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THE NHAS OBSERVER AND BOLIDE BULLETIN

Newsletter of the New Hampshire Astronomical Society



Volume 2003 No. 1

"All the news that fits in print"

January 2003



A New Slate of Officers

President's Message

Hello and Happy New Year to NHAS members. I want to take the time to thank everyone for the opportunity to serve as President. I only hope that I can do as good a job as **Barbara O'Connell** and those who have been past presidents.

My goals for the New Year are still being worked on and I am relying on the expertise of other club members to improve upon an already great series of programs such as the Photography Committee, Public Observing events, ATM committee, and Astronomy 101 Course for new members.

Plan on being part of the annual "Freeze Your Buns" observing session on January 31 and don't miss the opportunity to hear one of our veteran observers, **Chase McNiss**, shares how to prepare for cold weather observing at our evening talk on Jan. 24.

There will be plans again to participate in Astronomy Day at the Boston Museum of Science and the Christa McAuliffe Planetarium. If anyone is interested in introducing new ideas or participating, please let me know..

Astronomy has a way of exposing new wonders when you contemplate the magnitude of power, time, and distance – all of which can be summed by the words that can be found on the Stellafane Pink Club House in Springfield, Vermont, words that proclaim, "The Heavens Declares The Glory Of God. "

Happy Observing,

★ Joe Derek
NHAS President 2003

Public Observing Highlights

After a record 6 (count them, six) skywatches canceled due to poor weather, NHAS finally experienced clear skies on Dec. 17th at the Newton Memorial School in Newton, NH. Club members **Ed Ting**, **Herb Bubert**, and **Larry Lopez** braved the single-digit weather and showed the moon and Saturn to 125 kids and their parents.

Many of the cancelled skywatches have been rescheduled. After the CMP Skywatch on Jan. 3, we are at Crotched Mountain Jan. 10, Cub Scout Pack #104 in Manchester Jan. 15, and at the Wilkens School Jan. 21.

Also, get ready for our annual Freeze Your Buns Coffee House on Jan. 31. The average temperature at this event is somewhere around -10° F by the end of the evening!

★ Ed Ting

To all those who took the time on Dec. 9 to show the kids the stars in Dunstable (this included **Scott Hurley**, **Marion Hochuli**, **John Bishop**, **Jim Warena**, **Herb Bubert**, **Joe Derek**, and **Joe Dechene**), THANK YOU.

You made a wonderful impact on them and many have phoned to tell us just how much they enjoyed it. Your kindness is greatly appreciated.

★ Mike Kertyzak

Photon Front Lines

A member of NHAS and NHCRL, **Mike Pelletier**, has introduced a new Bill into the NH State Government process for consideration. This Bill (LSR 0452-R) will require outdoor advertising, known as billboards, along State and Federal roads to have downward facing lighting on all new billboards after the year 2007 and for

all billboards to be retrofitted with downward facing lighting by 2017.

If anyone knows of a State Representative or Senator that would like to help sponsor this legislation, have them contact Mike Pelletier at 497-3667 or mikpel@hotmail.com.

E-Mail Clean Up

Very soon, the club is going to clean up the member e-mail addresses that we have. If you have provided the club with an e-mail address (or multiple addresses), we don't want to lose it.

The Treasurer has the current club membership list with the e-mail address you gave when you joined, but that address may be out of date now.

If you changed your e-mail address since you joined and notified Larry Lopez, the club master list was probably not updated. If you notified the Treasurer, then the list has your correct address. Most people notify **Larry Lopez**, not the Treasurer.

By the way, if you sent a change to EmailListChanges@nhastro.com, I probably did not see those either.

Anyway, if you suspect that the club member list has the wrong e-mail address for you, just send your current e-mail address to the Treasurer. to jimw_nhas@hotmail.com or treasurer.2003@nhastro.com.

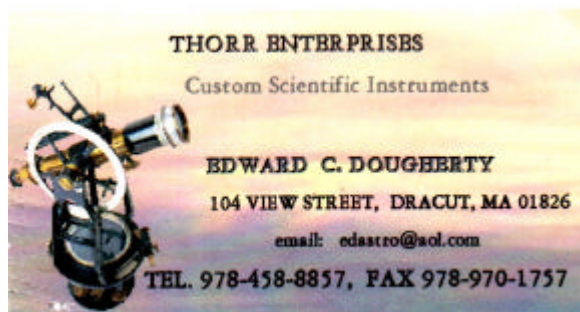
Our goal is to keep you in the club mail lists without an interruption...but you need to help us!

