Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

Vol. 16, No. 10 *October 2008*

In This Issue

Happy Halloween! See page 8 for the story behind this classic movie poster

Important October Dates

1st • PA Outdoor Lighting Council monthly meeting.

4th • CCAS Monthly Observing Session, Hoopes Park, West Chester PA, in conjunction with the borough's Recreation Department.

7th • First Quarter Moon.

10th • West Chester University Planetarium Show: "Twinkle, Twinkle Little Star".

14th • Full Moon.

14th • CCAS Monthly Meeting, Room 113, Boucher Building, West Chester University.

21st • Orionid meteor shower peaks in the early morning hours of October 21st. About 10-15 meteors per hour might be seen.

21st • Last Quarter Moon.

26th • Deadline for newsletter submissions for the November 2008 edition of Observations.

28th • New Moon.

Hoopes Park Star Party: Oct. 4th, 2008

CCAS and the West Chester borough's Recreation Department are hosting a public star party in Hoopes Park. Our National Astronomy Day star party was such a hit, the Recreation Department asked us to hold another event. This won't be as big an event as the previous star party; but more of just a gathering of telescopes to share the wonders of the night sky. CCAS members are encouraged to participate, even if they don't own a telescope. For information and directions to Hoopes Park, visit the borough's website at http://www.west-chester.com/.

CCAS Fall/Winter 2008 Schedule

October 2008

1st • PA Outdoor Lighting Council monthly meeting.

4th • CCAS Monthly Observing Session, Hoopes Park, West Chester PA, in conjunction with the borough's Recreation Department.

10th • West Chester University Planetarium Show: "Twinkle, Twinkle Little Star".

14th • CCAS Monthly Meeting, Room 113, Boucher Building, West Chester University.

November 2008

5th • PA Outdoor Lighting Council monthly meeting.

11th • CCAS Monthly Meeting, Room 113, Boucher Building, West Chester University.

14th • West Chester University Planetarium Show: "Raining Stars".

28th • CCAS Monthly Observing Session, Myrick Conservancy Center, BVA (inclement weather date November 29th).

December 2008

3rd • PA Outdoor Lighting Council monthly meeting.

9th • CCAS Holiday Party in West Chester, PA. The party is for CCAS members and their families and starts at 7:00 p.m. See the December 2008 edition of Observations for location and directions.

12th • West Chester University Planetarium Show: "Stories Your Astronomy Professor Never Told You".

26th • CCAS Monthly Observing Session, Myrick Conservancy Center, BVA (inclement weather date December 27th).

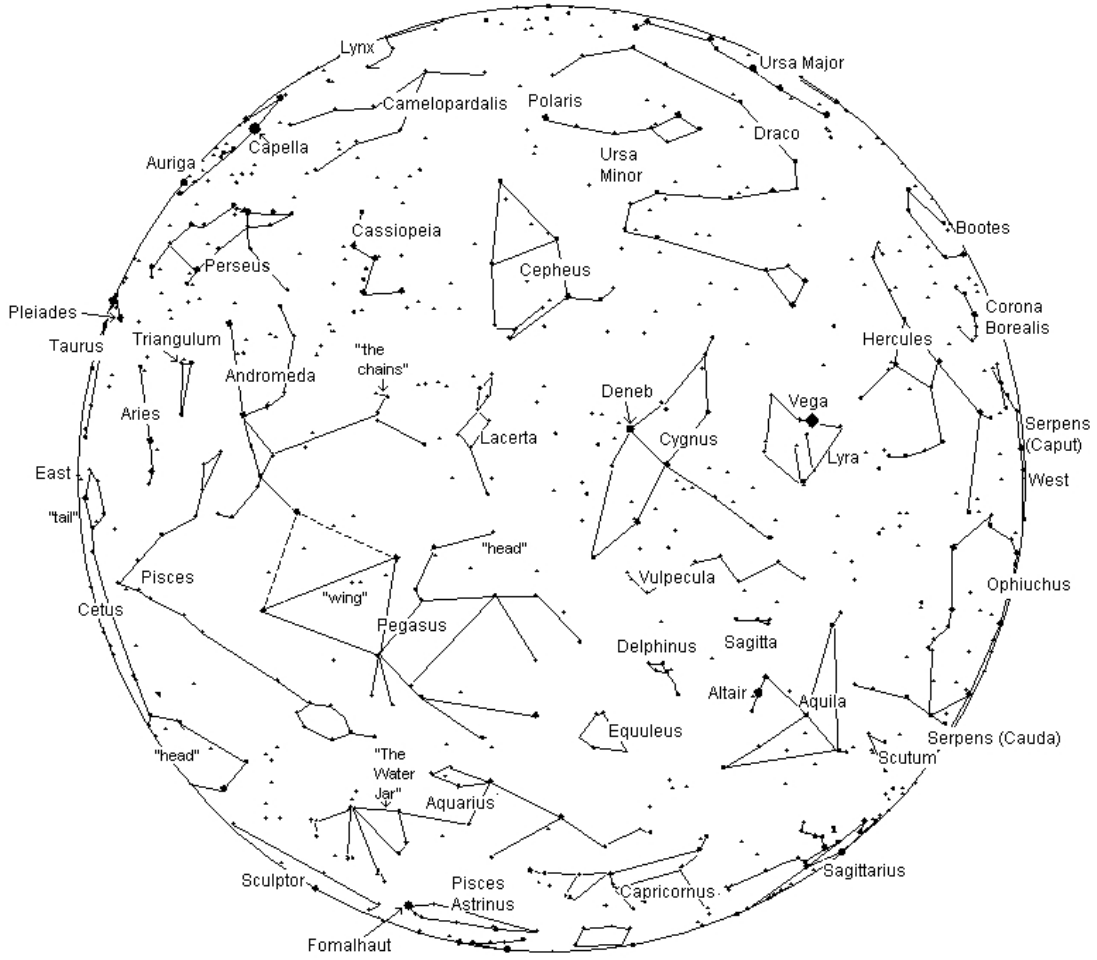
Minutes of the September 9, 2008 CCAS Meeting

