

# Longmont Astronomical Society

## February 2006



*The Home Planet Stellar Views  
Calendar*

*January Meeting Notes*

*A great way to start off the new year by Dick Mallot*

*Shaw Heights Middle school star party report by Gary Garzone*

*Vance Brand in Longmont by Gary Garzone*

*Report from Pawnee by Dan Lafaive*

*Report from Pawnee by Mike Hotka*

*Star Party for the Astronomy Club at Boulder Country Day School*

*2006 Desert Sunset Star Party*

*How do I do What I do? by Mike Hotka (part 2)*

*Fiske Planetarium schedule March 2006 Events*

*Classified*

*The LAS Warehouse*

*March Sky Map*

## The Home Planet Stellar Views

Hello astronomers,

We really lucked out for the Shaw Heights middle school Star party in Westminster for Kate Becker. Weather had been cloudy and windy for a week before then we got one of those clear blue, no wind, and starry night. We even had exceptional seeing conditions. Usually average to poor around Front Range so this was a real treat for us. Most of us went home and took more pictures of Saturn, which was at opposition on the 27th of Jan. Mike Hotka had looked up Iridium flares for the evening and there was two, only minutes apart, both were visible for us and one was minus 4 other minus 6 or so magnitude, pretty good to watch for kids. Dick and Ken I told you we could point out some constellations from bright Denver urban skies, only because of lack of clouds and moon light, we did it, not impossible, Myth buster, can be done under excellent clear calm skies. Green laser pointer sure made it easier to show all the people where to look. Thanks to many who helped out that night, Bill Possel, Mike Hotka. Dick Mallot, Julie Carmen, Vern Raben, Brian Gamble, Dan Lafaive, Ken Otoole, Terry Frazier, Ray Warren, Andrew Planck, Kate Becker with LASP and a few more I probably forgot. Sorry.

We are getting a good reputation for doing these star parties, word is out and more requests are coming in for us. Three or four more schools are scheduled to do soon. I will post details for more volunteers. These are good fun nights that really open up the eyes of kids, when they see Saturn or huge globular cluster, Orion nebula, some for the first time, they walk away with something they would never had experienced without us.. Surely a positive move in right direction. We do make a difference.

Banquet was good again this year; we had a pretty good turn out. We thank Dr. JoAnn Josylyn and our friend Dr. Bob Stencil for their help. Ray Warren once again had fun giving away stuff. We should now be out of most of everything we had. We wanted to get rid of old books and stuff, so now they are in your collection of astronomy stuff, or recycle bin. Bob Spohn gave away some Certificates for several club members who are working their way to get even more. Thanks to all who attended another great LAS event.

The Home Planet Stellar Views have been good to us this past month. Lucky seven of us went to Crow Valley for new moon dark skies. All day they were saying clouds and windy, but us die hards never know enough to stay home, took the chance that they might get a few good hours in. Well we did luck out again. This time of year dark comes early 6 pm or so, but we were viewing clouds, around 7 pm it was clearing. We had several on and off periods but mostly a good long night. I packed up around 2:45 am. That's about two summer nights worth of time at scope in dark sky. I needed that after missing out last month new moon with Vern at Crow Valley because of the clouds. Forest service Ranger Mike Salazar got us into Crow Valley again this past month; he drove out and opened the gate for us, pretty good hey? I like the place for observing, good and dark, flat, no cactus rest rooms. Wish we had a special section without campers we could use other times of year when it is open to campers. Still looking for that perfect place to view from.

Well the dark sky marine cold night award goes out to Dan LaFaive, after giving his Short topic talk about how to dress for the cold, at the last LAS meeting, he was not kidding. We had record low temperature night of 8 degrees, and he slept outside in 20 below sleeping bag, wow! I did have my motor home there for warming up in during the night of viewing. Probably my longest night in cold this year. You know we were desperate for a good dark night to endure like that. Our record lows are below zero but not too often anymore with global warming going on, winters are not as severe anymore it seems.

Les Shaw is doing a lot better, he had stroke New Year's Eve. He is walking and coming around good, I dropped off Card to him in person. He says hello to all. Les is great guy and has done much to help the club along. We hope to see him at meetings again soon.

Saturn is still the queen of the universe, and your efforts for viewing will be rewarded with excellent big views of Saturn, it's rings and six of it's moons. Terry Frazier came over to view Saturn from my 25 inch scope after Shaw Heights school night for my best yet views and pictures of Saturn. I am still waiting for the next great seeing night, Clear clocks has been huge help in knowing when to look. When it says above average for most of Front Range you better go out to view. We will be keeping it cosmic as they say, with more news next month. bye, Gary

