



The Observer

A Publication of The Cuyahoga Astronomical Association
 PO Box 868, North Olmsted, OH 44070

CAA Homepage: <http://www.geocities.com/cuyastro>

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2002 CAA Calendar - Summary

3/11/02 8 p.m.	CAA General Membership Meeting – RRNC
3/15/02	Messier Marathon – Spencer Lake
3/16/02	Messier Marathon rain out/cloud out date
3/25/02 7 p.m.	CAA Board Meeting – Starbucks
4/8/02 8 p.m.	CAA General Membership Meeting – RRNC
4/20/02	Astronomy Day – Cleveland Museum of Natural History
4/29/02 7 p.m.	CAA Board Meeting – Starbucks
5/11/02 8 p.m.	CAA Presentation and Star Party – Brecksville
5/13/02 8 p.m.	CAA General Membership Meeting – RRNC
5/18/02 8 p.m.	CAA Presentation and Star Party – Letha House
5/28/02 7 p.m.	CAA Board Meeting – Starbucks
6/10/02 8 p.m.	CAA General Membership Meeting – RRNC
6/24/02 7 p.m.	CAA Board Meeting – Starbucks
7/8/02 8 p.m.	CAA General Membership Meeting – RRNC
7/13/02 8 p.m.	CAA Presentation and Star Party – Letha House
7/29/02 7 p.m.	CAA Board Meeting – Starbucks
8/3/02	CAA OTAA Convention – CAA Observatory at Letha House
8/10/02 8 p.m.	CAA Presentation and Star Party – Brecksville
8/12/02 8 p.m.	CAA General Membership Meeting – RRNC
8/26/02 7 p.m.	CAA Board Meeting – Starbucks

9/9/02 8 p.m.	CAA General Membership Meeting – RRNC
9/30/02 7 p.m.	CAA Board Meeting – Starbucks
October ??	Halloween Bonfire
10/5/02 7 p.m.	CAA Presentation and Star Party – Letha House
10/14/02 8 p.m.	CAA General Membership Meeting – RRNC
10/28/02 7 p.m.	CAA Board Meeting – Starbucks
11/9/02	Twilight to Midnight – The Chalet in the Cleveland Metroparks
11/11/02 8 p.m.	CAA General Membership Meeting – RRNC
11/25/02 7 p.m.	CAA Board Meeting – Starbucks
12/9/02	CAA Christmas Party
	No Board Meeting in December

2002 CAA Calendar - Detail

Monday, March 11

CAA General Membership Meeting at 8 p.m. in the Cleveland Metroparks Rocky River Nature Center. The program this month will be a discussion on how to use a telescope. The format of this program will be a Question & Answer session.

Friday, March 15

Messier Marathon at Spencer Lake. Cloud out / rain out date is Saturday, March 16.

Monday, March 25

CAA Board Meeting at 7 p.m. at Starbucks Coffee Co. Starbucks is located at 24950 Lorain Road, just west of Columbia Road in North Olmsted.

Monday, April 8

CAA General Membership Meeting at 8 p.m. in the Cleveland Metroparks Rocky River Nature Center. Program to be announced.

Saturday, April 20

National Astronomy Day at the Shafran Planetarium at the Cleveland Museum of Natural History. There will be various talks and presentations held throughout the day. We need volunteers to help out at this event. Please contact Al Matyas if you are interested. Details will be published when the program is finalized. It is estimated that this event will draw between 1,000 and 2,000 people for the day so we will need your help and telescopes.

Monday, April 29

CAA Board Meeting at 7 p.m. at Starbucks Coffee Co. Starbucks is located at 24950 Lorain Road, just west of Columbia Road in North Olmsted.

Saturday, May 11

CAA presentation and star party at 8 p.m. at the Brecksville Nature Center. Please bring your telescopes for the public star party that will follow the talk in the Meadows picnic area. We need a speaker for this event. Please make Al Matyas' job easier by considering giving a talk for this event. If you are interested in giving a talk, please contact Al.

Monday, May 13

CAA General Membership Meeting at 8 p.m. in the Cleveland Metroparks Rocky River Nature Center. Program to be announced.

