Orbit
celebrating 100 years
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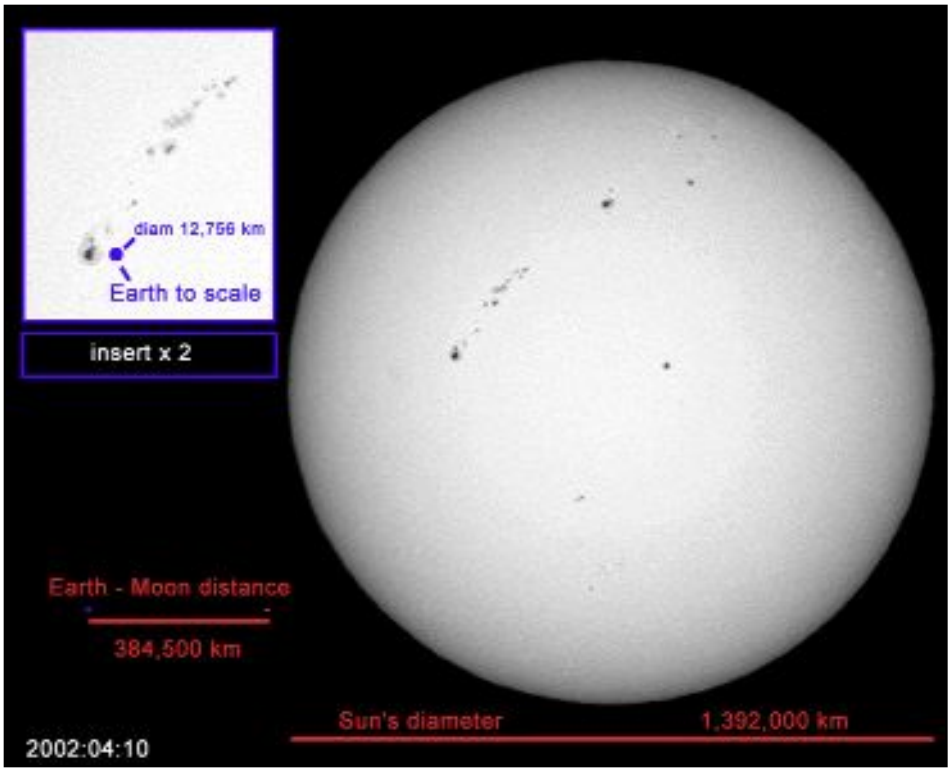


The image above was created by Bob Botts. It really puts into perspective the relative sizes of the Earth and the Sun when you see the representation of the Earth next to the enlargement of the sunspot image. Even the distance from the Earth to the Moon is less than the length of the group of sun spots. The photo was taken on April 8, 2002. For more details contact Bob.




## Wide Walls! White Towers! Apochromats in a Shining Dome!

### By Michael J. Spicer

The most beautiful private observatory I have ever visited is perched upon the tip-top of a rather low mountain in South Carolina. It is the private preserve of John and Juanita Trent and their beautiful daughter, Mason. They are lovers of JRR Tolkien, and to borrow from The Lord of the Rings, "If ever you met them, you wouldn't forget them." Jim Cooper, Steve Prewitt and I visited them one sunny April afternoon.

The McCanless Observatory was built to last. Rising from the bones of the mountain, it is a structure of strength and beauty. Warmed by the bright sun, graced with a lovely stained glass window overlooking the entrance, this 40 foot rectangle of solid granite rises two stories above the top of Bird Mountain, situated just outside Landrum, SC. The observatory is capped with the shiniest, thinnest, lightest, most perfectly spherical steel dome you will ever see. And

*See **Wide Walls** on page 5.*

# Editorial

**by: Scott Barrie**

I remember a number of years ago when my first scope, a kit-built Stargazer Steve 4.25" Newtonian, saw first light the first "real" object I hunted down was M13 in Hercules. I also vividly remember the great sense of discovery and satisfaction I felt as I gave the telescope tube that final nudge and the cluster drifted into the field of view. There have been many "discoveries" since but none have been any more satisfying or more memorable.