## Calendar

Feb:	New Moon:	25 <sup>th</sup> - Pawnee
	1st qtr:	4 <sup>th</sup> - Flanders Park
	Meeting:	16 <sup>th</sup> - Topics
	Star Party	17 <sup>th</sup> - Carrie Martin Elementary (Loveland, CO) science fair
Mar:	New Moon:	25 <sup>th</sup> - Pawnee
	Star Party	2 <sup>nd</sup> - Boulder Country Day School
	1st qtr	4 <sup>th</sup> - Flanders Park
	Meeting:	16 <sup>th</sup> - Topics:
Apr:	New Moon:	28 <sup>th</sup> and 29 <sup>th</sup> - Sterling or somewhere.....
	1st qtr:	5 <sup>th</sup> - Flanders Park
	Meeting:	20 <sup>th</sup> - Topics:
May:	New Moon:	27 <sup>th</sup> - Pawnee
	1st qtr:	6 <sup>th</sup> - Astronomy Day at Twin Peaks Mall & Flanders that night
	Meeting:	18 <sup>th</sup> - Topics:
Jun:	New Moon:	24 <sup>th</sup> - Members' choice or.....Rocky Mtn Star Stare: 22nd - 26th
	1st qtr:	3 <sup>rd</sup> - Flanders Park
	3rd qtr:	17 <sup>th</sup> - Tri-Town Party??? Michelle is this on again?
	Meeting:	15 <sup>th</sup> - Topics:
Jul:	New Moon:	20 <sup>th</sup> , 21 <sup>st</sup> , and 22 <sup>nd</sup> - Fox Park Weekend under the Stars
	1st qtr:	1 <sup>st</sup> - Flanders Park - This is July 4th timeframe
	Meeting:	20 <sup>th</sup> - Topics:
Aug:	New Moon:	19 <sup>th</sup> or 26 <sup>th</sup> - Fox Park or Pawnee? And the date could go either way.
	1st qtr:	5 <sup>th</sup> - Flanders Park -
	Meeting:	17 <sup>th</sup> - Topics:
Sep:	New Moon:	23 <sup>rd</sup> - Pawnee
	1st qtr:	2 <sup>nd</sup> - Flanders Park. This is Labor Day weekend.
	Meeting:	21 <sup>st</sup> - Topics:
	1st qtr:	30 <sup>th</sup> - Flanders Park
Oct:	New Moon:	21 <sup>st</sup> - Pawnee
	1st qtr:	28 <sup>th</sup> - Flanders Park
	Meeting:	18 <sup>th</sup> - Topics:
Nov:	New Moon:	18 <sup>th</sup> - Pawnee
	1st qtr:	25 <sup>th</sup> - Flanders Park. This is Thanksgiving weekend.
	Meeting:	16 <sup>th</sup> - Swap Meet/Nominations
Dec:	New Moon:	23 <sup>rd</sup> - Pawnee
	1st qtr:	30 <sup>th</sup> - Flanders Park
	Meeting:	21 <sup>st</sup> - Topics: Elections

## January 2006 Meeting notes

New Guests: Charles Windsor heard from Astro Day, Peter Curts website, Rebecca Spire Astronomy Magazine.

VP time to start thinking of Astronomy Day

Secretary no report

Treasurer Banquet we have about 40 people coming looks good

Newsletter no report Bob has the newsletters

Fundraising Stuff for sale listed in newsletter available at the break. At the banquet we will have a drawing so we are looking for donations to give away for our door prizes. Last year we got over \$300 from the tickets.

Fiske we have new schedules that were passed out at the meeting. Tito is back from Venezuela. Fiske is fundraising for new lobby displays.

Old Business: Banquet is Saturday at Wayside Inn in Berthoud. There is still time to sign up.

We think we have an in with the ranger at Crow Valley to open up the campground for observing but this is on a night by night basis. It is closed in the winter but Gary can get access to the ranger for Dark sky viewing. Gary will post to list server when it's a go.

Saturn is the big thing now it's getting near opposition now so it's close and good. So it's well worth a look. Mars is way to the west but detail is gone and it's not spectacular.

New Business: Shaw Middle School Next Tuesday. If you can make it let Gary know. We will be going to work on basic stuff for the kids. This is through Kate Becker. It's a long drive but they are expecting 50 to 100 kids. This starts at 6pm. For directions email Gary. We should be done by 9pm.

We want to see more short topics: Short 10 to 15 minute topics on astronomy. Constellation of the month needs to be brought back, again 10 – 15 minute long talks on a particular constellation. We need to get back to basics that have been lost in the last few years. There are lots of great topics so feel free to volunteer for any of these topics.

Break

ALCOR: There are a lot of us who have not done any of the Astronomical League programs. So we are going to work on the certification by the AL called Constellation Hunter. There are 39 constellations on the list. All you have to do is find the constellations and draw what you see with the naked eye. You need local time and date, Lat and longitude, constellation name, sky conditions, sketch. Why do this? Because it helps us learn the night sky and makes it easier for us to find other objects later. This is a fun project and naked eye astronomy. This will be posted on the website.