- Video presentation: The Formation of Planetary Systems DVD was shown.
- Program – Dr Eric Jensen presented "Searching for Nearest Young Stars and Maybe Their Planets".
- Constellation of the month – Nicholas LaPara presented Cepheus.
- Website – John will set up a page on the website for anyone who submits 6 pictures.
- Finance – Bob had no issues to report.
- Alcor – we need to decide what to do for the International Year of Astronomy in 2009. Sidewalk Astronomy Day is one idea. There is also a program called "100 hours of Astronomy" listed in the September issue of The Reflector. Information can be found at http://astronomy2009.org/globalprojects/cornerstones/100hoursofastronomy/ (note: the web address listed in The Reflector is incorrect, the above address works).
- Observing – An event was held at Springton Manor Farm, part of the Chester County Park System. That is an excellent observing site. Don Knabb will follow up with the park staff to explore holding other events or CCAS observing nights at that location.
- Upcoming events include a presentation by Ed Lurcott and observing at Simpson Meadows on Wednesday September 10 (the event was a lot of fun with 40 excited participants!).
- We will once again host a star party at Hoopes Park on Saturday October 4th. We will have a Cub Scout pack with us that evening.
- On November 5th we will host a Girl Scout event at West Bradford Elementary School.
- November 11 there is an Astronomy Expo at Skies Unlimited.
- Don will send out a members note with information on these events.
- Library – no report.
- Secretary – The minutes from this month's meeting will be published in the newsletter.
- Education – The spring classes had the best retention of participants that we ever enjoyed. Kathy is planning a telescope workshop at BVA. Perhaps the workshop will be focused on helping people learn to use telescopes they received as Christmas gifts.
- Kathy plans to alternate the Backyard Observing and the Intro classes each year.
- Public Relations – Deb has been sending out PR releases to local newspapers. The notice of tonight's meeting was in Town Talk!
- Newsletter – John has taken over from Jim as newsletter editor. He will convert the newsletter to Microsoft Publisher over the next few issues.
- Programs – The COM presentations are covered and most of the meetings have a program planned.
- New call in phone number – Kathy has set up a spare phone at her house with an answering machine that will be used for updates on upcoming events. She and Don will update the message so that members can call in late in the day to see if an observing event will be held or is canceled due to weather. The phone number is 610-436-0829.
- CCAS Shirt Sale – CCAS shirts are now on sale for $25. See Bob Popovich if you are interested

The Sky Over Chester County

October 15, 2008 at 9:00 p.m. EDT

Note: the constellation stick figures used on the chart above were adapted from the book *The Stars: A New Way to See Them*, by H. A. Rey. This excellent guide to learning the constellations can be purchased at many area book stores, or from online booksellers.



This chart was produced using *Guide 8.0* skymapping software by Project Pluto, Bowdoinham, Maine

The faintest stars shown on this chart are fifth magnitude.

Date	Sunrise	Sunset	Moon Phases		
10/01/2008	6:57 a.m. EDT	6:42 p.m. EDT	First Quarter	10/07/2008	5:04 a.m. EDT
10/15/2008	7:12 a.m. EDT	6:20 p.m. EDT	Full Moon	10/14/2008	4:02 p.m. EDT
10/31/2008	7:29 a.m. EDT	5:59 p.m. EDT	Last Quarter	10/21/2008	7:55 a.m. EDT
			New Moon	10/28/2008	7:14 p.m. EDT

October Observing Highlights

by Don Knabb, CCAS Observing Chair

October 1	The thin crescent Moon is to the lower left of Venus as sunset fades.
October 6-7	The Moon and Jupiter are close in the southern sky.
October 7	First quarter Moon, 5:04 a.m. EDT
October 14	Full Moon, 4:02 p.m. EDT, this is know as the Hunter's Moon.
October 21	Last quarter Moon, 7:55 a.m. EDT
October 21	The Orionid meteor shower peaks in the early morning hours.
October 22	Mercury is at greatest western elongation in the dawn sky.
October 28	New Moon, 7:14 p.m. EDT
October 29	Vesta, the brightest known asteroid, is at opposition and as close and as bright as it gets.

The Planets: Venus is brightening and getting higher in the sky at dusk, while brilliant Jupiter shines in the south as the sky darkens. Saturn rises about 4 hours before the Sun by the end of the month and Mercury is at its greatest elongation on the 22nd and is reasonably high in the sky about an hour before the Sun rises.

Mercury: Mercury is at greatest elongation from the Sun on October 22, shining at magnitude -0.5 in the pre-dawn sky.

Venus: If you have a good view of the southwest horizon you will find a reasonably bright object there shortly after sunset. That is our sister planet Venus. As the next few months go by Venus will get higher in the sky and will shine brightly, earning its nickname "the evening star".

Mars: The Red Planet is too low in the glow of the sunset to be seen during October.

Jupiter: In the south you will see bright Jupiter. Use a pair of binoculars and you could see as many as 4 of Jupiter's moons off to either side of the planet.

Saturn: Saturn, in Leo, can be seen in the east just before the sky begins to brighten in the morning at the start of October. By Halloween the ringed planet is rising around 3 a.m.

Uranus and Neptune: Both gas giants continue to be in good viewing position. Uranus was at opposition on September 13th so it is at its best viewing position in the sky around 11 p.m. Neptune was at opposition in August, so it is also well placed for observation around 9 p.m. Use the finder charts at SkyandTelescope.com/UranusNeptune to aid your quest to see these gas giants.