★ Jim Warena
NHAS Treasurer

Noteworthy News
Help with Your Project.....Page 2

Need Help with Your Project?

I am a retired Astronomer, research scientist, and former manufacturer of astronomical instruments who is willing to assist NHAS members who wish to learn to use, modify, design, or build Astronomy-related devices.



I have time on my hands, along with idle machines, electronics, and optics fabrication facilities, and a strong desire to see them used. I will make my experience and shops available at no cost, to any serious NHAS member who may need assistance, or requires equipment, tools, or facilities for anything from a special knob, to grinding mirrors, to a complete CCD telescope.

★ Ed Dougherty

Web Uploads

More dates have been added to the web calendar. The bad news is that the weather is still cloudy.

★ Barbara O'Connell

AstroPhotons

The Photography Committee has not set a date for their next meeting, so keep an eye out for an e-mail from them. Most likely, you will see them at YFOS during the Freeze Your Buns event on Jan. 31.

ATM True Grit

The Jan. 5 meeting was canceled due to snow. It was tentatively rescheduled to non, Sunday, Jan. 12 at my place in New Boston, weather permitting. That meeting has been rescheduled to the Whipple Free Library in downtown New Boston.

★ Larry Lopez

The YFOS Scene

A lot of snow has fallen in the last month and we are most grateful to **Jim Young** for the unsolicited help he has offered, specifically snowplowing the site for us without any solicitation on our part. It is truly a gracious gift and we are thankful that he has been willing to help us in that way.

Yours truly has been there a few times plowing and snow blowing and spreading sand. **Tim Parker** has also helped with a lot of snow relocating. [If there is anyone out there praying for snow, you can stop now. – Editor]

★ Larry Lopez

Welcome New Members

NHAS welcomes these new members:

Paul Gosselin of Northfield, **Sandra Leary** of Nashua, **Steven McInnis** of Portsmouth, **Timothy Parker** of Amherst, and **Clinton Spaar** of Peterborough, NH

The Bottom Line

The Treasurer reports the following:
Bank balance: \$8,300
2003 members: 133
Growth is still outpacing that of last year.

★ Jim Warena

Looking Back at Last Month

Opening. **Barbara O'Connell** opened the last meeting of 2002 on Dec. 13 by welcoming the newest members.

Book of the Month. As a surprise, **Michael Frascinella** brought two *Life* magazines from 1969 featuring the Apollo 10 and Apollo 11 missions.

Scope of the Month. Larry Lopez showed off an old f/10 Celestron C102 refractor circa 1980s with a 4-inch doublet lens. He said the tube was originally black until Steve Forbes borrowed it and painted it with blue metallic automotive paint.

Committees. **Web:** **Barbara** noted no problems with the web site. **ATMs:** **Larry Lopez** said the next meeting

would be Sunday, Dec. 15 but he canceled that in favor of a YFOS site cleanup. **Photo:** The group met the previous week at YFOS. **Membership:** Astronomy 101 course is still underway.

YFOS. The Freeze Yo' Buns event was still planned for Jan. 31. New members must go through the check out process before using the site solo.

Public Observing. **Ed Ting** stated that the Alton Bay and Bow skywatches were cancelled due to poor weather.

Treasury. **Jim Warena** reported a \$9000 balance and 120 members. Several members said they wished they bank accounts like that.

Elections. The moment we had waited for arrived and final nominations were taken. **Larry Lopez** was nominated for President but declined. A motion to close nominations was approved and ballots were handed out.

The results were (drum roll):

President: Joe Derek
Vice President: Todd Miller
Treasurer: Jim Warena
Secretary: Michael Frascinella
Board: Linda Lopez

After the break, **Ed Dougherty** showed a video he made of the Leonid shower.

Evening Program. **John Blackwell** presented "The M31 Charting Project," AKA "The Andromeda Strain."

He started with some statistics on this naked-eye galaxy and explained that the project equipment consisted of an 8-inch Newtonian scope and SBIG-7 CCD camera.

Overlapping rectangles on a photo of M31 depicted the regions of the galaxy that he photographing for his survey. Next he presented images of a few regions on which he had labeled objects such as nebulas and globular clusters. This was a painstaking activity.