Dan will fill in for Mike on how to dress for winter observing at dark site. They say the key to stay warm is to dress in layers. The true key is to have the right layers. Wear wool or polypropylene insulator. You can get most of this at any type of sporting goods or sporting goods store if not then definitely online. Poly socks with wool socks with -60 below zero rated boots. Can put hot hands in the boots. Next Poly union suit as a bottom layer. Over that a thin wool long underwear. These layers trap in the heat. Third layer a wool sweater and wool slacks. That is three layers of clothing. Now on top of all that a snowmobile suit, that is to keep the

wind out. For the head, a thin wool cap with the hood for the snow suit to keep out the wind. For your hands usually if you have all that on a pair of wool liners will do for your hands and you can still easily handle your focuser and eyepieces.

Interview for channel 3 with Col. Voss about communication with the International Space Station with the Longmont Radio Club back in 2001.

### **A great way to start off the new year by Dick Mallot**

The week following the LAS meeting in January was a NEAT week. The banquet was a really nice time with an interesting presentation on how the IAU works. The skies following that banquet stayed clear, dark and steady for the entire week following. I found myself out in the backyard in Loveland on Sunday night observing for several hours. I went back over some of the Messiers that I had not been visiting for some time and found myself not wanting to come back in at all. My wife had given me a new laser pointer for Christmas and I tried it out on myself!! Pointed out many good objects and had a blast with it...as well as good observing of M35, M31, 110, 32, 42, and others. Of course, Saturn came up and spent some time on it since it is at its closest.

On Tuesday night, again with magnificent skies, I met up with Terry Frazier, Vern Raben, and Mike Hotka at Arby's in Westminster, before going on over to the star party for the Shaw Middle School students. That night was "warm" and clear. The skies were so clear and steady that even Saturn was a magnificent sight when it was only 5-10 degrees above the eastern skies. We had a wonderful time with lots of kids and parents showing up. Mike Hotka brought along the Iridium flare schedule and we saw two very nice flares two minutes apart that had all the kids and parents clapping after they faded out. It was not a dark night there, but still was a great time showing off the skies!! Wednesday, the alternate night, turned out to be cloudy so we really picked the right night!!

So, it was a great way to start off the New Year! Great monthly meeting, annual banquet and a very good star party for the kids... What a great way to get the New Year going!

### **Shaw Heights Middle school star party report by Gary Garzone**

Hello Saturn lovers, The LAS club did an excellent night of viewing for Shaw Heights Middle school kids in Westminster on Tuesday night. Wow! Did we ever luck out? It was the best clear, transparent and excellent seeing conditions for viewing Saturn. Saturn is now at opposition, biggest and brightest it gets.. Excellent tilt to rings for very nice views, six moons, crisp details, I am still excited about it.

Mike Hotka showed us all two Iridium satellite flares. One was minus 4 magnitude or about minus 7, very bright for a few seconds as Satellite spins around, like a flare glowing off. Kids it was like fireworks. Orion is so high up. It was very good. We had many open clusters, and even a few galaxies were viewed.

Here are a few Saturn shots, Vern and others went home for picture taking. I got 25" telescope out after getting home. Sleep was going to have to wait. The seeing conditions were just too darn good. Glad I pushed the limits again. Best views yet for Saturn , no kidding, thanks for looking as Brian always says, bye Gary

### **Vance Brand in Longmont by Gary Garzone**

Vance Brand was in town Saturday afternoon at Cultural center and museum in Longmont on Quail road. I got his autograph and talked with him shortly after his talk there. I found out from Bob Noble he was scheduled for Apollo 18, moon mission but trips to moon were then cancelled. He then went on to Soviet and American cooperation in space, then space shuttles, commander once for Challenger and twice for Columbia. He does have some history behind him. He looks great for his age, 75 years old! Anyway pictures to honor Longmont boy. Two old ladies in front of me were talking to Vance how they were neighbors and were telling tales of them as kids, how cool to hear that from them. She had to be in her 90's. Small world it is to hear her talk was very amusing.

For more information on Vance visit <http://www.jsc.nasa.gov/Bios/htmlbios/brand.html>

## **Report from Pawnee by Dan Lafaive**

Friday Night - January 20, 2006

On Friday, Mike Hotka, Vern Raben, David Dunn, and I got together on a frigid Friday night out in the Pawnee Grasslands at the Cactus Flats site.

We setup near the gate as planned. It was quite dry at the site, which was nice because we didn't have to deal with mud and frost. We arrived and setup between 4:30 and 6:00 with temperatures starting out around 32F and going down rapidly from there.

The skies were crystal clear. Seeing was variable at first and finally settled down to be about 8 to 8.5 or so by late in the evening.

It's been 4 months since I've had a really good clear night at a dark sky spot, so I had fun with the GoTo on my Celestron C9.25 GPS and looked at a number of familiar asterisms. I started out taking a peek at Mars. At 6pm, Mars was boiling quite a bit, and it's starting to get pretty small as we move away from each other, so it wasn't a great view.

Next I went to the western sky to take some final parting looks at M15. I could see some detail, but it was pretty muddy with it being so low in the sky. I then decided to take a look at M39 which is a very "open" open cluster.