I'm sure you've all had similar experiences. For many of us, it's those moments that are the essence of the hobby. And that's why I think it's great that, as Ken Lemke is learning his way around the sky, he's sharing his adventures with us, both at the general meetings and now, for the first time, in Orbit. Don't miss Ken's article, A Weekend at the Observatory, on Page 7. Welcome aboard, Ken.

It's foggy and cool as I write this but, that aside, it seems like we're finally getting some clear nights that are warm enough that you don't need to empty the closet just to stay comfortable. The planetary conjunction has provided plenty of motivation to get out at every opportunity. I hope you've all been able to enjoy the show.

The May general meeting was well attended and included a number of new faces. I hope those people enjoyed themselves enough to come again. The program was a members' night with entertainment provided entirely by members of the centre. Ken Lemke brought us up-to-date on his adventures as a newcomer to astronomy and Ev Rilett outlined some more observing challenges for those working on the Explore the Universe program.

The main speaker was Bob Botts who detailed of some of the techniques he's using to photograph both the Sun and the Moon. The work he's producing is amazing. See an example of one of his sun shots on Page 1. Steve Barnes, Mark Kaye and yours truly all had pictures of a wide range of subjects. I hope I haven't missed anybody.

For those of you who haven't read the latest issue of SkyNews, you should check it out. Bob Botts, Mark Kaye and Steve Barnes have work that was published.

Congratulations.

**Board of Directors Contact info.**

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# What's In Orbit

**by: Ev Rilett**

The conjunction is over now. Hope you all had a chance to see the 5 naked eye planets with your own eyes as well as the superb photos which have been taken by many members. Jupiter will still be available for a short while and Mars and Venus have shot upward and left Saturn down very low along with Mercury. The visibility window is very short now. Only a few days left. So do try to catch the last few days if its clear. This opportunity will not come along for a long time to come. Catch them all for your certificate now.

As usual we'll continue with "Explore the Universe".

*See **What's in Orbit** on page 6.*

# From the Eyepiece

**by: Mark Kaye**

April seemed to go by in a flash. It was not because of all the observing that I did that it went by so quickly. Other than admiring the beautiful line up of planets in the evening sky, it seemed that most of my observations were of clouds or worse, snow.

We did hold a work party at the observatory on the 20th. Lots was accomplished. Kudos to Grant "The Beaver" Maguire for all of the tree trimming that he did. He ruthlessly cut back a lot of the more aggressive small trees that were threatening to encroach on our recently freed skies.

While we were tidying up the site, we discussed what we would like to see done in the future at the site. It was pretty much agreed that we have enough telescopes in the club already. There is a wide range of apertures to choose from, starting at 15cm and going all the way up in nice steps to 48cm. It appears that the scope that gets the most use is the 25cm "Tin Tube" scope that is now a Dobsonian. What do the members think of converting the 48cm to a Dob? Would it mean that it gets more use? That mount that it sits on is a beast, in certain points of the sky, you cannot look through the eyepiece. Making a drive for it would be very difficult. What should we do? How about the other 25cm, the Ford scope. Would it get better use if it were also a Dob? With the limitations of the site, having scopes that can easily be moved around would seem to be a plus. What about the Marsh scope? It is a fabulous long focus refractor. Are people using it? What does it need to be used more? A better mount? One idea is to put a heavy duty mount in the main dome and to put a universal dove plate on it so that many scopes could be put on the pier, not just the refractor. I know that the lovely 20cm Celestron would benefit from a better mount. As it stands now, it is very shaky, taking many seconds to settle down. It is also only suitable for visual work.

The dome needs work. It needs to be patched and painted. Ideally, it needs to be replaced. It appears to me that it was made about 20 years ago with an expected projected life of ten years. It leaks and it is hard to turn. What would be a good idea for the dome? A new one? A different style of roof altogether? Being a fan of a fully openable roof, I know what I would like to see, but is that what is best for the club and the image of the observatory?

May is going to be an exciting month. This year we kick off the first of hopefully a yearly event, the Hamilton Centre Banquet. Matt BenDaniel will be the speaker and it promises to be a great evening. Please get out and support your club. $37.50 is all it will cost for a fine night of company and astronomy.