Saturday, May 18

CAA presentation and star party at 8 p.m. at the Letha House Warm Up Room and CAA Observatory. Please bring your telescopes for the public star party that will follow the presentation. We need a speaker for this event. Please make Al Matyas' job easier by considering giving a talk for this event. If you are interested in giving a talk, please contact Al.

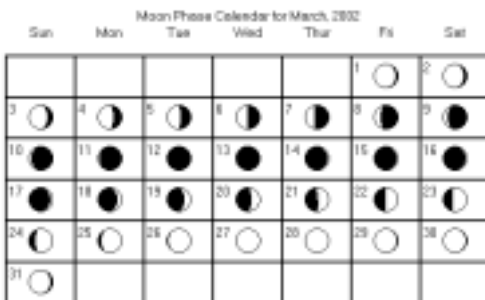
Tuesday, May 28

CAA Board Meeting at 7 p.m. at Starbucks Coffee Co. Starbucks is located at 24950 Lorain Road, just west of Columbia Road in North Olmsted.

Saturday, August 3

CAA OTAA Convention at the CAA Observatory next to the Letha House Park Barn, 10311 Spencer Lake Rd., just west of Richmond Rd., in Chatham Township.

Sky Events for March 2002



Friday, March 1

Jupiter is stationary, 10 a.m. EST.

Friday, March 8

Mercury passes 1.2° south of Uranus, 10 p.m. EST.

Sunday, March 10

The moon passes 4° south of Neptune, 4 a.m. EST.

Asteroid Euterpe is at opposition, midnight EST.

Monday, March 11

The moon passes 4° south of Uranus, noon EST.

The moon passes 3° south of Mercury, 8 p.m. EST.

Sunday, March 17

The moon passes 4° south of Mars, 8 p.m. EST.

Wednesday, March 20

The moon passes 0.5° north of Saturn, 5 a.m. EST.

The moon passes 0.5° north of Vesta, 5 a.m. EST.

Vernal equinox is at 2:16 p.m. EST.

Friday, March 22

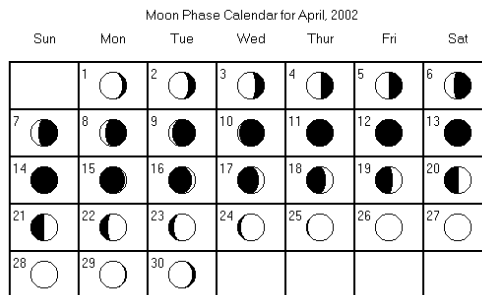
The moon passes 1.1° north of Jupiter, 7 a.m. EST.

Sunday, March 31

Saturn passes 4° north of Aldebaran, 11 a.m. EST.

Sky Events for April 2002

Saturday, April 6



The moon passes 4° south of Neptune, 11 a.m. EST.

Sunday, April 7

Mercury is in superior conjunction, 5 a.m. EDT.

The moon passes 4° south of Uranus, 9 p.m. EDT.

Sunday, April 14

The moon passes 3° south of Venus, 1 p.m. EDT.

Monday, April 15

The moon passes 2° south of Mars, 7 p.m. EDT.

Tuesday, April 16

The moon passes 0.8° north of Saturn, 4 p.m. EDT.

Wednesday, April 17

The moon passes 0.7° north of Vesta, 6 a.m. EDT.

Thursday, April 18

The moon passes 1.6° north of Jupiter, 7 p.m. EDT.

Monday, April 22

Lyrid meteor shower peaks.

Monday, April 29

Mars passes 6° north of Aldebaran, 9 a.m. EDT.