Pluto: Pluto is in northwestern Sagittarius during October. Finder charts are in the June issue of Sky and Telescope. Be sure you use a BIG telescope and have a dark sky.

The Moon: The Moon is near Venus at the very start of the month, visiting Jupiter during October 6th and 7th. On Halloween night the 3 day old Moon will be next to Antares and below Venus as the glow of the sunset fades.

Constellations: High up in the sky we still see the Summer Triangle overhead. Look to the left of the large triangle and you'll find another geometric shape in the sky, the Great Square of Pegasus. And a bit toward the east and nearly overhead is the constellation Cassiopeia in the shape of a large "W". According to Greek myths, Cassiopeia was the Queen of Ethiopia. Her husband, Cepheus the King is honored by the constellation just to the west of Cassiopeia that is in the shape of a house.

Messier/deep sky: October is a great month to study the Andromeda galaxy, M31. This is the most distant object you can ever see without binoculars or a telescope to help, although you'll need to go to a dark sky site to pick out its soft glow. It is many times further away than any star in the sky. It is so far away that the light you see as that fuzzy spot in the sky left Andromeda 2.5 million years ago! In Chester County skies we need to use binoculars or a telescope, but the view is still wonderful.

Comets: There are no bright comets in the sky during October, but Asteroid Vesta 4, the brightest of all known asteroids reaches its peak of brightness on October 29th when it comes to opposition. At magnitude 6.4 is can easily be viewed with binoculars if one knows where to look. You can find a chart to help you find Vesta in the October issue of Astronomy magazine.

Meteor showers: The Orionid meteors peak before dawn on October 21st. Although the Last Quarter Moon will brighten the sky somewhat it is possible that this year will see more meteors than usual according to some astronomers.

History of Flower & Cook Observatory Published Online

by Bruce D. Holenstein

Professor Robert Koch, formerly affiliated with Amherst and Mt. Holyoke Colleges and the Universities of Massachusetts, New Mexico and Pennsylvania, has published a new online narrative *"Observational Astronomy at the University of Pennsylvania 1751-2007."* He covers the history of the Flower and Cook Observatory and is located online at http://www.gravic.com/about/RHK-Observational-Astronomy-UP/ in Adobe PDF format. CCAS regularly used the observatory in the past before its sale and eventual dismantling.

"Do-it-Yourself" Mount for a Small Refractor

By Vic Long, CCAS member

I have always wanted a quick-look / travel / nature telescope - one that would be weigh almost nothing and still offer satisfying celestial viewing. While I prefer a large telescope on a rock steady mount for a primary viewing, sometimes I have only a few minutes and not an entire evening to setup and observe.

My first attempt at a portable scope was a "binoviewer ready" 80mm achromatic refractor. It was airline portable with good optics, but the downside of its tank like construction was that it required a substantial mount.

I recently purchased a much smaller, lighter scope - a 66mm ED refractor. I find its pinpoint stars and crisp lunar views very pleasing. It has way better color correction than the 80mm achromatic refractor and similar overall performance. But the lightest mount I had was much too heavy to go traipsing through the woods to view nature.

I looked at some fine (and expensive) alt-azimuth mounts, but eventually ran into an April 2005 Sky and Telescope article by Alan Adler that showed how a telescope might be mounted on a photo tripod. Since I had a lightweight, but sturdy Star-D tripod, I decided to modify it for use as a telescope mount.

The first step was to cut a piece of ½" plywood and drill 2 holes in it. I hammered a ¼-20 captive nut into one hole to accept the tripod's screw. A ¼-20 screw was inserted into the other hole and used to hang the 66mm ED refractor "upside down". This is not a problem since the refractor has a rotatable focuser.

Since the center of gravity of the telescope now lies at the same height as the altitude pivot for the tripod head, the telescope is in balance and will not flop forward or backward as the altitude angle is changed. The tripod's aluminum altitude handle may be rotated to apply some tension to the altitude adjustment. An interesting feature of this mount is that observations at the zenith are possible as can be seen in the following figure.

Next a red-dot finder was attached to the plywood plate. I find it very useful in locating objects even at low telescope powers. The tripod head was then disassembled and cleaned, and the azimuth bearing greased with lithium to increase the smoothness of the azimuth motion. The altitude axis was sealed and very smooth.

(See "Do-It-Yourself" on page 7)

CCAS Membership Information and Society Financials

Treasurer's Report

by Bob Popovich

August 2008 Financial Summary

Beginning Balance	$1,815
Deposits	$60
Disbursements	$239
Ending Balance	$1,636

Welcome New Members!

This month we have several new members in the Society. Take a moment to greet the Cooperman family: Jay, Sylvia and Sarah, from Chester Springs; and Denise Jay of Devon, at our next meeting or observing session. Welcome! We're glad you decided to join us under the stars! Clear Skies to you!

Membership Renewals Due

11/2008	Athens
	Buczynski
	Doubleday
	Hepler
	Hughes
	Murray
	O'Hara

Membership Renewals

You can renew your CCAS membership by writing a check payable to "Chester County Astronomical Society" and sending it to our Treasurer:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

The current dues amounts are listed in the *CCAS Information Directory*. Consult the table of contents for the directory's page number in this month's edition of the newsletter.

Through the Eyepiece: Globular Cluster M15

by Don Knabb, CCAS Observing Chair

With Pegasus flying upside down across the October sky this is a great time to view globular cluster M15. Yes, I said upside down since the "great square" represents Pegasus' body, the stars off the top of the square are his legs and the string of stars to the right (west) are his neck and head.

Just off Pegasus' nose is globular cluster M15, also known as NGC 7078. (To the right is a picture of M15 taken by CCAS member Pete LaFrance.)