I started to hanker for some galaxies because I haven't taken a look at those for a while. So I hit NGC7331, M74, M77, and M33. Which are all pretty nice to take a look at. I then got cluster happy again and looked at M52, NGC457 (The ET Cluster), M103, and the Double Cluster (NGC869 and NGC884). Took a peak at M76 (the Little Dumbbell), and tried to find several faint Nebula and galaxies with limited success. David and Mike showed me some neat things in their scopes such as NGC891 and the nebula - Thor's Helmet (NGC 2359). I finished off the night with some crystal clear views of the Orion Nebula (M42) that showed 6 stars in the Trapezium and an absolutely awesome view of Saturn with the planet being perfectly clear at 425X with the Cassini division solidly visible - little or no blurriness in the view. And I took a parting look at M31 before we all packed it up by moonrise at 11:15.

I did have to break down and warm myself up in the vehicle because it got pretty cold! It was about 5F for the last hour we were there.

But what a night! What an absolutely wonderful evening of viewing!

Sunday Night - January 22, 2006

I got out to Cactus Flats a bit late at around 9:00. I setup in the North field. My scope was warm, so I had to wait an hour for it to cool down. From 10:00 to 1:00, the views were as awesome as they were Friday night with Saturn and Orion looking just as great! It was REALLY cold with the temperature hitting 1 degree F at one point.

I tried to start documenting my observations so I could get my Messier certificate, but it was so cold that my pen wouldn't produce ink, so I had to discontinue that process and just fly around the sky looking at whatever I had time to get in.

Pretty much everything looked great. I got great views of The Galaxies M51, M81, M82, NGC2681, 2683, 2885 and even caught some nice views of the Virgo galaxies as they came up. I also hit a number of the open clusters M34-38, and M46-48,50, and M93. I also caught a very diffuse look at the globular - M68.

At 1:00, I packed it in and got to watch the moon rise just as I was leaving.

Look forward to the weekend. See you out under the stars!

### **Report from Pawnee by Mike Hotka**

I too was at Pawnee Friday night. This was the first night I have had in quite some time where the sky was incredibly still and transparent.

I spent the evening looking at open clusters that are part of the Astronomical League's Open Cluster Observing Club. I am learning that trying to find open clusters in the heart of the winter Milky Way is not as easy as it might seem. But I did find 13 on the list and learned that I need to prepare my observing session a whole lot better BEFORE I go out, for I found myself looking through the books I take with me, trying to find a description of the OC to see if what I was looking at in the eyepiece was the OC I was trying to find. So, I have a whole new system for taking observing notes to the field with me.

As Dan mentioned, it was cold on Friday night, but now unbearable. I think the temperature hovered around 16F for most of the evening, with a time when the wind switched from the east and the temperature dropped to 5F. I noticed something had changed, for my fingers were getting cold, which they had not been all evening.

I did steal looks from other people's scopes. The views of Saturn were incredible. The dark brown band on the planet's surface was very visible and Cassini's Division was an ink-black line.

This incredible evening was terminated with moon rise, about 11:15 PM.  
I think that everyone had a good time on the prairie of NE Colorado.

### **Star Party for the Astronomy Club at Boulder Country Day School**

Date: Thursday, March 2nd

Time: Set-up at 6:30 p.m., behind gym

BCDS Contact: Larry Tepper, Parent Coordinator 303-447-2755 (home) / 303-819-2050 (cell)

LAS Contacts: Gary Garzone 303-652-2256 and Terry Frazier 720-890-7112

Directions and Map:

Boulder Country Day School, 4820 Nautilus Court North, Boulder, CO 80301

Phone: 303-527-4931 / Fax: 303-527-4944

BCDS is located in Gunbarrel. From the intersection of Jay Road and 63rd Street, proceed north 1/2 mile to Nautilus Drive. Turn right at the Twin Lakes Technological Park stone sign. At stop sign turn left; Boulder Country Day is just around the bend.

### **2006 Desert Sunset Star Party**

The 4th annual Desert Sunset Star Party will be held April 26-30, 2006. Please check details at our website <http://www.chartmarker.com/sunset.htm>

Registration is now open. Caballo Loco RV Ranch gives us a special camping rate for this group event. There is no star party fee this year but we will sell door prize tickets. The residents of Caballo Loco will also be serving breakfast (\$3) and dinner (\$5) on Saturday. We are located between Kitt Peak Observatory and Whipple Observatory, both excellent day trips.

Pat and Arleen Heimann, Chart Markers and More

For more information visit: <http://www.chartmarker.com>

## **How do I do What I do? by Mike Hotka (part 2)**

From last month's article, you have an idea of what is possible, but cannot figure out how to get started. You look at the equipment some club members own, and are overwhelmed as to how to get started. The great thing about our hobby is you can start simple and add on.

One item an amateur must possess is a good pair of binoculars. It does not matter the size, although 7x35 or 10x50 are the most common sizes used. 7x35 show a larger area of the sky than 10x50, which magnify more. Either size would be a good choice to own.

I often use my 10x50 binoculars to find the star field I wish to swing my telescope to. So, purchasing a good set of binoculars is a nice starting purchase to get into our hobby.

