

## **Introduction**

I have been doing public outreach events for many years. These events include helping with public star parties, volunteering at a local observatory, the Little Thompson Observatory ([www.starkids.org](http://www.starkids.org)) in Berthoud, CO and becoming a JPL Solar System Ambassador.

I received the 7th Outreach Award on March 30, 2006.

## **Event 1**

Date: April 1, 2006  
Start Time: 1:00 PM  
End Time: 4:00 PM  
Attendance: 20 students + 1 parent  
Activities:

I was part of an introduction to astronomy program, put on by the Broomfield Public Library. There were 4 other volunteers. This was advertised city wide, and 20 students and one parent listened to us talk about stars, their birth, and life and the spectra of stars. The kids made a little spectrograph that was in a Starbuck coffee cup.

Then the group was divided into 4 groups. One group made a dry ice comet, one group investigated moon travel via the Apollo program, one group looked at galaxies and my group, we talked about the 9 planets of the solar system. I worked with another volunteer and we showed 4 young girls pictures and facts about the solar system.

## **Event 2**

Date: April 3, 1006  
Start Time: 7:00 PM  
End Time: 9:30 PM  
Attendance: 18 students + 2 adults  
Activities:

It was a Loveland HS group visiting the Little Thompson Observatory tonight. I was the only volunteer. I did my usual star wall talk followed by telescope viewing.

Tonight was a bit different, for the teacher left and allowed the students to stay as long as they wanted. After I had shown them what could be seen with the Moon shining, I tried to find some open clusters of the Open Cluster Observing Club with the LTO scope. Two girls stayed the entire time. I was able to show them my printed star charts, my observing books I brought and how I match star patterns in the field of view with the patterns on the star charts. They were fascinated. I explained that this is what amateur astronomers do

when they take their telescopes out into the field. Make lists of things to see, match star patterns and see the faint stuff we look for.

I can only imagine that someday, they will have their own telescope, star hop and think about this night at LTO as their introduction. Gives me goose bumps thinking about it ;-)

### **Event 3**

Date: April 4, 2006  
Start Time: 7:00 PM  
End Time: 9:00 PM  
Attendance: 12 students + 1 teacher  
Activities:

This group was from a local community college from Loveland, CO. They were taking the intro to astronomy class offered there. They came to the Little Thompson Observatory to learn more about astronomy and view selected targets through the telescope.

With groups like these, I amend my normal star wall talk and zero in on questions that the group may have. It was a nice discussion.

Afterwards, we went upstairs to the telescope, where a high cloud deck had overtaken the sky. But it was somewhat thin and we were able to view many of their targets on their assignment sheet, despite the clouds.

After telescope viewing, we went back downstairs to the warm room and I made sure that all the students had enough information on their sheets to complete the assignment. It was a different evening at LTO for me and very enjoyable.

### **Event 4**

Date: June 2, 2006  
Start Time: 7:30 PM  
End Time: 10:30 PM  
Attendance: 30 people  
Activities:

Four of us setup telescopes for the girl scout outing. I have included pictures taken by one of the other helpers. I am the one in the yellow shirt.



The girl scouts were on a week long quest for life on the Oregon Trail, and the scout leader wanted me to tie the sky and stars into the program. We starts before dark, talking about navigation by the stars and what the travelers could expect to see at night.

Then the 4 of us, with our telescopes, showed all in attendance, and those families that showed up when they heard there were telescopes, showed the people many sites in the evening sky.

I myself showed those that looked through my 8 inch f/6 telescope, the planets Mercury, Mars, Saturn and Jupiter. I also showed the people M13, Alberio, Polaris and its companion, M57 and how our Sun one day will do this and pointed out many constellations of the spring sky to them.

## Event 5

Date: June 16, 2006  
Start Time: 7:00 PM  
End Time: 11:00 PM  
Attendance: 40-60 People  
Activities:

I went up to Rocky Mountain National Park, for their bi-weekly star night for campers in the park that night. This has been going on for 13 yrs now, but this is the first time I attended. See the picture Event061606.jpg. I'm the fourth person from the left in the back row.



I had a blast!!! I took my 8 inch up there, and we setup in this area called Upper Beaver Meadows. There were 11 other scopes there that night, including the scope the park owns.

The night started out with the ranger giving a brief safety talk to the attendees, and then I showed them Jupiter, Saturn, Mars, M13, M4, Alberio, M51, M57, Polaris, Arcturus, M27 and Antares. I also answered many what-if questions about many various topics. We also saw many satellites pass overhead.

Some campers were very knowledgeable and asked to see specific things, mostly the Andromedia galaxy, which was not up yet. I got to do some Solar System Ambassador talking about space probes as well as talk about why stars are different colors.