It was discovered by Jean-Dominique Maraldi in 1746. He described it as 'A nebulous star, fairly bright and composed of many stars'. Charles Messier, who cataloged it on June 3, 1764 couldn't make this out and described it as 'nebula without stars,' so that it remained to William Herschel in 1783 to resolve this fine star cluster. It is estimated to be 13.2 billion years old, one of the oldest globular clusters.

M15 can be found extremely easily: Find the 2nd magnitude star Epsilon Pegasi, named Enif, and Theta Pegasi southeast (lower left) of it. Follow the line from Theta over Epsilon and extend it perhaps ½ the distance that was between those stars and you will find the fuzzy object that is M15. Use this sky map to aid your star hopping.

At its apparent visual brightness of magnitude 6.2, M15 is about at the limit of visibility for the naked eye under very good conditions. In Chester County skies we need binoculars or a telescope to see this mass of stars. It appears as a round mottled nebula in 4-inch telescopes, with at best the very brightest stars visible, but otherwise unresolved in a fine star field. In larger telescopes more and more stars become visible; the outer parts are resolved, with a more irregular, non-circular outline. The compact core, however, stays unresolved even in large amateur telescopes, but the brightest stars can be glimpsed even there.

Image credit: Pete LaFrance, Chester County Astronomical Society

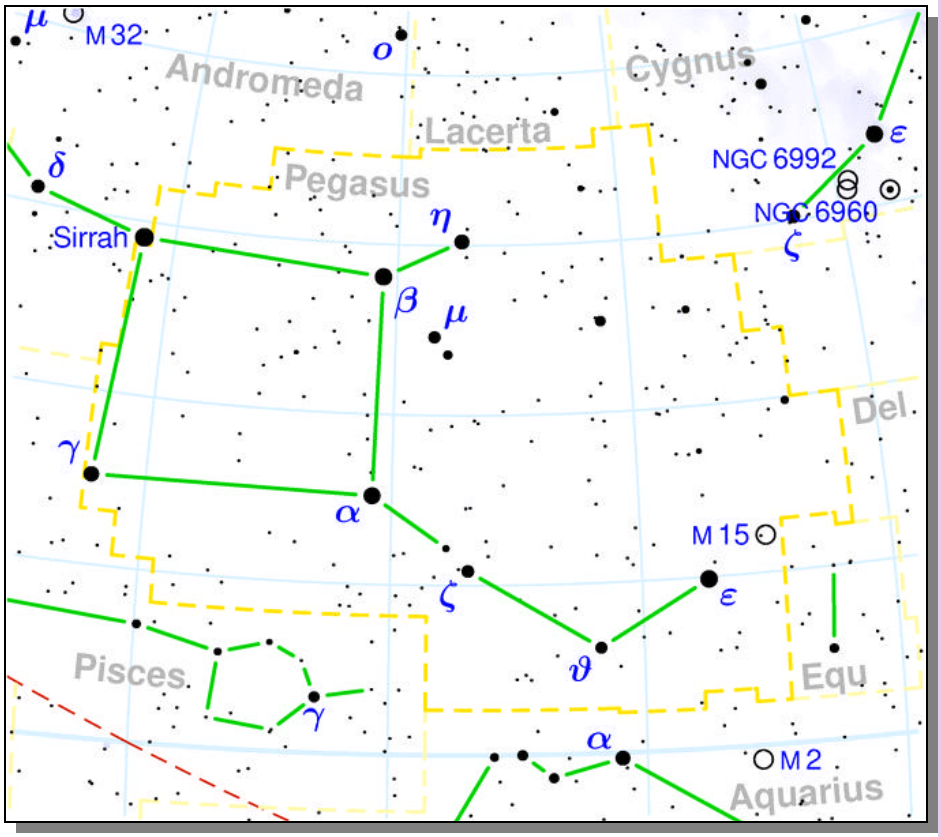


Image credit: http://en.wikipedia.org/wiki/Image:Pegasus_constellation_map.png

M15 is at a distance of about 33,600 light-years from Earth. The core of this cluster has undergone a contraction known as core collapse

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Upcoming Astronomy Expo

Skies Unlimited is hosting its annual **Mid-Atlantic Astronomy Expo** on Saturday, October 11th, 2008, from 11:00 a.m. until 5:00 p.m. The company has hosted a fall event onsite every year since it opened its doors in 2004. From a modest beginning with one vendor and about a hundred guests, these events have steadily grown over the years. You can kick off the fall observing season with a day of product demonstrations, presentations, and special sale prices. You can meet and talk with vendor representatives. Over $4500 in door prizes will also be awarded. Representatives from Meade Instruments, TeleVue Optics, Stellarvue, iOptron, Lunt Solar Systems, Explore Scientific, and Earthwin Optical will be on hand to answer your questions regarding either your existing equipment or that bit of new gear that catches your eye. For more information, visit the company website at www.skiesunlimited.net.

"Do-It-Yourself Mount for a Small Refractor"

The final product, a do-it-yourself mount for a small refractor.