At the next board meeting, we will be discussing dates for upcoming site work parties. Stay tuned to email to find out when. Your help is appreciated greatly and it is a lot of fun to boot. Get out and enjoy the night skies at the site and give us some ideas on what direction you would like the club to take at the observatory.

Clear skies!
MK

http://www3.sympatico.ca/mark.kaye/

## THE Hamilton Centre
**of the**
**Royal Astronomical Society of Canada**

Presents:
Sidewalk Astronomy

At: Spencer Smith Park,
Burlington,
west end of the park,
starting at sunset,
weather permitting.

Come and see the moon and stars through our telescopes. You will be amazed.

- Friday May 17, 2002
- Friday June 14, 2002
- Friday July 19, 2002
- Friday Aug 16, 2002
- Friday Sept 13, 2002

For further information please contact Grant Maguire at (905) 639-8926 (evenings only), or via email at "maguires@lara.on.ca".

Or visit the Hamilton Centre web site at:

*See **From the Eyepiece** on page 5.*

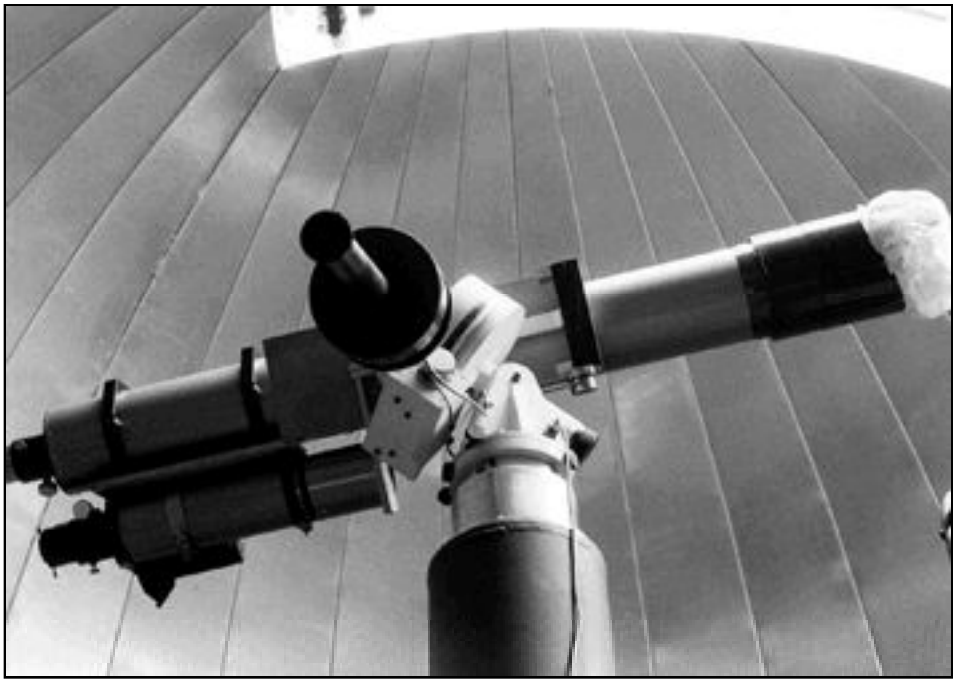
that's just the outside!

Getting there is a hair-raising drive up the precipitous side of the mountain, the roadway just wide enough for a car. On your left as you drive up, a few hundred foot sheer drop with nary a guardrail. You get used to leaning back in the seat, tilted about eight degrees nose-up. After several ever-narrowing circuits of the peak, you arrive at the summit. That is where I met the Trents. They are a family elevated above the rest of the world, academically as well as geographically. John repairs and restores Volkswagons, a practical application of his academic training in advanced mathematics - more productive and self-satisfying. Juanita holds a Master's degree in Astrophysics; we found her making sunspot drawings in the bright afternoon sunlight. Their lovely daughter Mason, a professional dancer, ushered us into the observatory building on tour, so to speak.

McCanless Observatory atop Bird Mountain, Landrum, SC The granite building houses &" and 4" Astro-Physics refractors.