Club News / Stories

**Cuyahoga Astronomical Association
Financial Report
March 2, 2002**

Bank Account Balance 11/23/01	\$3792.02
Cash On Hand 11/23/01	\$ 85.21
Total Assets 11/23/01 (approx)	\$3877.23
Bank Account Activity:	
Deposits:	
12/15/01 Interest	\$ 1.58
12/21/01 Memberships, Subscriptions, Party	\$ 209.95
1/16/02 Interest	\$ 1.50
2/9/02 Memberships, Subscriptions, Etc	\$ 351.90
2/16/02 Interest	\$ 1.41
Expenditures:	
12/3/01 Door Prizes	\$ 80.73
12/10/01 Coast Guard Club -- Christmas Party	\$ 442.46
12/10/01 Newsletter	\$ 34.00
1/14/02 Refreshments	\$ 29.82
1/14/02 Newsletter	\$ 27.20
1/21/02 Sky Publishing -- 3 S&T Subscriptions	\$ 89.85
1/21/02 Kalmbach Publishing -- 2 Astronomy Subs	\$ 58.00
2/2/02 Postmaster -- Annual P.O. Box Fee	\$ 55.00

2/11/02 Observatory Materials	\$ 87.96
2/11/02 Newsletter	\$ 62.19
2/11/02 Observatory Materials	\$ 16.90
2/11/02 Refreshments	\$ 35.42
3/1/02 Sky Publishing – 2 S&T Subscriptions	\$ 59.90
Bank Account Balance 3/2/02	\$3278.93
Petty Cash Activity:	
Deposits:	
11/27/01 Nenadal- Christmas Party	\$ 17.00
1/14/02 Refreshments	\$ 25.69
2/11/02 Refreshments	\$ 24.51
Expenditures:	
None	
Cash On Hand 3/2/02	\$ 152.41
Total Assets 3/2/02 (Approx)	\$3431.34
Bank Account Balance Includes	
Observatory Fund Donation	\$ 200.00
Available Assets	\$3231.34

Art Nenadal, Treasurer

2002 Membership Renewal Reminder

If you haven't done so already, please pay your 2002 CAA membership dues to keep your membership active and to keep receiving your subscription to *The Observer*. Your subscription to *The Observer* expires with this issue if you haven't paid your dues.

Vote To Be Held On Earlier Meeting Time At The March General Membership Meeting

At the January and February General Membership meetings we discussed the possibility of moving up our General Membership meeting starting time to 7:30 p.m. from 8 p.m. Since enough interest was expressed by the membership in attendance, we will be voting on changing our meeting starting time from 8 p.m. to 7:30 p.m. at the March General Membership meeting. If the vote passes, the new time will be effective for the July membership meeting since the Cleveland Metroparks requires 4

months advance notice for publication changes.

Vote To Be Held For Granting Honorary Life Memberships At The April General Membership Meeting

The CAA Board of Directors has proposed Honorary Life Memberships for the following CAA Members:

1. Bob Blaney
2. John Garvey
3. Alex Panzer
4. Steve Farkas

According to our bylaws, Honorary Life Membership shall be granted by a unanimous vote of the Board through the Formal Voting Procedure. The Formal Voting Procedure is defined as follows:

1. The issue shall be announced and opened for discussion during at least two membership meetings prior to the meeting at which the vote is to be taken.
2. Written notification of the issue and the date the vote is to be taken shall be mailed to the entire membership, postmarked at least three weeks prior to the vote.
3. A majority vote shall carry an issue unless Robert's Rules specifies a different percentage.

The issue was announced and opened for discussion at the February membership meeting. We will announce and open the issue for discussion again at the March membership meeting. We will vote on awarding these Honorary Life Memberships at the April membership meeting. This issue of *The Observer* has been sent out and post marked more than 3 weeks prior to the vote.

Observer's Handbooks

The treasurer's records show that Observer's Handbooks ordered by the following members have not yet been picked up: Mike Gallagher, Rich Pogozelski, Tom & Janis Miller, and Dr. Nicholas R. Popovich. Please stop at a meeting and get your Handbook, or contact Art Nenadal at 440-779-7034

440-779-7034 and make arrangements get your Observer's Handbook.

Help Wanted Telescope Users

When: Saturday, March 16th from 7 p.m. to 9:30 p.m.

Where: at the Rocky River Nature Center (7 p.m. - 8 p.m.) and the Frostville Museum parking lot (8:30 p.m. - 9:30 p.m.)

