Northwest Skies

The Official Newsletter of the Tacoma Astronomical Society
Tacoma, Washington State, USA

73 Years of Amateur Astronomy in the Pacific Northwest — July—August 2004

Inside this issue:

The President's Message

by Matt Flood

For many years, the history of our Society has been connected to Al and Vee George and the PGO Observatory. Not only Public nights but special club viewing nights, presentations, private groups and uncounted meetings took place there. When the Sky Shop was opened, it was a wonderful place to browse for the many Astronomy gadgets and books. We cannot forget the 'Moon Room', the Snack Shack and the great devotion over the years that came with it. We'll never be able to repay our debt to the George's and PGO. Alas, PGO is closed but the good news is that the 15-inch Swanson refractor, so painstakingly built by Al and others, will live on. It is being moved to a site in Texas to be used with several other scopes in an observing complex. The names Swanson, Pettinger, Guiley and George will live on. We are sad to see it go, but at the same time glad for the many hours we enjoyed using it and the continued enjoyment by fellow stargazers in Texas.

Summertime brings out the big events of the year for us. Table Mountain, Astronomy Fair 2004 and the Puyallup Fair. Table Mountain will again have a solid TAS contingent. TAS members will be heavily involved with the student programs. Look for our usual compound at the northeast edge of 'The Loop'. This is the event not to miss if you have the chance to attend. The best one-day event this summer will be Astronomy Fair on August 7th. This is our big event at Pierce College. There will be solar viewing, lectures, planetarium, student programs, food, night viewing and more!

The Puyallup fair is also coming up fast. Sign-ups will be ready at the July meeting. Try to fill as many slots as you can, as this is our big chance to meet and excite other people about astronomy. The hobby hall has been remodeled, so our booth will be better than ever! We will need full time manning, three time slots a day for 17 days, to provide handouts, displays and info. Sign up early and often since it is fun!

TAS participated in some interesting events since our last newsletter. Pierce College and TAS put on a Transit of Venus event at the school. We watched the live feed from Greece. Gwen Grace and a friend brought some marvelous cookies while Paul Hinds and Sion Heaney handled the lectures. Gwen also arranged a field trip to the Skystone in Bonney Lake. About a dozen of us spent a couple of hours cutting back underbrush, cleaning the rock, figuring out the markings and having lunch together.

Joe Witherspoon, with help from Alice Few, put together an overnight star party in Centralia, hosted by local health club owner Dale Thorbecke. About 15 TAS members attended. We slept overnight in Dale's club after a nice clear night of viewing. Dale hosted us with pizza, a beautiful Astronomy-themed cake and Starbucks coffee. I think this might become an annual event.

Sion has our newest website up and running. It looks great and has a lot more features than the previous website with more features to come! Nice work Sion.

Hope you all have clear skies!

Matt

Northwest Skies is a bi-monthly publication of the Tacoma Astronomical Society. All opinions expressed in this newsletter are those of the contributors and not necessarily those of the Tacoma Astronomical Society. Personal advertising is accepted without charge from members in good standing.

Article contributions are strongly encouraged and may be submitted as an email attachment to

editor@tas-online.org

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What's Up In Astronomy

by Bert Brown

Bert Brown, continues his summaries of the articles in CalTech's Division of Physics, Mathematics and Astronomy newsletter; 'PMA Communiqué'.

This is the second of two reports based on "PMA Communiqué", a newsletter put out by the California Institute of Technology (Caltech) division of Physics, Mathematics and Astronomy, whose winter 2004 issue focused on astronomy research there.

"BOOMERANG" is a 1.2-meter balloon-borne telescope designed to study the cosmic microwave background (CMB) from an altitude of 40 km above Antarctica. In 2001 this experiment used special bolometers (energy-measuring devices) to study the faint variations of the CMB, and results showed that the geometry of the universe is flat (not curved). This gave support to the theory of a rapidly expanding universe after the initial "big bang"-- which took place, they say, in a tiny fraction of a second. The CMB consists of electromagnetic waves, but the only direct relic of inflation available for study today would be a gravity-wave background (GWB) which could be detected as an extremely faint pattern in the polarization of the CMB. A Caltech grad student has designed a new type of bolometric detector which was flown on a second flight of BOOMERANG over Antarctica in January 2003, in the search for GWB. It appears that further research with orbital telescopes will be needed to detect GWB, but the new equipment is a start.

