Observatory in Tucson. Reduction of the data involved large sets of simultaneous equations. Bob discovered papers on Cracovian matrices, published in the Polish journal "Acta Astronomica", and educated DDO staff and students on the ease with which they permitted the solution of such equations, in the years before digital computers. His thesis was submitted to Cambridge University where Bob had been a student after the close of World War II, but for some unknown reason the degree was never granted. Bob Baglow's career was spent as a scientist with the Department of National Defence from which he retired some years ago to live not far from Ottawa. He died suddenly a few years later.

The first PhD awarded in Astronomy by the U of T was in 1953, to Bill Hossack. Mine was the second, a year later. Bill was a scientific instrumentalist as well as an excellent professional cellist. He built an oscilloscopic microphotometer for stellar spectrograms, which was tested in part measuring line ratios on spectrograms I used for MKK classifications in my thesis. Bill married a professional violinist and was working with the staff of the Glassco Royal Commission on Government Organization when he and his wife were both killed in a tragic car accident between Montreal and Ottawa. Their young son survived the accident. Bill had maintained his astronomical interests and was National Treasurer of the RASC at the time of his death.

With the death of Gus Bakos we have now sadly lost three of the doctoral students from the early post-war years at DDO.

Ian Halliday,
Ottawa.

Dear Don,

The last time I gave you news of VATT was for the May 1991 DDD, but it has been a case of "no news is good news" since then. While construction of our Vatican Observatory telescope's building on Mt. Graham went slowly last summer and autumn, it went steadily. By the time snow closed down the site we had 350 out of a total 600 tons of concrete in place for the foundations; and the same steady progress was true for the Sub-Millimeter Telescope, our neighbour on the mountain. This was achieved despite a late start to the building season, very restricted space at a 10,400 feet elevation, with hard rock underneath (good news for our pier's stability), and with stringent cleanliness codes monitored by the U.S. Forest Service. Yet, we have great foundations while the forest outside of our 1/4 acre site is undisturbed and holds an increasing number of red squirrels.

As site work closed for winter we got the other good news about our 1.8 m, f/1 primary mirror. Steward Observatory's Mirror Lab has finished polishing the mirror to an accuracy of 17 nm rms, which rivals the accuracy of the best large mirrors ever made despite being an order of magnitude more aspheric and having the fastest focal ratio. Its Strehl ratio at 633 nm is 90%, and the encircled energy calculated by diffraction is 80% into 0.28 arcsec diameter. This is a spectacular result - and the finishing of another 3.5 m, f/1.5 Phillips Lab mirror to similar accuracy has demonstrated that the stressed lap method of polishing works to high accuracy and at high speed. All this bodes well for the 6.5 m mirror for the MMT upgrade that should be spun cast in a little more than a month from now.

DDD readers will be aware of the opposition of environmental groups, whether in the form of concern for red squirrels or for Apache sacred places, to the international astronomical project on Mt. Graham. There has been excellent news in this area as well what with decisions completely in favour of the project at both the District and the 9th Circuit Appeal Court levels. So, we have a realistic hope of having our building enclosed and the telescope installed by November of this year. Watch this space for news of first light - which may occur at our test facility near Tucson before it does on Mt. Graham.

With best wishes from a more sunny Arizona,

Chris Corbally

ASTRONOMY COLLOQUIA

(All colloquia are Wed, 3:10 pm, unless specified otherwise)

Jan 22	R. Malaney	CITA	Big Bang Beryllium
Jan 29	P. Pinto	CfA	Supernovae from Mev to Microns
Feb 5	C. Heisler	York U.	60-micro Peaker Galaxies
Feb 12	A. Loeb	I. of Ad. Studies	Feeding Quasars by Photon Viscosity
Feb 19	A. Saha	STScI	
Feb 26	M. Turner	U. of Chicago	Origin of Large-Scale Structure
Mar 4	L. Hernquist	UCSC	
Mar 11	B. Harris	McMaster Univ.	Globular Clusters in the Halo of M31
Mar 18			
Mar 25	M. Duncan	Queens Univ.	Chaos in the Solar System
Apr 1	D. Richstone	U. of Michigan	Formation of Clusters of Galaxies

LIBRARY NEWS

Marlene Cummins

Recently several staff members undertook a clean-up project of the DDO library- particularly the basement area. With the return of the 1990 bound journals last summer, the space problem became more than pressing- it became critical. The ApJ alone was almost a metre long and made an unusual coffee table ornament until space was cleared for it. Several boxes of duplicate journals and observatory publications (i.e. they are available downtown) were packed up and will be offered to other libraries etc. Of course, not all duplicate journals were banished, only those deemed non-essential.

Another step in the struggle to keep ahead of the flood of journals was the encroachment on the very uppermost shelves of the library. Since these are approximately 12 feet off the ground, they have been hitherto left unused. Now they have been pressed into service and in order to access them a rolling ladder has had to be installed. A dark grey track runs along the second highest shelf, with gaps at the door and fireplace. A mahogany-coloured ladder on wheels hooks onto the track and may be easily pushed to whatever location desired. (When moving to another section of the track, it must be lifted off and rolled to the next section.) It certainly feels much more secure to have something to hold onto when one is 7 feet off the ground! The other shorter ladders will be left in the library for convenience.

Now, if we could only blast out all the walls on the 13th floor of the McLennan Labs...

PAPERS SUBMITTED**PREPRINTS BY FACULTY AND STUDENTS RECEIVED
IN THE ASTRONOMY LIBRARY**

November 26 1991 to January 28 1992

- Bietenholz, M.F.; Kronberg, P.P., *Activity and radio spectral index variations near the center of the Crab nebula* David Dunlap Observatory, University of Toronto, 91-1319 17-Dec-1991.
- Eales, S.A., *A new theory for the alignment effect* David Dunlap Observatory, University of Toronto, 91-1344 23-Dec-1991.
- Kronberg, P.P.; Sramek, R.A., *10-year monitoring of the compact radio sources in the nuclear region of M82* David Dunlap Observatory, University of Toronto, 92-0032 2-Jan-1992.
- Reuter, H.-P.; P.P. Kronberg; et al, *Gaps and filaments in the synchrotron halo of M82 evidence for poloidal magnetic fields* David Dunlap Observatory, University of Toronto, 91-1275 10-Dec-1991.