

The NHAS Observer

and

Cloud Chronicles



Newsletter of the New Hampshire Astronomical Society

Volume 2004 No. 4

"All the news that fits in print"

April 2004

Astronomy Day Is May 1st

President's Message

Spring IS here!

I can see grass, hear spring birds, smell mud... Well, you can't win them all.

Orion is lowering in the west. There are still lots of planets out here. I hope you Messier Marathonists were busy last month – too bad the weather was not more predictable.

Jupiter is having lots of moon dancing around it this month.

See this web page:

http://SkyandTelescope.com/observing/objects/planets/article_1223_1.asp

I can't wait for those two unaided-eye comets (NEAT and LINEAR) that are coming next month.

See this web page:

http://skyandtelescope.com/observing/objects/comets/article_1037_1.asp

There will be a few days that you can see both of them together in the western sky. Well, these comets are here for a reason. It is stuff to talk about to the public on May 1st at the Christa McAuliffe Planetarium on Astronomy Day. One comet will be visible in the evening there. We are still looking for more volunteers. Drop me a line if you are interested.

I forgot to mention at the last meeting about submissions for this year's club T-shirts. **Michael Frascinella** suggested a new club logo (which was actually based on a request from **Mike Kertyzak**), and currently two people are working on them, **Rick Hedrick** and **Cindy Dougherty**.

This new design will be used on logo patches, hats, club polo shirts, and A-Day T-shirts. Look at his previous e-mail about it for details. The theme is a

modern refractor with the club name around it in a circle.

If there are no new submissions by this April meeting, we will have to choose from what we get, because **Barbara O'Connell** determined that the silk screener needs several weeks to make them.

The A-day T-shirts are 1st in priority, the others will come later.

Clear and warm skies,

* Joel Harris
NHAS President 2004

Dr. Janet Mattei



Photo courtesy of Sky & Telescope

John Blackwell submitted the following tribute by **Mario Motta**.

"Dear members, staff, and friends of the AAVSO*.

It is my very sad duty to inform you all that **Dr. Janet Mattei** died at 4:20 p.m. today 3/22/04 at the Peter Bent Brigham Hospital after a long battle with Acute Myelogenous Leukemia. In typical Janet fashion, she fought a heroic battle with this deadly disease for the past seven months, but in the past few weeks it overcame her.

Last Tuesday she asked that I inform her friends worldwide when this time

came for her. Last evening she slipped into a coma, and passed away just minutes ago.

"The AAVSO has lost a strong leader who has guided our organization to greatness. The world of astronomy has lost a patron of her field. Amateur astronomers the world over have lost a mentor who bridged the world of amateurs and professionals. I, along with many others the world over who knew her well, have lost a dear friend who will be deeply missed."

*American Association of Variable Star Observers

Public Observing Highlights

Our "losing streak" for skywatches continues! The Mar. 25th East Derry Skywatch was cancelled due to rain.

But check the club calendar. There are many more on the way and some of them are bound to get off.

By the way, several of you are now using the online club calendar. A couple of notes on this:

- Check the calendar often. Skywatch dates and events can get added with short notice. If you print out the calendar, make it a point to check it again online every couple of weeks.
- When a skywatch is cancelled, I'm making an effort to put this in the description online too.
- I'm experimenting with putting directions in the field descriptions for the events. No more waiting for my e-mails to get directions!

* Ed Ting

Noteworthy News

Astro-Field Trip Page 2
Messier Marathon Page 3

Astro-Field Trip to Florida

During the week of March 15 to 12, I was in Florida. Before traveling, I had searched on the Web for a skywatch, since I wanted to check out the dark Florida skies and look at those parts that you can't see from New Hampshire. I found the Central Florida Astronomical Society (CFAS) (<http://www.cfas.org>) and exchanged e-mail with President **Walt Hamler**.

On the 17th I went to a public skywatch given by CFAS, held at an observatory on the campus of the University of Central Florida in Orlando. The CFAS people were very friendly and helpful. They even tried to get me to stay longer so I could go to their Astrofest that weekend at a really dark site! The club has older members as well as student members. I'm sorry to say that I was introduced to too many people and now can't remember any more names.

The club was the inspiration behind the observatory, and did the restoration of the 26-inch SCT which is its main instrument, but the telescope and the observatory belong to the University (i.e., the State of Florida).

A member told me the story of the telescope. It had been part of an astronomy program at another branch of the State University system that had been discontinued. At one point the telescope was stored in a basement while the upper floors of the building were being worked on. Workers thought that a hole in the floor led to a dumpster, and dumped construction waste through it. Instead, it was the access for the telescope!

Luckily, the optics had been boxed up and weren't damaged, though the OTA and mount were banged up and somewhat corroded. The club learned about the discontinued astronomy course, tracked down the telescope, rescued it from under the trash, and restored it. The club raised money to build an observatory, while the University gave the land it sits on.