Juanita's mother was behind the building of the observatory, financially. She is the McCanless after which the observatory is named. Indeed, it rises as a monument to her, as she is buried quite nearby. The observatory houses two remarkable instruments: a 7" Astro-Physics refractor and a 4" Astro-Physics right along-side it. They rise on a huge steel pier that sinks deep into the mountain below. As large as the 7" telescope is, the dome dwarfs it. It's fifteen feet in diameter, raised about three feet above the floor, with a wood-panelled walkway all around it. The observatory breathes spaciousness. The dome area alone could easily hold a classroom full of children. For many years Juanita did fill the dome with groups interested in seeing the night sky. More recently this public service has tapered off due to out-of-town commitments. The exterior of the building has a lovely wooden deck and a second pier set up with a wedge. Plunk your Celestron or Meade go-to on it and plug in! Ten years ago a 14" astrograph was settled there, taking startling photographs of the night sky.


The telescopes are magnificent apochromatic instruments, optically as pristine today as when Roland Christen made them (he came to inspect the installation) but perhaps a bit dusty with under-use. Sadly, the 4" refractor was mounted close to the eyepiece end of the 7" and imbalance resulted. Then, too, the massive mount was a slightly under-powered European import. It grinds with use now. There's a RA drive but no other electronics. Juanita is excited by the thought of a go-to mount. I have offered to bring my 11" GPS to show her the practical aspects of computer-driven go-to mounts. I have suggested replacement of the mount and re-settling of the 4" refractor on



Interior of the 15 foot dome showing both 7" and 4" refractors.

its own excellent A-P mount, now sitting unused in the observatory's library. We shall see whether renovations and upgrades are made in the next year or so.

The author with Juanita Trent on the observatory's outside deck.

The Trents live in a beautiful one-level home directly across the driveway from the observatory. The house was finished to resemble an early 20th century railway station, and what do you know, there are railway tracks at the rear of the home, and an habitable but non-moving caboose! I shuddered to hear how all the building materials (and the caboose) were trucked up the mountainside those many years ago.

I have hopes for the observatory. First, to use it on a few clear nights as I was invited back by the friendly owners. Second, to demonstrate to JuanitaTrent the benefits of a computer-controlled telescope with CCD imaging andstoring ability. Third, perhaps bundle the under-used 7" refractor down the mountainside and back to Hamilton, if the Trents see fit to part with it. After all, Juanita loves the 4" refractor best. That nasty 7" is in reality, a burden too massive to deal with. It would fit nicely in the dome of the Les Powis Observatory... hey, these are only "hopes" so far. But like the nuns used to say, smiles and prayer can work wonders.