What: Telescopes 101

CAA member Art Nenadal and, hopefully, YOU will be assisting Naturalist Tim Krynak with this Cleveland Metroparks Program. Art, Tim & YOU will be helping those who got telescopes for Christmas, but don't know how to use them, or are planning to buy a telescope, but don't know what to look for. If you're not participating in the Messier Marathon on this rainout date for it and would like to help with Telescopes 101, contact Tim at the Rocky River Nature Center, 440-734-6660. For more information, contact Tim, check the Emerald Necklace (The Cleveland Metroparks Newsletter), or contact Art at 440-779-7034.

The topic for the CAA meeting on Monday, March 11, at 8 p.m. at the Rocky River Nature Center is How To Use A Telescope. The format is similar to the above, and we could use your help at this meeting as well as on Saturday, March 16th.

CAA Equipment List

The following is an updated list of CAA club equipment as of February 2002. Please review this list for accuracy. If anyone knows who has the equipment listed with ???, or if anyone knows of any CAA club equipment that is not on the list, and its condition, please let us know. Thanks for your help – The CAA Board of Directors.

1.	16" f/4.5 reflector on German equatorial mount with 11x 80 University finder	CAA Observatory
2.	10" Cassegrain, on 8" dia.	CAA

steel pier, German equatorial mount, 10x40 Unitron finder, variable frequency drive, accessories box and "Atlas of the Heavens" star charts	Observatory
3. 12 1/2" f/4.85 Dobsonian Telescope, Telrad finder	CAA Observatory
4. 6" f/8 Newtonian on German Equatorial mount, Cave mirror, includes 6x30 Unitron finder, Telrad, eyepiece case with 12mm Brandon, 26mm Orion Plossl, and 2x barlow, wood case for equatorial mount (Mike Chausanski donated on 12/01)	Al Matyas
5. 6" Newtonian on Dobsonian Mount (Steve Farakas donation)	Al Matyas
6. 6" f/5 Newtonian Cassegrain with homemade pipe type equatorial mounting	Bob Wiersma-Optical tube; Les Kee-Mount
7. 4" f/10 Maksutov with optical window	Bob Wiersma
8. 7x50 Binoculars – Swift Brand (Kenneth Schneller donation) with Tripod and Adapter (George Glagola donation)	Al Matyas
9. 5" f/5 Refractor OTA, lens is Jaegers	Mike Williams
10. 10" f/5 mirror donated by John Donelan 7/01	Bob Wiersma
11. 8" f/7 mirror donated by George Glagola 5/01	Bob Wiersma
12. Meade 14mm UWA 1.25"/2" eyepiece (donated by Bob Wiersma on 8/00)	Bob Wiersma
13. Meade 8.8mm UWA 1.25"/2" eyepiece (donated by Art Stokes on 10/00)	Bob Wiersma
14. University 28mm Pretoria 2" eyepiece	Bob Wiersma
15. Star Trak 55mm Plossl 2" eyepiece (donated by Jim Henry 9/01)	Bob Wiersma
16. wood tripod for 10" cassegrain	Bob Wiersma
17. 16mm Movie projector	Bob Hagedorn
18. Rear Projection Screen for 16mm Movie Projector	Les Kee
19. 2 Mounting Rings for 10" Cassegrain (for 5" refractor)	Mike Williams?
20. Slide Projector with Zoom Lens & Carrying Case	Mike Williams
21. Large Slide Projector Screen	???
22. Library Books, see library list for book names	Erik Hall
23. Archives and/or other Records & Documents	Bob Wiersma
24. Large Coffee Urn	Bill Gerling?
25. 2 Coolers for Lemonade	Bill Gerling?
26. Cutaway Display Tele-	CAA

Telescope of Newtonian	Observatory
27. Picture Display Bulletin Board, and Green Picture Album	???
28. Messier Catalog Poster	CAA Observatory
29. Rollaway step ladder 4' tall, 5 step	CAA Observatory
30. Rolling 4 draw equipment cabinet	CAA Observatory
31. Bookcase with Sliding Glass Doors	Tom Turner
32. 18 Folding Chairs, a Copernicus Photo, & a Lunar Photo	???
33. 12 1/2" Mirror Cell and a Wooden Tube 5' 5" long by 9 1/4" I.D.	Les Kee
34. 3 Old Brass Eyepieces (with 6" dobsonian reflector)	Al Matyas
35. 16"ID x 20" tall fiberglass tube from Parks Optical, (donated to club by Parks Optical in 1989?).	Bob Wiersma
36. Sky & Telescope magazine 1980 through 2000, (donated by Mike Chausanski on 12/01)	Bob Wiersma
37. 3 Bundles of Astronomy and One Bundle of Sky & Telescope Magazines	Les Kee