The observatory is a two-story structure with a dome. A massive pillar supports an equally massive equatorial mount, with impressive huge metal discs on a giant counterweight arm. It's like being eight inches tall next to a 5-inch SCT.

The University promised that they'd never, ever build near the observatory, but now a big technology park lies nearby, with lots of unshielded lights. Orlando is also a bright city, and the government isn't receptive to suggestions to control light-pollution.

I was told that a mayor had said "I want to make this city a second Las Vegas"! I didn't get my dark Florida sky experience there but I did get the Florida mosquito experience, however – even in March they have bugs. Seeing was good by New Hampshire standards but I was told that it was only average by Florida standards.

The 26-inch was made by Tinsley, and is a long-focus Schmidt-Cassegrain. If I heard correctly, it has a focal length of over ten meters! The 12-inch secondary mirror causes a 46% obstruction. As a result it's not really an instrument for visual use – the secondary creates a grey blur in the middle of the field. But when I slid my eye to the edge of the eyepiece, I could see around that blur and get a better view.

Co-mounted with the Tinsley is a 140 mm TEC, which is an apochromatic refractor. It was far nicer for visual observing, with a much darker background and better color. They didn't have a wide range of eyepieces for the smaller telescope, so I didn't get to try high powers. The Tinsley showed more detail on Jupiter and Saturn, and the E star in the Trapezium, but it's not clear whether this was because of greater aperture or just the right set of eyepieces. I was happy to see the "E" star, as I hadn't see it before.

There were no other telescopes there for the sky watch, and since the sky wasn't very dark, the operators only showed us Venus, Mars, Saturn, Jupiter, and the Orion Nebula.

There were no non-club members other than about a dozen students from an Introductory Astronomy class. They had been given an assignment to go to the skywatch, look through a telescope, and then write up their impressions. I overheard complaints that this was too unclear and too hard. Apparently they had to write a whole paragraph!

While the Tinsley was having a problem with its gears worked on I took the students outside and pointed out the visible planets and some constellations.

They were halfway through their semester course, but seemed incredibly ignorant. They didn't know any part of the sky beyond the Big Dipper, they didn't know the planets, they didn't know how to find North or Polaris, they didn't know anything about the life cycles of stars. I wondered what they had learned in the first half of the semester, but I didn't find out.

On the other hand, they were polite, respectful and willing to learn. Several of them thanked me for taking the time to show them constellations. But I'm used to people knowing a bit more.

I found out that at Central Florida, many students take beginning algebra. It seems that algebra isn't taught to everyone in the high schools or the junior high schools. Since my eighth-grade son is taking algebra, this was a bit of a surprise.

It was a fun experience. The next time I travel I'll be sure to look up the local astronomy club before I go.

* John Bishop

Astro 201 Highlights

The latest Astro 201 event took place at YFOS on Friday March 26 at 7:30 p.m. The weather was cloudy with light rain on the ride to the observing site. This was fine since it allowed us to enter the site parking lot with headlights on. It was mud season and even walking on the grass was treacherous.

Don Ware gave an information-packed presentation on "What Makes a Goto Telescope Go". There was a good sized group of students learning the details of tracking, coordinate systems, telescope mounts, software, and other related information.



Photo by Bob Sletten

(Cont'd. on p. 3)

Astro 201 (cont'd. from p. 2)

There was even a pop quiz (with which the group didn't do too well). Everyone learned something. It was an excellent example of a focused 201 topic class.

This completes three of the five ASTRO 201 sessions.

The next one is planned for the Coffeehouse evening of April 16th.

John Blackwell is to discuss variable star observing, a subject with which he has extensive experience.

* Bob Sletten

Messier Marathon

After fits and starts due to constantly changing weather, the marathon was given the red light for March 19. **Larry Lopez** reported that the following members participated: **Andy Jaffe, Ed Ting, Gardner Gerry, Herb Bubert, Joe Derek, John Pappas, Linda Lopez, Mike Stebbins, Mike Townsend, Nils Wygant, Pete Allen, Rich DeMidio & Jean, Todd Miller** (arrived first), **Tony Costanzo, Vignesh.**

The top Marathon Counts were:

Nils Wygant – 98 objects Orion XT10 10" Dob, / 27mm Panoptic

Gardner Gerry – 98 objects, 8" F9 Dob, 27mm and 19mm Panoptics

Herb Bubert – 95 objects 11" Starmaster ELT 27mm Panoptic

Rich DeMidio – 92 objects, with 31mm Nagler Eyepiece

Larry Lopez – well I had to make coffee!!!

This was a wonderful MM and we greatly appreciate all the help we got in making it happen. Thanks to **Rich DiMidio** for this set of photos taken that afternoon.