MJS

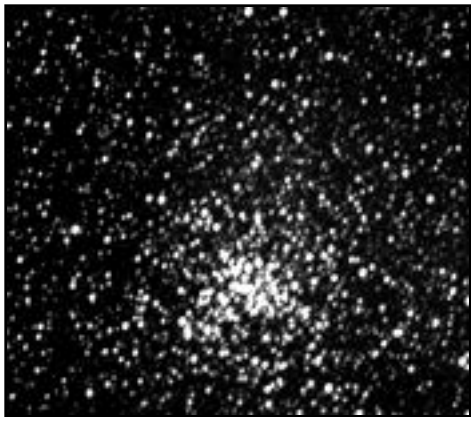
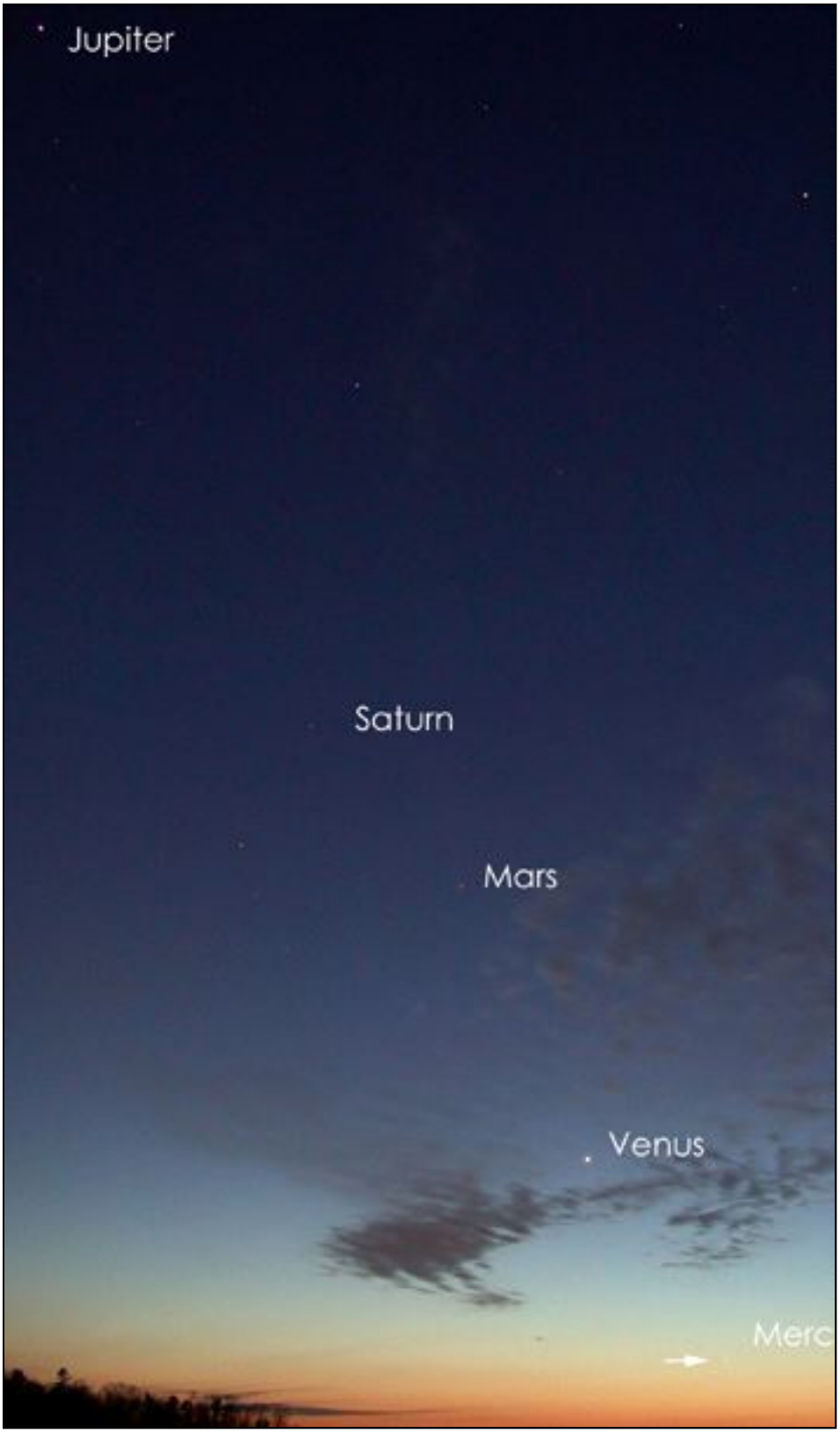


Photo of M37 by Bob Botts using a 4” f5 refractor and an ST6. 20 X 30 second images. .




The image above, submitted by Steve Barnes on May 1, shows the five planets, Jupiter, Saturn, Mars, Venus and Mercury, when they appeared in a virtual straight line. They have moved dramatically since then but continue to put on a terrific show. Venus and Mars have both moved well above Saturn and are separated by just over a degree.

***What's In Orbit**, cont'd.*

Learning your way around the sky can be fun. It doesn't have to be al all daunting. A brief description: There is a wide range of 110 Observing objects with a requirement of 55 objects to be hunted down. The categories or organized by seasons, and span the Moon, Deep Sky, Constellations and Bright Stars, Solar System and Double Stars. I will supply the "Explore the Universe Observing Certificate" details by email for anyone interested and you can pick and choose which ones you'd like to chase.

This month I've selected Lyra as the constellation of focus. It is rising earlier and higher each night now. Vega is the Alpha Star and is the brightest of the summer triangle of stars (Vega, Cygnus and Altair). You can also challenge yourself with M57, the ring Nebula. It is not on the Observing program but is a fairly easy target and well worth finding. The certificate object I've chosen is M13, a Globular Cluster (the brightest in the northern hemisphere). It lies in the Constellation of Hercules and is next door to Lyra. An easy Binocular object. The moon . . . you've had some easy tasks up to now, so I've chosen a more difficult one. Look for 3 distinct craters. Tycho, Clavius and Copernicus. Please come out to the observatory and enjoy the benefits and companionship of the members. All can share and learn from each other. Looking forward to seeing you all there.