Looking Up By Charles H. Grace

William Shakespeare

A Midsummer-Night's Dream

"Since once I sat upon a promontory,

And heard a mermaid on a dolphin's back

Uttering such dulcet and harmonious breath,

That the rude sea grew civil at her song,

And certain stars shot madly from their spheres

To hear the sea-maid's music."

In early astronomical models (Ptolemy) the stars were thought to be on spheres that rotated in the heavens. Some celestial bodies such as comets and meteors did not stay in fixed position, but "shot madly from their spheres."

Meleager

The Greek Anthology

"Farewell, Morning Star, herald of dawn, and quickly come as the Evening Star, bringing again in secret her whom thou takest away."

Venus is the Morning Star at certain times and the Evening Star at oth-

others. This is because it is never seen very far away from the sun, sometimes trailing the sun across the sky and sometimes leading it.

Walter De La Mare

The Wanderers

"Wide are the meadows of night,
And daisies are shining there,
Tossing their lovely dew,
Lustrous and fair;
And through these sweet fields go,

Wanderers amid the stars—
Venus, Mercury, Uranus, Neptune, Saturn, Jupiter, Mars."

Although their motions are now well understood, planets seemed to wander against a backdrop of the more regular constellations of stars. Pluto was discovered in 1930.

James Rado and Gerome Ragni

Hair [1966]

"When the moon is in the seventh house

And Jupiter aligns with Mars,
Then peace will guide the planets,
And love will steer the stars;

This is the dawning of the Age of Aquarius,

The Age of Aquarius."

The signs of the zodiac are stellar constellations that are distributed throughout a belt of the sky about 16 degrees wide, centered on the ecliptic. Different zodiacal signs are visible at different times of the year.

Measuring Distances By David B. Bauman

How do you measure the distance to planets and stars; to anything beyond the earth, for that matter?

It all starts with the most basic technique used by surveyors - triangulation. If you want to measure how wide a river is without getting your feet wet, one way is to choose a distinctive feature (such as a tree) on the far bank and to measure out a baseline on your side of the river. From each end of the baseline, you observe the tree through a theodolite (a small telescope) and measure the angle between the line of sight and the baseline. With both these angles and the length of the baseline known, it is a simple matter to measure the distance to the

distance to the tree on the far side. Or if the surveyor measures the angle between the rod and the tree on the other side of the river.

If you have a long enough baseline, you can measure the distance to anything. The moon is the nearest object to the earth. Triangulation reveals that the moon is about 60 times the radius of the earth. (You then have to measure the radius of the earth, of course.) This results in an average distance of about 384,400 km. The triangle used in the triangulation is about 60 times taller than the baseline – a pretty tall, thin triangle.

It is impressive that as early as 1671 astronomers used exactly the same technique to measure the distance to Mars, on astronomer observing from Paris, and the other observing from Cayenne in French Guiana. To know the distance to any planet, along with the orbital period of that planet is all we need to know in order to calculate the distance of each planet to the sun, using the laws of planetary motion discovered by Johann Kepler at the beginning of the 17th century. Kepler at that time figured that the distance of the earth to the sun is about 140 million km. Modern estimates place it at an average of 149,597,870 km.

Astronomers were very quick to make use of this knowledge, and the insight that Copernicus gave in 1543, that the earth is, in fact a planet in orbit around the sun, even though the Catholic church had declared the Copernican system a heresy, and Galileo was kept under house arrest for heresy. Yet, astronomers were realizing that if we are in orbit around the sun, 6 months from now we shall be the equal distance on the other side of the sun, or at 2 AU from where we are now, if an AU is our distance from the sun. This, then, can be the base of a larger triangle for measuring the distance to stars. This makes use of a familiar phenomenon, called parallax. When we are in motion, we are aware that nearer objects, such as trees, appear to move past us faster than more distant objects. Or, if you hold your thumb at arm's length, close your

right eye and observe it with your left eye, then close your left eye, observe it with your right eye, you see it in a different position relative to background objects in the one case from the other. So, it was reasoned (correctly) that after 6 months, when we are 2 AU from where we are now, we should see nearer stars in a different position relative to the farther stars.