For reference, he had been using older atlases, such as the one by Paul W. Hodge, to identify known objects within M31. All photos were taken from his Northwood Observatory.

★ Michael Frascinella

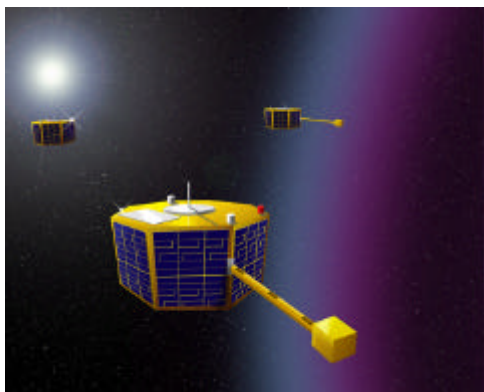
NASA Space Place

Frisbees in Space

by Dr. Tony Phillips

When Pete Rossoni was a kid he loved to throw Frisbees. Most kids do—it's pure fun. But in Pete's case, it was serious business. He didn't know it, but he was practicing for his future career in space exploration.

Grown-up Pete Rossoni is now an engineer at NASA's Goddard Space Flight Center. His main project there is figuring out how to hurl spacecraft into orbit Frisbee-style.



The spacecraft are small—about the size of birthday cakes. "This wouldn't work with big satellites or heavy space ships like the shuttle," notes Rossoni. But a cake-sized "nanosatellite" is just right.

Nanosatellites—nanosats for short—are an exciting new idea in space exploration. Ordinary satellites tend to be heavy and expensive to launch. The cost alone is a deterrent to space research. Nanosats, on the other hand, can travel on a budget. For example, a Delta 4 rocket delivering a communications satellite to orbit could also carry a few nanosats piggyback-style with little extra effort or expense.

"Once the nanosats reach space, however, they have to separate from their ride," says Rossoni. And that's where Frisbee tossing comes in.

Rossoni has designed a device that can fling a nanosat off the back of its host rocket. "It's a lot like throwing a Frisbee," he explains. "The basic mechanics are the same. You need to impart the spin and release it cleanly—all in about one tenth of a second." (The spinning motion is important because it allows the science magnetometer to

measure the surrounding field and lets sunlight to play across all of the nanosat's solar panels.)

The ST5 nanosats are designed to study Earth's magnetosphere—a magnetic bubble that surrounds our planet and protects us from the solar wind. But their primary goal, notes Rossoni, is to test the technology of miniature satellites.

"We haven't done anything like this before," says Rossoni. A trio of nanosats is slated for launch in 2004 on the back of a rocket yet to be determined. The name of the mission, which is managed by JPL's New Millennium Program, is Space Technology 5 (ST5).

Can groups of nanosats maintain formation as they fly through space? Will their internal systems—miniaturized versions of full-sized satellite components—satisfy the demands of both the harsh space environment and critical science measurements? Is Frisbee-tossing as much fun in orbit as it is on Earth? ST5 will provide the answers. Read about ST5 at

<http://nmp.nasa.gov/st5>.

Budding young astronomers can learn more at http://spaceplace.nasa.gov/st5/st5_tortillas1.htm.

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

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Notify the Treasurer. Include your full name and new street address. If changing an e-mail address, specify whether you want to add, modify, or delete an e-mail address.

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Treasurer: Jim Warena Treasurer@nhastro.com

Secretary: Michael Frascinella Secretary@nhastro.com

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**Cold Observing, Jan. 24, St. Anselm****NHAS Upcoming Events**

Event	Date	Time	Location
Crotched Mountain Skywatch	Jan. 10	7:00 p.m.	Crotched Mountain Rehab. Center, Frankestown, NH
Cub Scout Skywatch	Jan. 15	7:30 p.m.	St Catherine's Church, Manchester, NH
Wilkins School Skywatch	Jan. 21	6:30 p.m.	Wilkins School, Amherst, NH
January 2003 meeting	Jan. 24	7:30 p.m.	St. Anselm's College, Goffstown, NH
Freeze Your Buns Coffee House	Jan. 31	7:00 p.m.	YFOS
CMP Skywatch	Feb. 7	7:30 p.m.	Planetarium, Concord, NH
Feb. meeting	Feb. 21	7:30 p.m.	Planetarium, Concord, NH