Another project in cosmology is the "Cosmic Background Imager" (CBI), a 13-element radio interferometer operating at 16800 ft elevation in the Chilean Andes. This instrument has also verified that the universe is flat, and that the dominant energy constituent in the universe is "dark energy"...a concept not understood at all, and which may need some new physical theories. Current cosmology thinking says that the radiation now called CMB "decoupled" from matter about 400,000 years after the Big Bang. Following the decoupling came the "dark ages" of astronomy, a billion years in which

the beginnings of galaxies and clusters grew to produce the objects we study today. The new CBI has been able to detect these early beginnings as small fluctuations in the CMB. (Are you keeping track of all these acronyms?)

Another puzzlement in cosmology is "dark matter". A legacy of the great Caltech astrophysicist Fritz Zwicky, it now seems that only about15% of the gravitating matter in the universe is made up of the atomic particles we are familiar with--protons, neutrons, and (to a lesser extent) electrons. The nature of the remaining 85% is entirely unknown, but it is called "dark matter" for want of a better term. So now we have dark matter, and dark energy. The latter manifests itself as an apparent repulsive force which causes distant supernovae to be fainter, or farther out, than their red shift would indicate--an effect discovered in 1999. This may be an effect predicted, then rejected, by Einstein in his general theory of relativity. Or it may be some new force of physics.

Astrophysicists are studying the interplay between dark matter and dark energy by looking for a time-dependence of expansion history. The "Supernova/Acceleration Probe" (SNAP) is a proposed space telescope which would be dedicated to such a study using a wide-angle field of view. Caltech is one of several institutions involved in this study, which is based at the Lawrence Berkeley Lab. of Univ. California and is partly funded by the Department of Energy. SNAP would be able to detect faint supernovae with great photometric precision, and it could also study distortions of galaxies produced by gravitational lensing effects.

"Bolocam" is a 144-element bolometer camera for observations at 1.1 and 2.1 mm at the Caltech Submillimeter Observatory. This type of instrument is used to study dust-obscured galaxies for which radio waves of about 1 mm wavelength are the only radiations which can be detected. A new class of galaxies of this type has been discovered, and they are undergoing bursts of extreme star formation. The Caltech Bolocam has nearly finished its testing phase and will soon be ready for use.

Caltech has been a leader in astronomy for most of the past century, and it continues to be in the forefront of astrophysical research.

When You Are Old by W. B. Yeats

Submitted by Don Tucker

When you are old and grey and full of sleep,
And nodding by the fire, take down this book,
And slowly read, and dream of the soft look
Your eyes had once, and of their shadows deep;

How many loved your moments of glad grace,
And loved your beauty with love false or true,
But one man loved the pilgrim soul in you,
And loved the sorrows of your changing face;

And bending down beside the glowing bars,
Murmur, a little sadly, how Love fled
And paced upon the mountains overhead
And hid his face amid a crowd of stars.

Observing Hill Maintenance

As the Tacoma Astronomical Society becomes the key user of the Observing Hill at Pierce College it is vital that we should also participate in the care of the site.

Over the past few weeks the observing hill has become overgrown with grass and bushes. We also have a mosquito problem.

Please help by volunteering to clear the site and cutting the grass prior to events.

Contact Matt Flood if you would like to assist in the upkeep of our observing site.

Thank you.

Snacks for the General Meeting

The following good people have volunteered to bring cookies or other snacks to our upcoming general meetings:

July

Erin Flood

Carl Tankersley

August

Glen Miller

Chuck Jacobson

Thank you for making our meetings more enjoyable.

How I Got Started In Astronomy

by Don Tucker

My interest started in astronomy when I was very young, probably around the age of three. I wanted terribly to become an Astronaut as a child, especially with all the lunar landings going on within that timeframe. I was born but a few months before the first lunar landing in July 1969 and I clearly remember those moving pictures of the Apollo Missions on National TV as I played with Sci-Fi toys of that era. You could imagine how crushed I felt when I discovered that I didn't too much like roller coasters and Math and Physics was not my strongest points!

Throughout the years I have always had a strong passion for the Moon and how she always looked over a serene sea or the way she glowed over a red desert located at the far corners of the planet. Often would I look up to the stars and awe over their beauty like campfires burning in deep darkness, possibly guiding beacons for interstellar travelers to come home to after long and fantastic voyages to other world and amazing discoveries. The passion for the stars always ran deep within myself, but never knew how to connect with others who possibly felt the same way of such beauty. Other friends and family members along the way often too commented on the beauty of the night sky, but never seemed to have the same deep passion as I, so I just gazed in awe where and when I could as the years went by.

Back in January of 2001 is where it really all began. My daughter was just born and only a little over a year ago I had been married. Still struggling as to find hobbies and new interests with the passing of the singles life, my wife, Carolyn, save a newspaper clipping of 'The Sky Tonight' from the Honolulu Advertiser in Hawaii where I was stationed at the time, to show me of the placement of the ISS at that time. I took it upon myself to search out this elusive Honolulu Astronomical Society in Honolulu that was printed on the bottom of the little sky chart clipping and see what the heavens *really* had to offer!