I DO need to get one of those green laser pointers. I had an opportunity to use it many times, but didn't have one to point out asterisms of stars.

## **Event 6**

Date: 7/14/06  
Start Time: 7:30 PM  
End Time: 11:30 PM  
Attendance: 60-80 People  
Activities:

This was my second trip to the Rocky Mountain National Park Public Star Party for the campers in the park. I took my 8 inch and we had a much larger crowd this night than a month ago.

I showed the people looking through my scope, Alberio, Polaris, M13, M57, Mizar, Jupiter and Antares (for its red color). The people were again amazed at all the scopes tonight (11 I think in all), and were amazed to see Jupiter. The highlight of the evening was one of the moons of Jupiter was in the planet's shadow, and for the longest time, there were only 3 moons. Then the 4th popped out of the shadow and all those that had previously seen 3 moons, now saw 4 and were simply amazed. I then associated what was happening at Jupiter to the Lunar Eclipses of the Earth and discussed the sameness of the event.



## Event 7

Date: 8/2/06  
Start Time: 8:00 PM  
End Time: 10:00 PM  
Attendance: 12 people  
Activities:

I was at the Little Thompson Observatory with 10 kids, about age 9 and 2 adults. It was a birthday party and the kids decided to look through the telescope. I gave them a brief warm room talk, but abbreviated for they had lots of questions, so it turned more into an answer session, which was fine by me. We went up to the telescope at about 9:15 and I showed them M13, M57, tried for M101 but the moon washed it out, Alberio and the Moon. We spent a lot of time on the moon, showing them the difference between the lowlands and highlands and why. I would have shown them more but Mom indicated that the kids needed to be back at 10:00 PM, so I had to show them stuff quickly. But I negotiated with her and was allowed to keep them till 10:00 PM. Outside the observatory, as they were leaving, I used my laser pointer to show them the constellations we had talked about earlier in the evening. Showed them the Big Dipper, how to find the north star, the summer triangle, Scorpio and the teapot of Sag. I think they had a good time.

## **Event 8**

Date: 8/31/06  
Start Time: 7:30 PM  
End Time: 9:30 PM  
Attendance: 16 Adults  
Activities:

These were senior citizens from a senior center. I had never done one of these groups before. It was at the Little Thompson Observatory. With the threat of the sky clouding over, I gave a brief talk at the star wall and we went upstairs to the telescope where I showed them the Moon, Jupiter, Alberio, M57 and M13.

## **Event 9**

Date: 10/28/2006  
Start Time: 7:00 PM  
End Time: 10:00 PM  
Attendance: 20 Adults  
Activities:

Supported Colorado Astronomy Day by running the 16 inch telescope at the Sommers-Bausch Observatory, on the University of Colorado campus and showing those that showed up some neat celestial objects.

## **Event 10**

Date: 11/03/2006  
Start Time: 7:30 PM  
End Time: 9:30 PM  
Attendance: 40+ people  
Activities:

This is the weekly Friday night open house at the Sommers-Bausch Observatory on the University of Colorado campus. I am a volunteer here and tonight, even with the high, thin cloud deck, we were able to show everyone several features on the moon. The clouds helped dim the intensity of a near full moon. No other deep sky objects were visible.

I was able to keep the visitors entertained with various astronomical facts and tidbits.

## **Event 11**

Date: 11/6/2006  
Start Time: 7:00 PM  
End Time: 9:00 PM  
Attendance: 26 Adults  
Activities:

Another group at the Little Thompson Observatory. I gave my usual talk about astronomy, space exploration and the Hubble repair mission.

## **Event 12**

Date: 11/8/2006  
Start Time: 3:00 PM  
End Time: 4:00 PM  
Attendance: 7 People  
Activities:

I setup my 8' f/6 telescope with the Baader solar filter on the front. I watched the entire event that I could see from the backyard. My wife and I watched 1<sup>st</sup> and 2<sup>nd</sup> contact and then watched Mercury progress across the face of the sun.

Then at 3 PM, I moved the telescope out to the front of the house and flagged down school kids, walking home from school, to see the event. They were simply amazed at what they saw in the eyepiece. I was hoping for more kids to walk by, but only 5 did.

At 4 PM, the sun dropped down behind the neighbor's house, so my viewing was over from Colorado. Sunset was about 45 minutes later.

## **Event 13**

Date: 11/13/2006  
Start Time: 10:30 AM  
End Time: 11:30 AM  
Attendance: 28 People  
Activities:

I gave a Solar System Ambassador presentation about the Moons of the Solar System. This is a presentation I made giving an overview of the various types and shapes of moons around the solar system. I did this at Monarch High School, in Louisville, CO to their morning earth science class.