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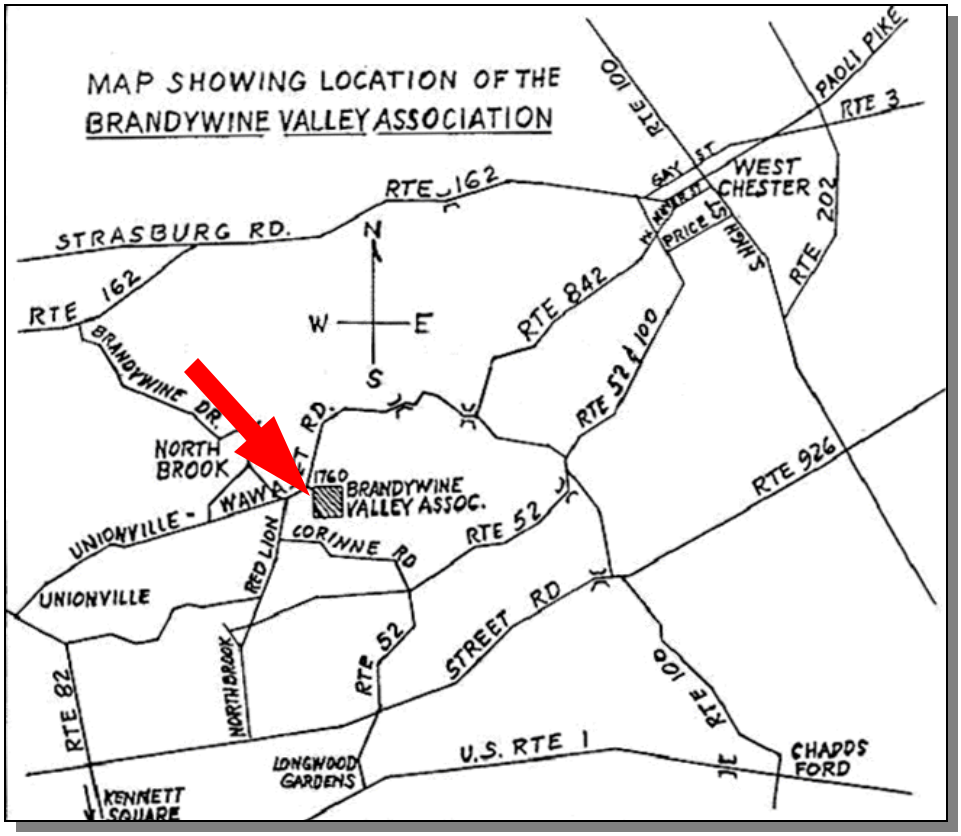
Finally, an accessory tray was added to stiffen the tripod. It was cut from a scrap of ¾" pine. A few 1¼" holes were bored for eyepieces. The tray clamps to the tripod's elevator post. Once clamped the elevator may be raised a notch and locked, with puts the tripod under compression and stiffens it considerably.

The total cost of this project was under $10 since I already had the tripod.

So how does it work? - Well enough on this short, small scope. A tap to the tube settles out in about 2-3 seconds and the whole setup can be carried outside easily in one hand. I use it seated on an adjustable stool. The mount is useable at 167X (the highest I have tried with this small scope) and pretty good at less than 100X.

CCAS Directions



Brandywine Valley Association

The monthly observing sessions (held year-round) are held at the Myrick Conservation Center of the Brandywine Valley Association.

To get to the Myrick Conservation Center from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BVA property, turn off Route 842 into the parking lot by the office: look for the signs to the office along Route 842. From that parking lot, go up the farm lane to the left; it's about 800 feet or so to the top of the hill.

If you arrive after dark, *please turn off your headlights and just use parking lights* as you come up the hill (so you don't ruin other observers' night vision).

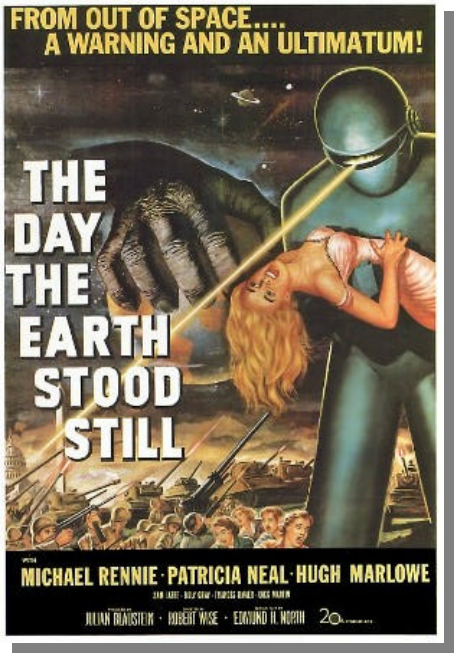
Social Commentary in 1950's Science Fiction Films

by John Hepler, CCAS Webmaster & Newsletter Editor

It's October and Halloween is around the corner. I thought I'd have a little fun this month sharing with CCAS members two of my other interests: history and 1950's science fiction films. As a child, I used to love to watch "old science fiction movies" on Friday and Saturday nights (Do any of you remember ***Creature Double Feature***, or ***Chiller Theater***?).

Revisiting these movies as an adult, I recognize now all the social and material references I never noticed as a child. While all movies are a reflection of the times they were produced (consciously or unconsciously), I believe science fiction and fantasy films are especially rich in metaphor and allusion.

Science fiction films have often been used to provide commentary on political or social issues; put words to unspoken fears; and to explore philosophical issues, such as "what makes us human." While the special effects used in 1950's science fiction films to some may look quaint today, the stories they tell still influence society in the 21st century.



Theater Poster from Original Film Release

Science fiction films produced during the post-war decade explore themes and concerns still important today: including questions of humanity in a world where humans can be genetically replicated or simulated through artificial intelligence, plus loss of reality in a world dominated by digital culture and media-dominated access to 'infotainment' and 'reality TV'.

For Americans, the decade is generally viewed as a period of conventionality, conformity, and clearly demarcated gender boundaries. During this period, the material wealth of Americans increased dramatically as the post-war economic boom created mass consumerism and suburbs. Technology made people's lives easier through the use of machines (e.g., kitchen appliances, electric typewriters, television, automobiles, etc.). At the same time, politics and society put pressure on people in a way never experienced before.

The mood of the country was shaped by fear about nuclear war and the spread of communism, and conversely, by political and social conformity. Yet in those same years many Americans were raising important questions about conventional values, their jobs, and inequality. It was a time of conformity and conflict, much like the decade of the 1990's and its pervasive atmosphere of political correctness in society.