I came along to the second meeting of the year to introduce myself and see what Amateur Astronomy was all about. I was welcomed with open arms by all members of the society and found myself whirled away into nebulae, open clusters, globular clusters, galaxies, planets, meteors, comets, double stars, lunar features, constellations, eclipses, phenomenon, solar flares and on and on and on.

I have ascended Mauna Kea twice to see the observatories, visit the Ozinuka International Astronomy Center at the 9000ft. level of the mountain and view from that level. I truly learned Amateur Astronomy at the 21st latitude so most Southern Hemisphere objects were in view in Hawaii. I will always remember viewing Omega Centauri through a 18" Dob; "like silver sprinkles of sugar chaotically thrown against a black velvet sash". I have owned an 8" SkyQuest Orion Dob and an 80mm celestron WA Short Tube refractor, both sold to help financially support the TeleVue 76mm APO I currently own. I am a Medic in the United States Army and am currently on orders to deploy to Mosul in Iraq in November of this year,

so purchasing a 10" Dob is on hold until my return from Iraq in November 2005 and my duty to all citizens of this great country and NATO.

I have had articles posted in my last Club newsletter often, even one article posted in Amateur Astronomy #41 (Spring 2004) on PRK and night vision. I love to view with other members and to show off the beauty of the night sky to the public. I hate observing alone! Astronomy, to me, is a social event where others can come together and view, trade views, discuss astronomy and relax in great company.

I am *very* active in the TAS bulletin board, or TOBB as it is called, and try my best to make my posts as entertaining, informative and visual as possible. I can only hope you all enjoy my input. Feel free to drop me a line anytime or post me in the TOBB. My forum name is Skyvue.

Until I have the chance to personally meet all of you over time, I wish you all clear skies and great views throughout the summer.

The best to you and yours,
God Bless America,

- Don

Member Profile: Don Tucker

by Síon Heaney

When Don submitted his article, 'How I Got Started In Astronomy' I asked him if he could also send me a short autobiography that I could add to the side bar for this page. Instead, as I sit here copying and pasting, and thinking about how much I have enjoyed our conversations together online and on the observing hill, it seems to me more appropriate to write something about him myself. I will add something of the autobiography he sent but I hope that as I write I'll touch upon the most important aspect of the Society; the connection we each make with everyone here in this society through our shared interest for Astronomy.

Don has a remarkable capacity for making connections with people. I first 'heard' Don in the pitch dark during one of our Public Nights up on the observing hill. He called out to 'the guy with the British accent' to introduce himself and told me that he spent some ten years surviving the British school system when he was younger.

He is a very energetic amateur astronomer, willing to share information and to learn from others. Perhaps what is exemplary about his energy and his enthusiasm is that he plans to continue his observations of the skies during his deployment and to keep in touch with us all via the website where he has already established himself as the prolific contributor on the bulletin board.

I have found his honesty about how astronomy fills him with awe and his philosophical views of the human condition relative to the Universe remarkably sincere given the inherent dangers he will be facing whilst overseas. As he says himself, the best part of such a long and dangerous deployment is the is the Dobsonian that awaits him upon his return to the Pacific Northwest.

Stay safe, Mate.

Don has quickly established himself as one of our most enthusiastic members of the Tacoma Astronomical Society.

As Don prepares for deployment overseas the hearts and wishes of the Tacoma Astronomical Society go with him and his family for his safe return.

July Schedule of Events

- **July 1st & 2nd:** Outreach at Cascade Christian School in Tacoma from 8AM to 3PM. Please contact Joe Witherspoon to volunteer and assist.
- **July 6th:** General Meeting at UPS, Thompson Hall, Room 130. Presentation will be given by Paul Hinds on '*Electromagnetic Alternative to Gravity*'. 7:30 PM
- **July 15th—18th** Table Mountain Star Party
- **July 20th**: Trustees Meeting. 7:30PM
- **July 22nd**: Star Party at Lake Burien School Park. Please contact Joe Witherspoon to volunteer and assist. 9:00PM
- **July 24th:** Public Night at Pierce College, Sunrise Building. Program will be '*Meteors and Asteroids*'. 9:00PM
- **July 29th**: Star Party at Federal Way for Girl Scouts. Please contact Joe Witherspoon to volunteer and assist. 9:00PM 9:00PM

May General Meeting Minutes

by Síon Heaney

Joe Witherspoon received the Astronomer of the Year that was awarded to him in December.

Lisa Schmidt notified the society that TAS T-Shirts were still available.