## **Event 14**

Date: 11/13/2006  
Start Time: 1:00 PM  
End Time: 2:00 PM  
Attendance: 30 people  
Activities:

I gave a second Solar System Ambassador presentation about the Moons of the Solar System. This is a presentation I made giving an overview of the various types and shapes of moons around the solar system. I did this at Monarch High School, in Louisville, CO to their afternoon earth science class.

## **Event 15**

Date: 01/10/07  
Start Time: 11:30 AM  
End Time: 1:00 PM  
Attendance: 20 people  
Activities:

I helped Rob Linnenberger at Monarch High School, in Louisville, CO with his earth science class. I gave a presentation of the death of stars, depending on their mass. Rob had introduced the class to various aspects of stellar astronomy and the HR Diagram. I helped this day by presenting material about how those stars die. This was the first of two classes that were back to back.

## **Event 16**

Date: 01/10/07  
Start Time: 1:00 PM  
End Time: 2:30 PM  
Attendance: 20 people  
Activities:

I helped Rob Linnenberger at Monarch High School, in Louisville, CO with his earth science class. I gave a presentation of the death of stars, depending on their mass. Rob had introduced the class to various aspects of stellar astronomy and the HR Diagram. I helped this day by presenting material about how those stars die. This was the second of two classes that were back to back.

## **Event 17**

Date: 01/26/07  
Start Time: 7:30 PM  
End Time: 9:30 PM  
Attendance: 40 people  
Activities:

I helped with the University of Colorado's Sommers-Bausch Observatory Friday Night Open House event. I helped this night by running the 16 inch telescope and showing people the various features of the past first quarter moon.

## **Event 18**

Date: 03/02/07  
Start Time: 7:00 PM  
End Time: 9:30 PM  
Attendance: 12 People  
Activities:

I helped with the University of Colorado's Sommers-Bausch Observatory Friday Night Open House event. I helped this night by running the 16 inch telescope and showing people the various features of the near full moon as well as the Orion Nebula, the colors of several bright stars and why they are that color. I also talked about the upcoming Phoenix mission to Mars. Then I gave a tour of the 24 inch telescope that is also part of this complex.

## **Event 19**

Date: 04/04/07  
Start Time: 7:00 PM  
End Time: 9:00 PM  
Attendance: 170 Middle School Kids + 20 Adult Chaperons  
Activities:

I helped with their Astronomy event that they had planned for their weekend retreat at a YMCA camp in Estes Park, CO. I gave a talk on amateur astronomers and a second talk on the black hole that is in the center of our galaxy. We were to then get our telescopes out and show them the night sky, but it was cloudy.

## **Event 20**

Date: 5/17/07  
Start Time: 08:30 AM  
End Time: 12:30 PM  
Attendance: 300 Kids plus 200 parents  
Activities:

Supported a booth at our companies, Take Your Sons and Daughters to Work Day. My booth was right after a booth explaining what Hubble is, and I was responsible for sharing with everyone why Hubble. I had a great time delving into my deep knowledge of Astronomy to share with the people, keeping it in line with Hubble, why it exists, why its in orbit and some of the great discoveries it has made.

## **Event 21**

Date: 6/1/07  
Start Time: 8:00 PM  
End Time: 11:00 PM  
Attendance: 30 People  
Activities:

I helped with the University of Colorado's Sommers-Bausch Observatory Friday Night Open House event. I helped this night by running the 16 inch telescope.

Started out by showing the early arrivers Mercury, Venus and Saturn in the daylight. A light cloud deck came and went all evening. After dark guests were shown M104, M13, M5, Saturn, Jupiter and the Moon.

It was the first clear Friday night at Sommers-Bausch Observatory in many attempts. It was busy with guests all evening, a pleasant treat.

## **Event 22**

Date: 06/15/07  
Start Time: 9:00 PM  
End Time: 11:00 PM  
Attendance: 70+  
Activities:

This was the first night of the 2007 Rocky Mountain National Park public star nights. There were over 70 people in attendance, according to the ranger, but I think there was more.

I have my 8 inch up there, the sky was clear and the people really enjoyed themselves. I was one of about 12 other amateurs that helped with this event.



Besides answering their many questions, I showed those that looked thru my scope M13, M51 Alberio, Venus, Saturn, Jupiter, M4 and Polaris. I pointed out many constellations with my green laser pointer, saw the space shuttle and ISS pas low in the north and had a good time doing it.

## **Certificate Request**

Please have my name read Michael A. Hotka on my certificate. I am a member of the Denver Astronomical Society.

I have previously received my Basic Outreach Award and am requesting the next level, or the Stellar Public Outreach award.

Please send my certificate and any additional pin (I hope) to my home at:

Mike Hotka  
1425 Snowberry Lane  
Broomfield, CO 80020