The period following World War II was dominated by the political events of the Cold War. This period presented a seemingly peaceful situation but created great paranoia among people, such as the fear of the attack of hidden evil. The filmmakers' way of expressing this situation was to use science fiction movies to respond to the fear of an offensive by an external enemy. This enemy generally took the form of the communist threat and found its common representation in alien invasions. Fear of nuclear war, in particular, preyed on people's minds.

Michael Rennie as Klaatu with Gort the Robot in the background

The Day the Earth Stood Still (20th Century Fox, 1951) was adapted from Harry Bates's short story "Farewell to the Master". It is viewed today as a classic thanks to the menacing robot Gort and the alien with a message, Klaatu. Released just two years after the Soviet Union exploded its first atomic bomb, and the fall of China to communism, this film demonstrates people's fear and uncertainty of the future.

The Day the Earth Stood Still highlights the concept of a "space brother who knows better," the nature of the evolved, scientific alien society, and how aliens are going to save us from ourselves, usually from atomic weapons. A cry for peace, and a stern warning, it also carries a religious tone; Klaatu ap-

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pears before mankind with a message of peace (or else), is subsequently killed, and then is revived, before departing the earth, in an allegory of ascending to heaven. As a further analogy, Klaatu assumes the identity of “Mr. Carpenter” in order to observe mankind.

The film was attacked by certain groups, due to actor Sam Jaffe's perceived politics. He had been identified as being sympathetic to communism and thus attracted the ire of those running the anticommunist witchhunts in Hollywood. However, the film's explicit message of peace, in combination with its dark outlook regarding human society, struck a chord with audiences, earning it lasting acclaim.

In 1995, ***The Day the Earth Stood Still*** was selected for preservation in the United States National Film Registry as "culturally, historically or aesthetically significant”. In June 2008, the American Film Institute revealed its "Ten top Ten"; a list of the best ten films in ten "classic" American film genres. After polling over 1,500 people from the creative community, ***The Day the Earth Stood Still*** was voted the fifth best science-fiction film ever made.

Theater Poster from Original Film Release

Exeter and his human passengers confront a stowaway in the film’s climatic final scenes

Based on the novel of the same name by Raymond F. Jones, ***This Island Earth*** (Universal, 1955) was one of the first major science fiction films to be made in Technicolor. When initially released, the film was praised by most critics. Many cited the well-written script and eye-popping color as being the film’s major assets. Other critics identified the special effects as the strongest element in ***This Island Earth***, which were groundbreaking for their time and are considered by many film buffs to be comparable to modern special effects.

The film centers on Dr. Cal Meacham, a scientist who receives a mysterious instruction manual from an unknown sender. Naturally, he follows the instructions and builds a contraption called an “Interociter”. After he was successful, he’s invited by a scientist named Exeter to join a group of scientists working on a project that is supposed to end all wars. It becomes clear that there’s a bit more to the story; aliens from the planet Metaluna, need help from the human race to destroy their enemy, the Zagons.

Alien scientist Exeter has only one rival for “Most Compelling Alien of the Fifties”; naturally it’s Klaatu from ***The Day the Earth Stood Still***. The differences between the two are striking. From the moment he appears, Klaatu is an arresting presence, calm and in command of his emotions; an advanced being even at his most humane. Exeter, in contrast, also comes from a technologically advanced culture, but he is very human: emotional, powerless

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Theater Poster from Original Film Release

The "monster from the id", created by veteran Disney animator Joshua Meador.

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to resist fate, but resilient and optimistic in the face of total destruction, a symbol of ethical perseverance. Side by side they serve as a reminder that humanity can aspire to more than one goal.

The ghosts of WWII and the atomic bomb that haunted the beginning of the decade still linger in this movie. Fifties filmmakers could not go beyond the concept of the impending atomic annihilation and invariably even superior civilizations ended up destroying themselves with nuclear war. The isolationist tone of the film is a response to the events of the Korean War and America's historic anxiety over "foreign entanglements".

By 1956, the tone of country was changing, more inward and analytical. Freudian psychology was the rage. This inward focus can be seen in ***Forbidden Planet*** (MGM, 1956). In this influential classic, we get Freud and Shakespeare distilled into a unique cocktail.

Unlike other sci-fi films that are rather obvious Cold War allegories, ***Forbidden Planet*** is one of those rare films that both defines and transcends its era. ***Forbidden Planet*** is essentially William Shakespeare's *The Tempest* in an science-fiction setting. Blended with the Bard's story of a magician and his daughter marooned on an distant island, it draws on Freudian psychology, relating to the "monsters from the id", which illustrates the deep-seated fears and jealousies lurking in the human subconscious. In this setting, the magician becomes Dr. Morbius, who with his daughter Altaira, are the sole survivors on a distant planet.

While at the time of filming MGM management never considered it to be an "A-list" production, its film makers did, and it shows. ***Forbidden Planet*** is a great example of sci-fi filmmaking, if not of great overall filmmaking. It's certainly the most visually gorgeous of all 1950s science-fiction films. Film historians maintain that the film was not surpassed in terms of visual design and special effects until the release of ***2001: A Space Odyssey***, twelve years later. On a humorous note, the Munchkin's village from ***The Wizard of Oz*** was recycled and used as the garden of Dr. Morbius and his daughter (both films were MGM productions, after all).