A red flashlight is the second must have item. Either a red LED light, or red cellophane rubber banded over the front of a regular flash light will work. Red light does not affect your night vision as much as a white light will. Once your eyes become night adapted, the red light will help keep them in this desired state.

Third is a notebook and a pen or pencil. This is to record your observations. I prefer a pencil, for I can draw items I see a lot easier than with a pen.

Last, some form of star charts. These can be either a formal star atlas, or printed star charts from a computer star charting program. I found this online Deep Sky Browser on the internet at <http://messier45.com/cgi-bin/dsdb/dsb.pl> which is a great charting program.

These four items are all you need to do either the Astronomical League's Binocular Messier or Deep Sky Binocular Observing Clubs, two excellent programs to get you introduced into our hobby without spending a lot of money. The Astronomical league's web site for these observing clubs will list the rules and objects of these clubs.

Starting our hobby in this way will allow you to determine if this is your cup of tea. If it is not, you have a nice pair of binoculars to use outdoors for other hobbies, like bird watching.

Say you want to start observing the sky with a telescope, but are not sure about whether you want to spend the money to purchase a good one. No problem. Our club has a fine 10 inch telescope, with a finder scope and eyepieces that you can borrow for your viewing enjoyment. It's lightweight and easily ported to a darker location in almost any vehicle.

Why a darker location, you might ask? Other than looking at the Moon or the Sun, deep sky objects are best seen when your eyes are fully dark adapted. That cannot happen in your backyard, unless you live in a rural area. Second, the man-made sky glow, called light pollution, can make even the brightest deep sky objects very hard to see. Many club members like to go to places like the Pawnee Grasslands (Cactus Flats), east of Ft Collins or Kim's Place, just east of Longmont, to get away from city lights.

Once you start observing the sky, whether you are doing one of the Astronomical League's Observing Clubs, or just looking at objects that you have heard are great to look at, consider settling on a standard format to record your observations. There are many "observing forms" that one can use. Look at the advantage of each and decide what works best for you.

I use Microsoft word documents to capture my evening's observations. I transpose my pencil notes and drawings in my college ruled, spiral bound notebook, onto a nice piece of paper, which I 3-hole punch and put in a notebook. These notes include the date of the outing, where I went, when I arrived, the conditions of the

sky at sunset, the time and description of the object that I see in the eyepiece. I record the magnification used and the affect any filters have on the object. If what I see in the eyepiece impresses me, I try to make a sketch of it, which is added in the margins of my typed log report. About every half an hour throughout the observing session, I will note the sky conditions. I record the seeing, transparency and the current temperature. I also indicate if a wind is present and from what direction.

At last count, I have observed somewhere in the neighborhood of 800 objects. Each observation is in my 3 ring notebook, nicely typed. To index this information, I use a computer program called Deepsky Astronomy Software, developed by Steve Tuma. I really like this program, for you can input observing lists of objects you wish to observe and print star charts associated with these objects.

This software package has an observation log interface, which is very nice and very easy to use. By calling up an observing list into the program's memory, you can select an object that you recently observed, and enter all the information about when and where you observed the object. You could use this log interface to capture your description also. I choose not to do this, for I want a "hard copy" of my observing report. I just log the data and time I observed an object in this log interface. I then use the report utility, which prints a report for the objects you observed. I use this report as an index into my 3 ring notebook to find the corresponding observation and the description of the object.

This might seem like a backward way of doing it, but I don't trust computers to store my observing reports. So I just use the computer to maintain my observing lists, print star charts and keep an index of the objects I observed.

A website where you can download these kinds of programs is at <http://www.astrotips.com>. This site was talked about in a recent Sky and Telescope. Try several of these programs and determine if any are right for you. Most are free. Some have a fee associated with them.

What is important is to log what you see and be able to access the information at a later date. How you achieve that is completely up to you.

### **Fiske Planetarium schedule March 2006 Events**

#### *Live Astronomer Talks*

Thursday, March 2<sup>nd</sup> 7:30 pm Galaxy Formation

Have you ever wondered where the Milky Way galaxy came from?

Dr. Jason Glenn of CU's Center for Astrophysics and Space Astronomy discusses how the latest observations of galaxies from the dawn of the universe to the present time are revealing how galaxies formed.

Friday, March 3<sup>rd</sup> 7:30 pm Galaxy Formation

Have you ever wondered where the Milky Way galaxy came from?

Dr. Jason Glenn of CU's Center for Astrophysics and Space Astronomy discusses how the latest observations of galaxies from the dawn of the universe to the present time are revealing how galaxies formed.

#### *Laser Shows*

Friday, March 3<sup>rd</sup> 9:30 pm - Laser Radiohead

Showcasing alternative rock's greatest contemporary band, Fiske's laser show is visually intense and stunningly satisfying.

Friday, March 3<sup>rd</sup> 10:45 pm - Pink Floyd: Welcome to the Machine

Gathering some of the most memorable moments of Pink Floyd's music, "Laser Floyd: Welcome to the Machine" is a tribute to one of the greatest rock bands of all time.