Tycho Brahe, who lived from 1546 to 1601, one of the most persistent observers of all time, but without the advantage of a telescope, could not observe any parallax at all, so he reasoned that the earth could not be moving, or, if it is, the stars must be at least 700 times the distance to the farthest planet. This seemed inconceivable to him, so he rejected the idea that the earth is in motion. And attempts to measure the distance to stars by parallax was given up for over a century.

Huygens, who lived from 1629 to 1695 attempted to measure the distance to Sirius, which he assumed was the closest star, by comparing its light to that of the sun, coming through a tiny hole in a screen. It was a rough system, but it gave Huygens an estimate of 27,664 AU to Sirius. A Scottish mathematician, James Gregory, using a variation of this method arrived at a distance of 83,190 AU for Sirius. Isaac Newton recalibrated the distance to the planets, and came up with the startling figure of 1 million AU to Sirius. (This in fact, is almost double the actual distance to Sirius, for Newton had not taken into account that Sirius is in fact much brighter than the sun.)

Finally, with the advent of precise measurements with high grade telescopes and photography in the 1830's it became possible to measure the distance to some of the closer stars by parallax. Distances are expressed in parallax seconds, or "parsecs". The apparent diameter of the moon is about 1/2 degree, or 30 minutes of arc. Yet the largest parallax displacement observed for any star over 6 months is less than 1/60 of 1/30 of the apparent diameter of the moon. The distance to the nearest star, Alpha Centaurus is

1.32 parsecs. Sirius is at a distance of 2.67 parsecs, or 550,000 AU. Even by 1908 only about 100 stellar parallaxes had been measured.

Parallax measurements can only give the distances to the nearest stars, even with modern instruments. Other methods have been used to give approximations of distances to more distant stars, clusters, galaxies, etc. That is beyond the scope of the paper. But it may be stated that for these greater distances, the figures will be only approximations.

(Taken from *The Birth Of Time* by John Gribbin, Chapter 3)

County Parks Ideal For Viewing Night Skies

The following article by John Stanley, from *The Arizona Republic* dated Saturday, February 23, 2002 was sent in by CAA Member Steve Farkas. In Steve's words, "You see, even here, they are concerned about dark skies. By the way, try the web sites. They are fun and informative."

At any given moment, astronomers say, on any given night, roughly 3,000 stars are theoretically visible. Because that's about 2,900 more than you're likely to see from the light polluted skies of the Valley, where do you go to view the celestial delights you've been missing?

If darkness were the only consideration, then any spot in the desert, as long as it is 50 miles from Phoenix (and other large cities), would do. And to dedicated amateur astronomers, who prize dark skies above all else, no drive is too long, no road too rough, no inconvenience too great to bear for those few precious moments of superb seeing.

For the rest of us, other considerations arise. Safety. Accessibility. Short drive times. Restrooms.

Consider, then, one of Maricopa County's parks.

Skirting the Valley's edges, the county's many parks offer reasonably dark skies within a reasonable driving distance for just about anyone in the metropolitan area.

“These parks are a great resource,” says Johnathan Blyler, interpretive ranger for the Uesery Mountain Recreation Area north of Mesa, who often leads moonlight hikes. “And we certainly do encourage people to use them (for astronomy) after the sun goes down.”

Although the parks generally close at 8 p.m. during the week, they don't close until 10 p.m. on Friday and Saturday, offering casual stargazers an opportunity to view the skies the way they were meant to be seen.

In addition, local astronomy clubs sometimes host public “star parties,” during which they offer talks and tips to casual observers or newcomers to the hobby.