Ev Rilett, Observing Director
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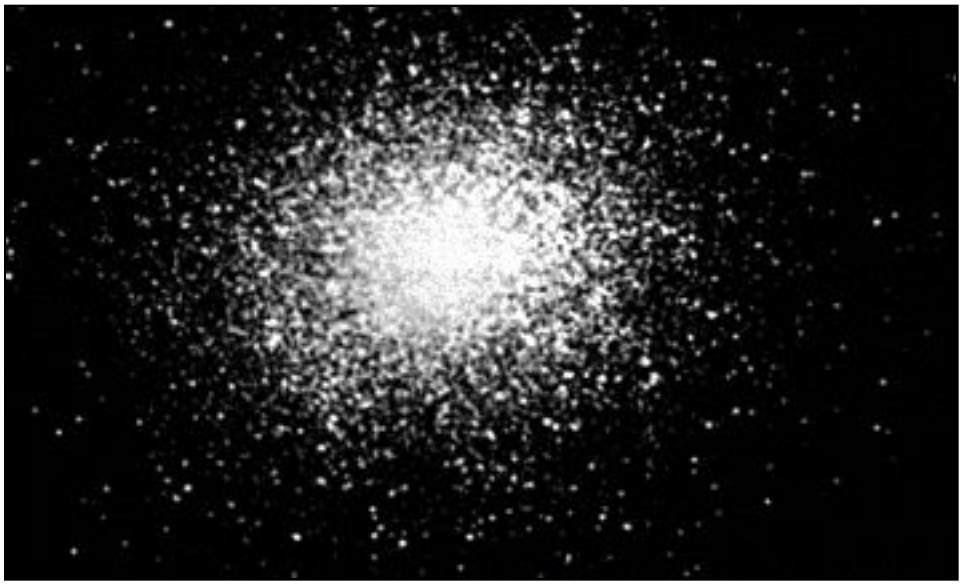
# A Weekend at the Observatory

**by: Ken Lemke**



Photograph of M13 from Starry Night Pro

As a novice Amateur Astronomer, I had spent most of my observing time in the solitude of my light polluted backyard in Burlington, only making occasional visits to the Hamilton Centre's Observatory. I avoided the Observatory since I was a novice (didn't want to show how little I knew) and, as a new member to the Hamilton Centre, I didn't know a lot of people. (You'll note in the following, I still don't know many last names).

Recently, I began to make the 25 minute drive up to the observatory on a regular basis and this past week-end (May 3rd-4th, 2002) was a real lesson in why I should have started going to the Observatory a lot sooner.

On Friday night I arrived about 8:30 pm and Michael Spicer was setting up his 11 inch SCT to photograph the wonderful planetary alignment to which we have been treated this spring. Grant Maguire then arrived and set up a 10 inch Dobsonian to work on the RASC's Observing Certificate. Glenn arrived shortly thereafter.

As I was there to also work on the Observing Certificate, I went about trying to locate M13 in my 3 inch refractor and after a short search, I found it and let out a yell. Glenn came over to see what all the fuss was about and I had him confirm that I had found the elusive (at least to me) M13. Meanwhile Grant was busy finding doubles and we all took turns checking out the great views of doubles each time Grant found a new one. At the same time Michael was locating various globulars and treating us to the dazzling views in his scope. Sometime during the evening Bert had also arrived and since we were caught up in Grants's double stars, he treated us to a view of a nice double in the Constellation Corvus.

During a quiet time, I just sat in my chair doing some naked eye observations and the first thing that hit me was I could see the Alcor-Mizar double — naked eye!! Then I noted I could see the "Little Dipper" except for the 4.9 Magnitude star in the corner of the bowl. I can't recall having seen the Little Dipper since I was a Cub in Hamilton working on a merit badge during the 50's

Saturday night found me back at the Observatory ---Wow — two clear nights in a row! Shortly after arriving there must have been 10 - 12 people setting up for a night's observing. My task this night was to de-bug my new 8 inch LX-200 which I had just purchased. The first problem I found was that the telescope didn't like the batteries I had purchased and fortunately Barry had a power cord I could use with my battery pack. Thank you Barry. Finally, we got the scope working only to find that it was telling me that Jupiter (which I could see) was below the Horizon!! At one point the 'scope" tried to find Polaris while pointing at the ground. Back to the instruction book!