### *Family Matinees*

Saturday, March 4<sup>th</sup> 2:00 pm - Kids in Space

Join interstellar traveler Captain Ann Dromeda and her crew of kids in space as the planetarium turns into a spaceship that explores nine planets of the solar system.

### *Live Astronomer Talks*

Thursday, March 9<sup>th</sup> 7:30 pm - Science, Spirituality and Religion

Join Dr. Nahum Arav of CU's Center for Astrophysics and Space Astronomy in a personal journey of a scientist exploring the multi-interfaces among science, religion and spirituality. Consider: the science-religion wars from Galileo's trial to the Intelligent Design trial; Truth vs. truthiness in modern-day spirituality; Religion as a natural phenomenon; The need for morality in scientific research; and more.

Friday, March 10<sup>th</sup> 7:30 pm - Science, Spirituality and Religion

Join Dr. Nahum Arav of CU's Center for Astrophysics and Space Astronomy in a personal journey of a scientist exploring the multi-interfaces among science, religion and spirituality. Consider: the science-religion wars from Galileo's trial to the Intelligent Design trial; Truth vs. truthiness in modern-day spirituality; Religion as a natural phenomenon; The need for morality in scientific research; and more.

### *Laser Shows*

Friday, March 10<sup>th</sup> 9:30 pm - Laser Red Hot Chili Peppers

Enjoy a heart-pounding laser experience as the Red Hot Chili Peppers combine alternative, pop and funk in their high energy rock sound.

Friday, March 10<sup>th</sup> 10:45 pm - Pink Floyd: Dark Side of the Moon

Explore Pink Floyd's epic Dark Side of the Moon in a classic laser extravaganza with special effects and stunning visuals.

### *Family Matinees*

Saturday, March 11<sup>th</sup> 2:00 pm - Space Storm

Explore the Sun-Earth connection with Fiske's original production funded by NASA/TIMED and CU's Laboratory for Atmospheric and Space Physics. Learn how sunspot cycles and solar flares affect you!

Saturday, March 11<sup>th</sup> 3:15 pm - The Great Space Chase Laser Show

Take a journey through the cosmos with intergalactic traveler Lt. Foting in search of a missing intergalactic accelerator suit. As he uncovers the mystery, kids also learn about the science of space travel and the splendors of the universe

### *Live Astronomer Talks*

Thursday, March 16<sup>th</sup> 7:30 pm - Astronomy of the Ancient Pueblos

Join CU's Dr. Kim Malville as he uses the Fiske dome to recreate the skies visible to ancestral Pueblos in the 11-13th centuries and explores the astronomy of Chaco Canyon, Chimney Rock, Mesa Verde, Yellow Jacket and Hovenweep with extensive visuals.

Friday, March 17<sup>th</sup> 7:30 pm - Astronomy of the Ancient Pueblos

Join CU's Dr. Kim Malville as he uses the Fiske dome to recreate the skies visible to ancestral Pueblos in the 11-13th centuries and explores the astronomy of Chaco Canyon, Chimney Rock, Mesa Verde, Yellow Jacket and Hovenweep with extensive visuals.

### *Laser Shows*

Friday, March 17<sup>th</sup> 9:30 pm - Laser Dave Matthews Band

Enjoy DMB music put to live lasers and special effects in this dazzling multimedia presentation!

Friday, March 17<sup>th</sup> 10:45 pm - Pink Floyd: The Wall

Music, video, lasers, and special effects meet in Fiske's presentation of Pink Floyd's classic album, The Wall.

#### *Family Matinees*

Saturday, March 18<sup>th</sup> 2:00 pm - Stars and Lasers

Enjoy an introduction to the night sky, then be transported to a galaxy far, far away with colorful laser lights choreographed to the music of Star Wars, Indiana Jones, and Close Encounters of the Third Kind.

Saturday, March 18<sup>th</sup> 3:15 pm - Symphony of the Stars

Take a musical journey with laser light as classic themes to great movies are enhanced by stunning graphics and star fields.

#### *Live Astronomer Talk*

Thursday, March 23<sup>rd</sup> 7:30 pm - Colorado Skies: Mars Reconnaissance Orbiter

Experience the beauty of the night sky from the comfort of Fiske Planetarium, then explore Mars with NASA's newest mission to the red planet, the Mars Reconnaissance Orbiter – see the latest images!

#### *Star Show*

Friday, March 24<sup>th</sup> 7:30 pm - Mars Revealed

Explore Mars from a new perspective through Fiske Planetarium's newest public show. Created by CU faculty and students, this show features the latest discoveries and analysis from Mars.

#### *Laser Shows*

Friday, March 24<sup>th</sup> 9:30 pm - Laser Aerosmith

Enjoy Steve Tyler's best as Fiske's intense lasers and pulsing sound-system take you on a high-flying journey.

Friday, March 24<sup>th</sup> 10:45 pm - Pink Floyd: Welcome to the Machine

Gathering some of the most memorable moments of Pink Floyd's music, "Laser Floyd: Welcome to the Machine" is a tribute to one of the greatest rock bands of all time.