Nominated for an Oscar for its special effects, the movie boasts an impressive list of firsts: an all-electronic musical score; the first appearance of **Robbie the Robot**, the first miniskirt, and most interestingly, humans piloting a flying saucer rather than it being manned by

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Spaceship C-57D lands on planet Altair IV, with one of its three moons in the background

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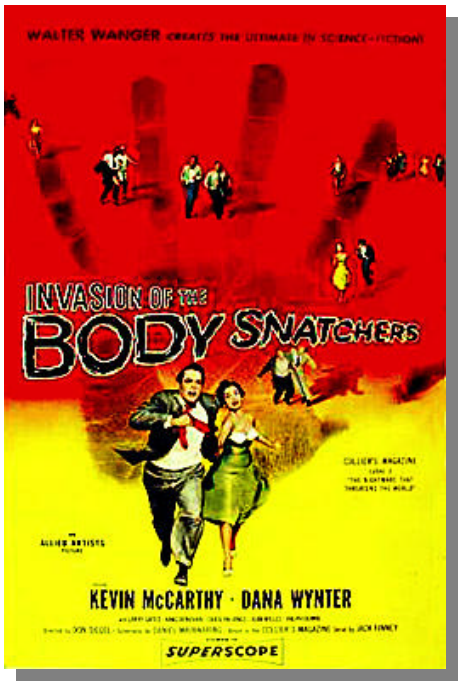
alien invaders. Hugely influential, it is listed as a favorite by ***Star Trek*** creator Gene Roddenberry and directors James Cameron, Steven Spielberg, George Lucas, Ridley Scott, John Carpenter, Joe Dante, and John Landis. It is said by many film historians that without the inspiration of ***Forbidden Planet***, there would be no ***Star Trek*** or ***Star Wars*** today. It's a pretty big claim to make, but I see a lot of ***Forbidden Planet*** in ***Star Trek*** most notably, from the personalities of the crew members to the visuals of the flying saucer approaching Altair IV; it's interesting to note that the still impressive visuals of the planet's cloud tops were realized a year before the launch of Sputnik and the start of the "space race" between America and the Soviet Union..

Like a forbidden fruit, the ***Forbidden Planet*** contained knowledge and technology that far surpassed human responsibility, providing a not-so-subtle warning to society about the instability of human nature, especially in regards to destructive technology.

1956 was a banner year for quality science fiction films. The second classic released that year, ***Invasion of the Body Snatchers***, also from MGM, is another film that has influenced society over the past half-century. Released during the height of anticommunist scares brought on by McCarthyism, the film uses "pod people" as a metaphor for communist infiltration. Your neighbors, your town, your spouse, are being silently changed into outwardly familiar but inwardly emotionless beings bent on taking over the world.



Theater Poster from Original Film Release

One of the most chilling scenes of the film — the heroine is no longer the heroine

Based on the novel, *The Body Snatchers*, by Jack Finney, the film can also be viewed as a subtle rebuke of the material culture of post-war America; including the "man in the gray flannel suit" and suburbia in general. The dual forces of fear of communism and post-war affluence (plus McCarthyism) created a smothering climate of materialism and conformity. Speaking out, acting "differently" made you suspect.

The film's plot centers on a small town in California, Santa Mira, and Miles Bennell, a doctor who's patients start telling him that loved ones don't seem to be themselves lately. They look the same but seem cold, emotionally distant, and somehow unfamiliar. In time the doctor makes a shocking discovery: aliens from outer space are taking over Santa Mira, one citizen at a time. The aliens may look the same, but they possess no human emotions and, like plants, are concerned only with propagating themselves and eventually taking over the earth. Needless to say, the doctor and his friends are terrified, but since it's hard to tell who's a person and who's a pod, they're at a loss for what to do, especially when it seems that there are increasingly more aliens than humans. The film builds tension slowly and steadily, dealing not in the shock of bug-eyed monsters carrying ray guns, but in the unnerving possibility that the enemy is among us, and impossible to tell from our allies.

Invasion of the Body Snatchers has been remade 3 times over the past 50 years, each following a law of diminishing results; last year's ***The Invasion***, starring Nicole Kidman and the latest James Bond, Daniel Craig, was a huge disap-

(Continued on page 12)

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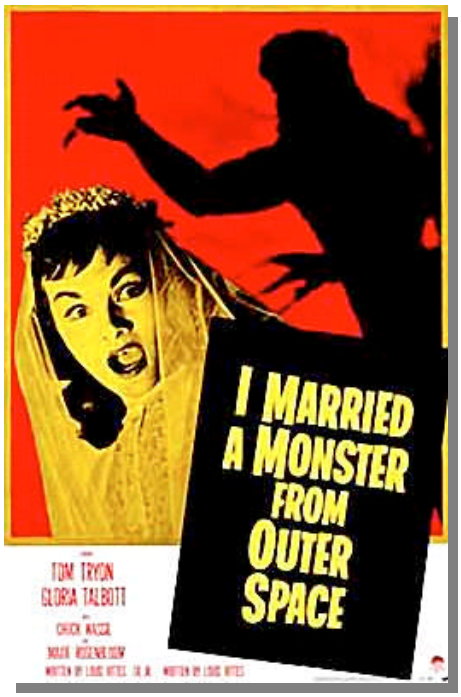
pointment. It has been noted that each decade puts its own spin on the theme of the story. The 1978 version, also titled ***Invasion of the Body Snatchers***, dealt with paranoia and the loss of identity when living in large cities (plus a sly stab at the psychobabble of the time). The 1994 version, titled simply ***Body Snatchers***, focused on the dehumanizing aspects of military organizations. ***The Invasion*** took up the battle against a different foe: power, which, according to the screenwriter, "inspires nothing more than the desire to retain it and to eliminate anything that threatens it."

As was the case with ***The Day the Earth Stood Still***, the film was selected for preservation in the United States National Film Registry by the Library of Congress as being "culturally, historically, or aesthetically significant" in 1994. In June 2008, ***Invasion of the Body Snatchers*** also made the AFI "Ten top Ten"; as the ninth best film in the science fiction genre.