* Larry Lopez

YFOS

On March 13, the lock on the warming room malfunctioned and was repaired that day. On March 26, I took it apart and repaired it without hurting myself.

YFOS is in MUD season, so only vehicles with 4-foot tall flotation tires are allowed on the observing field. I have spoken.

* Larry Lopez



Meteors Incoming

Will Spring Lyrid Meteors Bring Surprises?

For meteor observers, spring brings the Lyrids. This debris from Comet Thatcher (C/1861 G1) encounters Earth starting about April 16th and continues until about the 25th. The peak of the Lyrids is on April 22 at 04h 10m UT.

At maximum, the radiant (the area in the sky that the meteors seem to come from) for the Lyrids is at RA 18h 4.2m, Dec +34, which is approximately halfway between the bright star Vega in Lyra and the star mu Herculis.

These are average velocity meteors, at about 49 km per second. The Zenithal Hourly Rate (ZHR) is about 18 meteors per hour. But in 1982 over the U.S., a short-lived ZHR of 90 was recorded. The International Meteor Organization stated that "overall, the unpredictability of the shower in any given year always makes the Lyrids worth watching."

For more details about the Lyrids and other spring meteor showers, check out <http://www.namnmeteors.org>, the web site of the North American Meteor Network.

* Lew Gramer

The Bottom Line

Cash Balance: \$3,727.20
 Deposits: \$99 (memberships: (4) renewal, (1) 2yr. Renewal, Other: \$6 t-shirtsale, \$3 donation)
 A/P: 50 Village Rent-alls (plowing)
 Net Balance: \$3,727.20
 Membership: 138
 Donations: **Mike Andrews** \$3.00

New Member

Welcome to **Charlotte Lister** as our newest member!

* Barbara O'Connell

Looking Back at Last Month

Opening. Received an order form for the new Herald-Bubroff Atlas; Boston Museum of Science Astronomy Day is hosting only an evening skywatch for their event on April 24.

Public Observing. **Ed Ting** remarked that this has been the worst stretch of weather. He reviewed several upcoming events and hoped that some of them would "stick."

(Cont'd. on p. 4)

Looking Back (Cont'd. from p. 3)

Ed is to speak Apr. 10 at the Astronomical Society of Southern New England (try to fit that in a logo). CMP asked for volunteers for its March 19 Spring Equinox event.

Committees. Web: Barbara

O'Connell asked for suggestions from the members.

ATMs: Larry Lopez discussed the previous ATM meeting. There may not be one in March due to the Marathon.

Photo: A meeting was planned for April 23 in Nashua.

Membership: Bob Sletten noted that **John Bishop** gave a wonderful first session of Astro 201 and even posted his notes on the NHAS web site.

YFOS. Larry Lopez reported that mud season has been coming and going. A recent small earthquake may have caused the pier-mounted scope in the observatory to shift out of alignment.

Treasury. Barbara O'Connell reported a balance of \$3628.50 with membership at 132. YFOS was plowed in February.

Scope of the Month. Alan Shirey demoed his binocular viewing station (AKA couch potato chair) featuring a rotating lawn chair and adjustable height and tilt for binoculars.



He handed out copies of some do-it-yourself articles from this site: www.cloudynights.com. One vendor sells them in different price ranges from plans to completely assembled units. They remind me of Leslie Peltier's observing chair. The club scope is still with **Sandra Hernandez**.

Book of the Month. Joel Harris brought "Star Testing Astronomical Telescopes" by Harold Suiter.

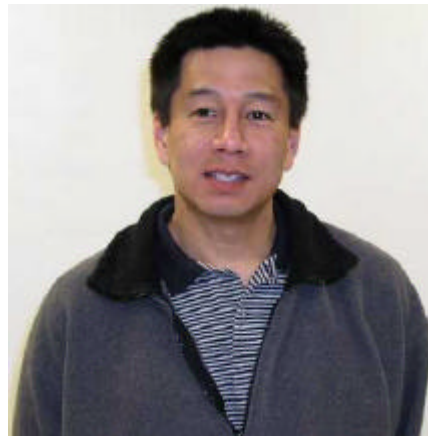
Rivers Camera. Chase McNiss said the 10% discount to club members no longer applies to TeleVue products,

possibly because retail prices have dropped.

Member Moment. Don Ware showed a photo taken Feb. 14, 1958 from Mould Bay in Northern Canada. It showed the first sunrise after several months of darkness.

Astronomy Day 2004. We will have space near the sundial for evening observing. We are trying to get space near the main entrance. We forgot to start a contest to design a t-shirt!

Evening Program. Preparing for the Messier Marathon by **Ed Ting**.



Photos by Bob Sletten

The event originated in the 1970s when some amateur astronomers realized that you could see nearly all the Messier objects in one night at the end of March.

The objects break down into several categories with galaxies being the largest group. The most difficult objects must be found during twilight. A few dozen objects are circumpolar so you get another chance to find them. Messier's original list ended at 45 (the Pleiades).