#### *Family Matinees*

Saturday, March 25<sup>th</sup> 2:00 pm - Moons and Lasers

Learn about Earth's moon – its phases and eclipses – then enjoy a fun family-friendly laser show that treats both your eyes and ears!

Saturday, March 25<sup>th</sup> 3:15 pm - Space Odyssey

This musical tour of the universe is a dazzling display of music and lasers inspired by the moon, planets and stars. Enjoy music from movies and popular artists, all with an outer-space theme.

#### *Family Matinee*

Tuesday, March 28<sup>th</sup> 10:00 am - Kids in Space

Join interstellar traveler Captain Ann Dromeda and her crew of kids in space as the planetarium turns into a spaceship that explores the nine planets of the solar system.

Tuesday, March 28<sup>th</sup> 12:00 pm - Stars and Lasers

Enjoy an introduction to the night sky, then be transported to a galaxy far, far away with colorful laser lights choreographed to the music of Star Wars, Indiana Jones, and Close Encounters of the Third Kind.

Tuesday, March 28<sup>th</sup> 2:00 pm - Adventures Beyond the Solar System

Go beyond our solar system as you explore other star systems, galaxies and the furthest edges of the universe.

### *Family Matinee*

Wednesday, March 29<sup>th</sup> 10:00 am - Perseus and Andromeda Laser Show

Come hear the most popular tales of the night sky. Join our cast of laser hosts as you experience the story of the beautiful princess Andromeda and brave Perseus who saves her from dire misfortune.

Wednesday, March 29<sup>th</sup> 12:00 pm - Space Primer

This interactive live program allows the students to set the flight plan to visit any three planets in our solar system. You might explore the giant volcanoes of Mars, or fly through the rings of Saturn, or visit the frigid surface of Pluto.

Wednesday, March 29<sup>th</sup> 2:00 pm - Moons and Lasers

Learn about Earth's moon – its phases and eclipses – then enjoy a fun family-friendly laser show that treats both your eyes and ears!

Thursday, March 30<sup>th</sup> 10:00 am - Space Storm

Explore the Sun-Earth connection with Fiske's newest original production funded by NASA/TIMED and CU's Laboratory for Atmospheric and Space Physics. Learn how sunspot cycles and solar flares affect you!

Thursday, March 30<sup>th</sup> 12:00 pm - Space Odyssey Laser Show

This musical tour of the universe is a dazzling display of music and lasers inspired by the moon, planets and stars. Enjoy music from movies and popular artists, all with an outer-space theme.

Thursday, March 30<sup>th</sup> 2:00 pm - The Great Space Chase Laser Show

Take a journey through the cosmos with intergalactic traveler Lt. Foting in search of a missing intergalactic accelerator suit. As he uncovers the mystery, kids also learn about the science of space travel and the splendors of the universe.

For more info, please visit our website at <http://fiske.colorado.edu> or call (303) 492-5001 (automated line).

### **Classified**

*To buy:*

*To sell:*

I am trying to sell a Celestron Ultima 9.25. If the deal were local I would expect closer to \$1,600 or so and accept credit cards.

<http://www.astromart.com/viewad.asp?cid=233874>

Jared Workman

I got a new (800MHz) computer & wish to sell my 3rd computer. It's a 433MHz, 64meg RAM, 9 Gig HD space, 33.6K modem, and SoundBlaster sound card, with a 15" monitor, programmable keyboard & MS mouse, with Windows 98 SE for sale. \$180. No problems with it what-so-ever. Will deliver & setup within 30 miles of Ft. Collins. It would be great for a stand-alone application or a kid's computer.

Contact Tom Teters [tomt@starmon.com](mailto:tomt@starmon.com)

Orion telescope EQ 120mm 4.7" lens achromatic refractor; F/8.

This telescope is one year old and is in great condition.

All the following items are included with the telescope:

- ✓ True track dual axis DC motor drive tracking system (is great for doing long exposure astrophotography)
- ✓ EQ mount
- ✓ Tripod
- ✓ Telrad with dew shield
- ✓ 1.25" diagonal mirror (also accept 2" eyepieces)
- ✓ 6X30 Finder Scope
- ✓ Collimation eye piece
- ✓ 25 mm & 4mm eye pieces
- ✓ Astrosystems new waterproof cover
- ✓ A JMI refractor hard case, is able to fit a 5" or 6" refractor. There is a lot of storage space for all types of accessories such as eyepieces, etc..

This is a great and wonderful telescope for any beginner or intermediate astronomer.

All for \$1,000 firm! Contact Marc and Julie at (303) 210-3966 (Cell) or (303) 682-5428 (Home) or email if interested; [marcwiley@wildmail.com](mailto:marcwiley@wildmail.com)

I have an ORION SKYVIEW 4.5" Reflector telescope with finder scope; equatorial mount tripod, with 9mm and 25mm lenses, 1.25 mm Barlow and extra filters. The telescope is in great condition, just toooo advanced for my amateur status. All for \$500!