In a moment of inspiration (desperation) I decided to look at the data base in the software to determine where the telescope thought it was. The site data said we were in Alameda, to which I said "where the &*#@ is Alameda" to which Colin replied, "California". When I changed the site data to tell the telescope where it really was, I was finally able to get the scope to go to Jupiter. After this I had to have a look at M13 to compare the difference

*See **Weekend** on page 8.*

## Coming Events:

**May 17, 2002** - Sidewalk Astronomy at Spence Smith Park in Burlington. Come and see the moon and stars through members' telescopes.

**May 25, 2002** - Centre Banquet. Special Guest astrophotographer Matt BenDaniel. For details see web site.

**June 6, 2002** - General Meeting at 8:00pm at the Steam Museum. Program TBA.

**June 13, 2002** - Board Meeting at 8:00 at the observatory. Come on out and shape the future of the centre.

**June 14, 2002** - Sidewalk Astronomy at Spence Smith Park in Burlington. Come and see the moon and stars through members' telescopes.

**July 19, 2002** - Sidewalk Astronomy at Spence Smith Park in Burlington. Come and see the moon and stars through members' telescopes.

**Directions to Observatory:**

**From Hamilton or Guelph:**
- Hwy 6 N of Hamilton,
- Take Concession 7 East eastbound, cross Centre Rd.
- Continue on 7E, past the rail tracks, proceed to near the end.
- Our gate is on the south side on the last lot (south west).

**From Mississauga or Milton:**
- Britannia Road past Hwy 25, Guelph Line, Cedar Springs to end
- South 1 block on Milborough Town Line to Concession 7 East.
- Right on 7th Concession, then first driveway on left.
- Our gate is on the south side on the last lot (south west)

**From Burlington or Oakville:**
- Dundas Street (HWY #5) to Cedar Springs Road
- Cedar Springs Road to Britannia Road
- Left (west on Britannia road to Milborough Town Line
- South 1 block on Milborough Town Line to Concession 7 East.
- Right on 7th Concession, then first driveway on left.
- Our gate is on the south side on the last lot (south west)

**Hamilton Centre Observatory**
43° 23, 26" N 79° 55, 22" W **Telephone 905-689-0266**

**Club web site - http://www.rasc.ca/hamilton/**

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***Weekend**, cont'd.*

between a 8 inch SCT and my 3 inch Refractor. I was rewarded for my two hours of frustration – it was truly an impressive image.

While all this was going on, Bert had found M13 in the Observatory's 17 inch Dobsonian and we took turns having a look — this was the most stunning view I've ever seen. The globular was well resolved into a sea of stars. Thanks Bert. In between all the action, Grant was working away finding various objects for the Observing Certificate and sharing the views. Steve was imaging the Comet Ikeya-Zhang and sharing the view with all. Along about 1:00 am the group started to thin out.

On my drive home, I reflected on the week-end and decided to share my experience in the hope it would encourage others to take advantage of the Observatory.

What have I learned (not in any specific order):

1) Members of the Hamilton Centre are a very friendly bunch and are willing to help you find an object or lend you equipment. (I had never met Barry before Saturday).

2) Members will joyfully share the views in their eyepiece with others.

3) The Observatory has some good equipment which you can use to treat yourself to some stunning views.

4) The Observatory has a MUCH better dark sky than my backyard.

5) Bert has an amazing knowledge of the night sky and enjoys helping others.

6) When we can see Jupiter, it's sometimes below the horizon in California.

7) You can really confuse a GPS system if you tell it something different than that which the satellites are telling the telescope.

8) Meade writes poor Instruction Manuals.

9) I'm going to enjoy my new LX-200 but I still love my little 3 inch refractor.

10) I have a lot to learn – like the name of that 4.9 magnitude star in the "Little Dipper".

11) I'm having FUN.