You can do a marathon virtually any time of the year. Ed display a chart showing the number of objects visible each night and at least 90 are visible each night. The second best time for a marathon is late October.

Ed offered several valuable tips: A 6-8-inch reflector or 4-inch refractor is sufficient. Bring a chair and binoculars. Eat light snacks. Bring something to combat dew. Learn to find the Virgo object before attending the marathon. Bring a good star atlas showing at least mag. 6 stars. For reference, he recommended a Messier Marathon

book by Harvard Pennington, published by Willman-Bell.

* Michael Frascinella

NASA Space Place**Sciencecraft**

by Patrick L. Barry and Tony Phillips
Probes that can distinguish between "interesting" things and "boring" things are vital for deep space exploration, say JPL scientists.

Along with his colleagues in NASA's Space Technology 6 Project (ST6), JPL's Steven Chien is working to develop an artificial intelligence technology that does just that. They call it the Autonomous Sciencecraft Experiment, and it's one of many next-generation satellite technologies emerging from NASA's New Millennium Program.

As humanity expands its exploration of the outer solar system - or even neighboring solar systems! - the probes we send suffer from two unavoidable handicaps. First, commands radioed by mission scientists on Earth take a long time to reach the probe: six hours for the planned New Horizons mission to Pluto, for example.

Second, the great distance also means that data beamed back by the probe trickles to Earth at a lower bandwidth - often much less than an old 28.8 kbps modem. Waiting for hundreds or thousands of multi-megabyte scientific images to download could take weeks. And often many of those images will be "boring," that is, they won't contain anything new or important for scientists to puzzle over. That's certainly not the most efficient way of using a multi-million dollar probe.

Even worse, what if one of those images showed something extremely "interesting" - a rare event like a volcanic eruption or an unexpected feature like glaciers of methane ice? By the time scientists see the images, hours or days would have passed, and it may be too late to tell the probe to take a closer look.

But how can a probe's computer brain possibly decide what's "interesting" to scientists and what's not?

(Cont'd. on p. 5)

Space Place (Cont'd. from p. 4)

"What you really want is a probe that can identify changes or unique features and focus on those things on its own, rather than just taking images indiscriminately," says Arthur Chmielewski, one of Chien's colleagues at JPL.

Indeed, that's what Chien's software does. It looks for things that change. A mission to Jupiter's icy moon Europa, for instance, might zero in on newly-formed cracks in the ice. Using artificial intelligence to set priorities, the probe could capture a complete movie of growing fractures rather than a single haphazard snapshot.

Until scientists can actually travel to deep space and explore distant worlds in person, they'll need spacecraft "out there" that can do some of the thinking for them. Sciencecraft is leading the way.

Learn more about Sciencecraft at nmp.nasa.gov/st6. Kids can make a "Star Finder" for this month and learn about another of the ST6 technologies at <http://spaceplace.nasa.gov/st6starfinder/st6starfinder.htm>.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

**The one stop shop
for all of your astronomical product needs**

Rivers CAMERA
SHOP

454 Central Ave Dover, NH 03820
69 North Main St. Rochester, NH 03867

742-4888
332-5652

DEADLINE for May 2004 Issue: 5 PM April 30

E-mail articles to the Editor.

CHANGE OF ADDRESS – Notify the Treasurer of changes to postal or e-mail address.

How to Join N.H.A.S.

Write to us:

NHAS

P.O. Box 5823

Manchester, NH 03108-5823

Attn: Treasurer

Send E-mail to:

info@nhastro.com

Use our web site:

<http://www.nhastro.com/>

This month's contributors:

Joel Harris, Ed Ting, Larry Lopez, Bob Sletten,
Barbara O'Connell, John, Bishop, John Blackwell, Lew
Gramer



2004 Officers

President: Joel Harris

Vice President: Don Ware

Treasurer: Barbara O'Connell

Secretary: Michael Frascinella

**New Hampshire Astronomical Society
P.O. Box 5823
Manchester, NH 03108-5823**



Astronomy Day Prep, Apr. 9, CMP

NHAS Upcoming Events

Event	Date	Time	Location
Apr. meeting	Apr.9	7:30 p.m.	Planetarium, Concord, NH
Photography Comm	Apr. 10	1:00 p.m.	Nashua Public Library, Nashua, NH
Coffee House	Apr. 16	5:00 p.m.	YFOS
Astro 201 course	Apr. 16	7:30 p.m.	YFOS
National Astronomy Day	Apr. 24		Boston Museum of Science
NHAS Astronomy Day	May 1	1-9 p.m.	Planetarium, Concord, NH
CMP Skywatch	May 7	7 p.m.	Planetarium, Concord, NH
May meeting	May 14	7:30 p.m.	St. Anselm's College, Goffstown, NH