Contact Anna Vayr at 303-776-7167 or via email at [anna.vayr@spot.colorado.edu](mailto:anna.vayr@spot.colorado.edu)

*To give:*

FREE: Monitor, HP D1195A 15" CRT, will display 1024x768.

Clean, like new, works. Contact: Bob Noble [nobler@att.net](mailto:nobler@att.net)

If you have astronomy stuff to buy or to sell, send an email to your newsletter editor

[philippe\\_bridenne@yahoo.com](mailto:philippe_bridenne@yahoo.com)

### **The LAS warehouse**

LAS logo T-Shirts:

Crewneck, navy blue, 8" white LAS logon on front

\$10 - S, M, L, XL

\$12 - 2XL

\$13 - 3XL

\$14 - 4XL

Light blue with the lapel logo and Dobsonian telescope.

\$1 LAS un-bumper stickers

\$5 LAS Observing Log Book

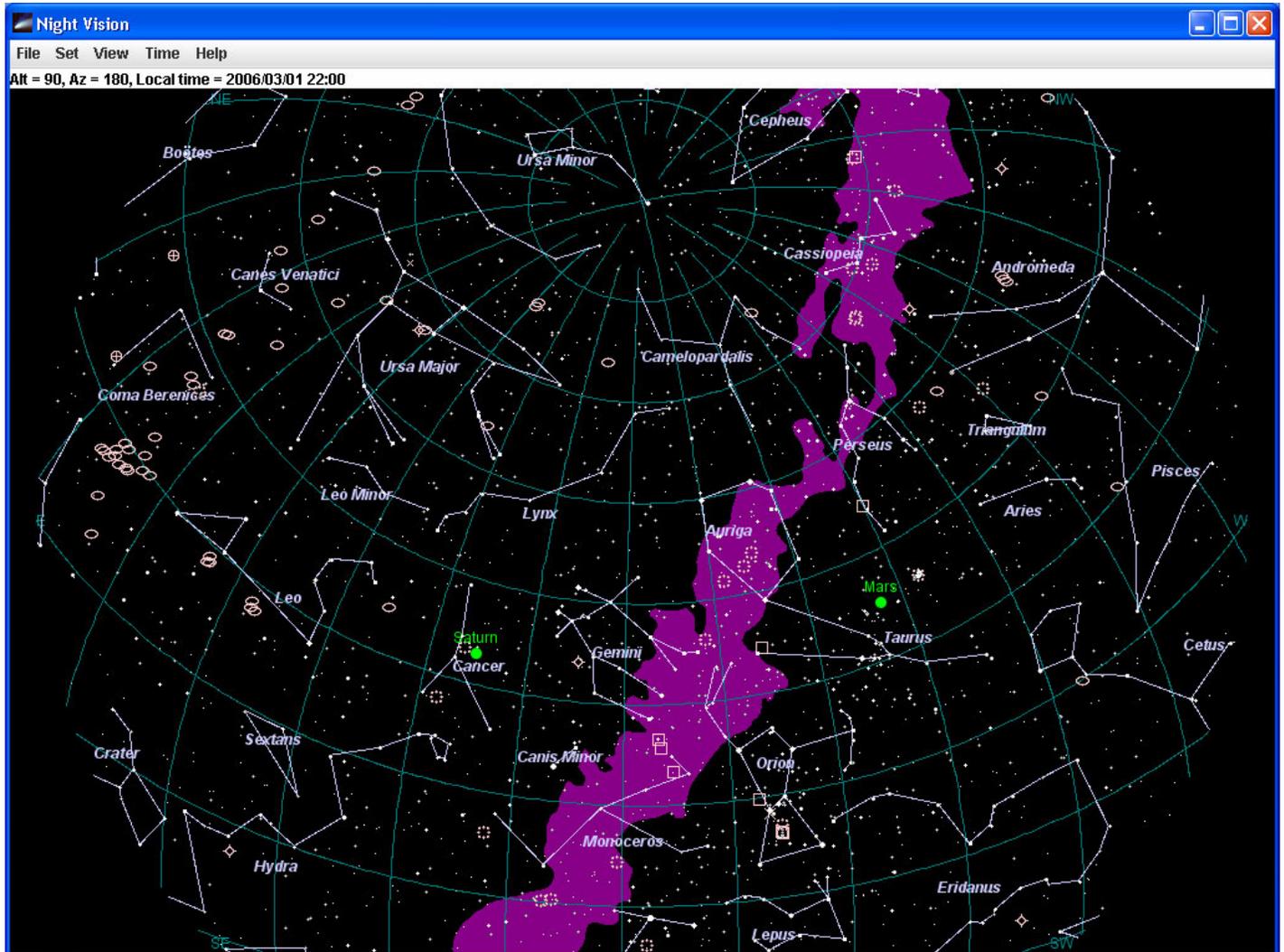
\$1 LAS Whizzy Wheel (astronomy calculator)

\$2 - 5" LAS vinyl sticker, black or white

\$5 - 4" LAS embroidered patch

\$1 - LAS Planisphere

# March Sky Map



Vance Brand back to Longmont