Sion Heaney handed out Member Welcome Packs to the society's newest members.

Gwen Grace is now heading up the Observing Programs in collaboration with the Astronomical League. Awards and certificates are given for the completion of each Observing Club program.

Notification was given that the renovations in the Hobby Hall at the Puyallup Fair will give TAS a glass cabinet for their display and a new location.

The presentation was given by Jarvis Krumbein on the optical design of compound telescopes. His presentation included detailed diagrams of a broad selection of telescopes including his own design, the Krumbein / Gregorian, which incorporates a tilted secondary to reduce obstruction.

July 2004

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 Outreach: Cascade Christian School	2 ○ Outreach: Cascade Christian School	3
4	5	6 7:30PM General Meeting	7	8	9 ☾	10 9:00PM Public Night
11	12	13	14	15 Table Mountain Star Party	16 Table Mountain Star Party	17 ● Table Mountain Star Party
18 Table Mountain Star Party	19	20 7:30PM Trustees Meeting	21	22 Star Party: Lake Burien School Park	23	24 9:00PM Public Night
25 ☽	26	27	28	29 Star Party: Federal Way Girl Scouts	30	31 ○

June General Meeting Minutes

By Síon Heaney

Bob Isaacs opened the meeting as Matt was not available.

Show & Tell included a demonstration of red light flashlights and a new model of Nebula binoculars.

Sion Heaney handed out Member Welcome Packs to new members of the society.

Joe Witherspoon detailed the Outreach programs scheduled for June. He asks that anyone willing to volunteer please contact him.

The presentation was given by Jerry Hedlund and Dennis Regan on their study of the Bonney Lake Skystone. The Skystone is a large 3.5m rhomboid monolith standing about 1.5m high. It's top surface and some areas of the side have been worked to produce deep holes and lines. The markings are believed to be the work of ancient Puyallup tribes in the area centuries ago.

The holes and lines were found to have a correlation with the summer and winter solstices as well as various other alignments. It would appear that Mount Rainier, as well as Mount St. Helens, Mount Adams and Sirius, were also used as a distant markers for some of the alignments.

Calculating the lack of deviation from procession it would appear the stone was worked within the past 1000 years.

August 2004

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3 7:30PM General Meeting	4	5	6	7 ☾ **Astronomy Fair 2004**
8	9	10	11	12	13	14
15	16 ●	17 7:30PM Trustees Meeting	18	19	20	21 9:00PM Public Night
22	23 ☽	24	25	26	27 7:00 PM Annual Student BBQ	28
29	30 ○	31				

August Schedule of Events

- **August 3rd:** General Meeting at UPS, Thompson Hall, Room 130. Presentation to be determined. 7:30 PM
- **August 7th:** **ASTRONOMY FAIR 2004** All day event.
- **August 13th:** Student Observing Night at Pierce College, Observing Hill, 9:00PM
- **August 17th:** Trustees Meeting. 7:30PM
- **August 21st:** Public Night at Pierce College, Sunrise Building. Program will be '*Scale of the Universe*'. 9:00PM
- **August 27th:** Student Annual BBQ at Pierce College, Cascade Building. 7:00PM

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If undelivered, please return to

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First Class

TAS-Online.org Phase II

By Síon Heaney

17 months ago I opened the new TAS website. At that time I described it as 'Phase I'. I am currently halfway through completing Phase II of TAS-Online.org and I'm taking this space to bring you a brief update.

In redesigning the website I have worked hard to ensure that the same style and theme is maintained but with greater functionality. The first part of Phase II was reestablishing the same content as Phase I but with the added benefits of better features. The new TAS-Online Bulletin Board (TOBB) and Event Calendar are considerable more powerful. We also have a TAS Blog, or journal, otherwise known as the TOBlog. But all the old web pages are still there with the same informative content needed by the society.

New features and functionality include the recently introduced web chat. We will also have all our library books, DVD and software available as a searchable request form. The same goes for the hardware. There will be a Photo Gallery for uploading astrophotography and event pictures. There will be new merchandise pages for buying TAS logo items.

One other new feature will be the incorporation of online payment services for those wishing to become members or renew their membership online. This will also include a secure area for member interests and a searchable database to find others with the same astronomy equipment.

All in all there is a lot in the new website at this time and a whole lot more coming soon.

We need your articles.

If you are interested in contributing an article or would like to make a suggestion as to what you'd like to read in **Northwest Skies** then please do contact the Editor. We are always in need of contributions.

Deadline for submitting articles for inclusion in the next edition of **Northwest Skies** is the last Thursday of the month before publishing.

We're on the web!
WWW.TAS-ONLINE.ORG