Web Sites for Valley Stargazers:

Maricopa County Parks System

details: www.maricopa.gov/rec_svc/default.asp

For more information about astronomy clubs, visit their web sites:

East Valley Astronomy Club:
www.eastvalleyastronomy.org/EVAC/

Phoenix Astronomical Society:
pastimes.homestead.com/PAStimes.html

Saguaro Astronomy Club:
www.saguaroastro.org/

Sun City West Astronomy Club:
www.geocities.com/scwac/

Swap Corner

WANTED: 1½ inch (new/used) Rack & Pinion Focuser with 2 inches or more of drawtube travel. Please contact Les Kee 440-238-6938 or lkee@ix.netcom.com.

FOR SALE: 5" f/9 refractor O.T.A. in like new condition, includes rings and finder. \$250 or best offer. Please contact Ken Hubal 216-398-0912.

FOR SALE: 6" f/8 refractor O.T.A. by Sky Instruments, includes rings and finder. Used, in excellent condition. \$350 or best offer. Please contact Ken Hubal 216-398-0912.

Lost and Found

A hunter green and gray wool scarf was found at Letha House during the Leonid Meteor shower. If this

scarf belongs to you, please claim it at one of our upcoming meetings.

Upcoming Astronomical Events

Other OTAA Meetings

Saturday, June 8, 2002: Chagrin Valley Astronomical Society OTAA convention at Indian Hill Observatory

Saturday, August 10, 2002: Mahoning Valley Astronomical Society OTAA meeting. Registration – 5:00 p.m.

Saturday, September 7, 2002: Black River Astronomical Society OTAA meeting in Birmingham.

Friday & Saturday, October 4/5, 2002: Richland Astronomical Society Hidden Hollow convention at the Hidden Hollow Campground in Mansfield, Ohio.

Frontiers of Astronomy Lecture Series

Thursday, March 21, 2002 at 8 p.m. at the Cleveland Museum of Natural History in Murch Auditorium.

“Life, the Universe and Everything: The Astrophysical Perspective” will be presented by Dr. Gary J. Ferland from the University of Kentucky.

People have long wondered where we, the Earth and the Universe around us came from. Astrophysics now has a pretty good idea. Dr. Gary J. Ferland, a professor in the department of physics and astronomy at the University of Kentucky, explains how astronomers have been able to see farther back in time by looking increasingly larger distances from the Earth. He discusses what the careful analysis of light from very distant objects has revealed about the events that occurred many billions of years ago, including the creation of our Solar System.

Thursday, April 18, 2002 at 8 p.m. at the Cleveland Museum of Natural History in Murch Auditorium.

“Making Sense of Extrasolar Planets” will be presented by Dr. William Cochran from the University of Texas at Austin.

Over the past six years, nearly a hundred Jupiter-sized planets have been found around nearby stars similar to our Sun. However, these planets are not at all like the planets in our Solar System. If all of the planets in question formed in the same manner, then the current theory of Solar System formation must change significantly. Dr. William Cochran, a senior research scientist at the W. J. McDonald Observatory of the University of Texas, discusses the techniques used to detect planets around other stars, the interesting results that have been obtained and their implications.

These are the fourth and fifth of five free public lectures in the Frontiers of Astronomy series. This free lecture series sponsored by the Department of Astronomy – Case Western Reserve University, The Cleveland Museum of Natural History, and The Cleveland Astronomical Society offers those with an interest in astronomy the chance to learn about some of the latest research in the field. No tickets or reservations are required. On clear evenings, the Museum's observatory will be open following the lectures.

For more information or to receive a brochure listing all speakers, call (216) 231-4600, ext. 253, 362, or 360.

Other News / Stories

Note From The Desk of The Editor

I am always looking for articles for *The Observer*. If there are any aspiring authors out there who want to contribute an article, share a story or observation, etc. please do so, and I will include it in the next issue. Also, if you have any items for sale, or if you are looking for any items, send these in and I will include them in the *Swap Corner*. Remember, this is your newsletter, and participation from the general membership can only make the newsletter better. Thanks to all who have taken the time to send in articles. Please send articles, items

for sale, items wanted, suggestions,
and/or comments to:

Jeff Lewis

5623 Allendale Drive

North Olmsted, OH 44070-4622

Or you can send them via e-mail
to bruise@ameritech.net.

Thanks and Clear Skies!