I Married a Monster from Outer Space was released by Paramount in 1958. It's an odd little film that isn't nearly as bad as the title suggests. I decided to include the film because of the pre-feminist era undercurrent that runs through the movie; and I love the movie poster! We're near the end of the decade, and I think over ten years of role



Theater Poster from Original Film Release

The groom isn't quite feeling himself these days

models like June Cleaver, Margaret Anderson, and the other "perfect" television wives, women were feeling the pressure. A little of that pressure seeps out around the edges of this film.

Women in particular during the 1950's were expected conform to an idealized life and role by society. "Rosie the Riveter" was expected to "return to the kitchen" after working in industry during World War II. The "ideal" wives stayed at home and cleaned, cooked, and waited for their husbands to come home from work. Women were expected to happily conform to this role and find fulfillment in it. "Career women" were often shown in film and on television as unattractive, unmarried, and unhappy.

The filmmakers offer some interesting thematic commentary: the film can be viewed as a metaphor for how marriage can "change" a relationship.

The film starts off with the marriage of a young couple; but almost from the start Marge notices her husband Bill is acting strangely. He doesn't drink alcohol or show emotion. The wife also becomes concerned when she can't get pregnant. She notices that other men in town are acting the same way. One night she follows her husband and finds that he's "not the man she married", but instead an alien meeting up with others from his race. He eventually explains to her that all the females from his planet were killed and that the aliens, from the Andromeda Nebula (amusingly dated, even for the period), are taking over earth male bodies so that they can mate with women.

The missus is horrified and tries to warn others of the plot, but is thwarted in her attempts. There's a disturbing scene where Marge tries to flee town but is prevented by members of the local police department and other townsmen taken over by the aliens. Another effective scene shows one of the alien husbands dying after nearly drowning; not from the water, but from the first aid oxygen.

When it comes time to fight the aliens, it's easy to figure out which husband is still human. The "real men" are in the local bar drinking booze and complaining about their wives! It seems the aliens are more solicitous husbands. Contrast this with the television program ***Father Knows Best***. Perhaps real life was somewhere in the middle?

Ultimately the aliens are defeated and Marge and her real husband are reunited. No mention is made of Bill's reaction to the fact that Marge has been cheating on him for over a year. After all, it's the 1950's: real American men didn't display emotions or share their feelings.

Well, that covers almost the entire decade, and I know there are many other films I could have included, but this is supposed to be a newsletter, not a thesis. I think these five films, taken as a whole, illustrate the psychological undercurrents of American society during the 1950's.

(Continued on page 14)

Extreme Starburst

by Dr. Tony Phillips

A star is born. A star is born. A star is born.

Repeat that phrase 4000 times and you start to get an idea what life is like in distant galaxy J100054+023436.

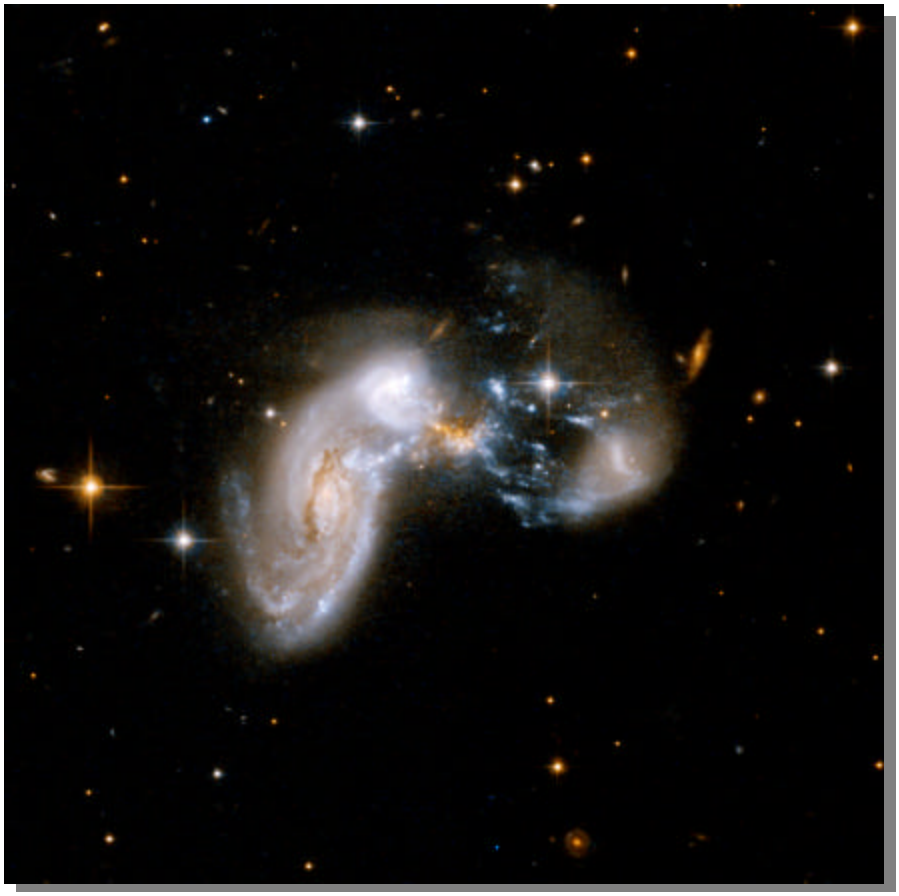
Astronomers using NASA's Spitzer Space Telescope and ground-based observatories have found that the galaxy gives birth to as many as 4000 stars a year. For comparison, in the same period of time the Milky Way produces only about 10. This makes J100054+023436 an extreme starburst galaxy.

"We call it the 'Baby Boom galaxy," says Peter Capak of NASA's Spitzer Science Center at the California Institute of Technology in Pasadena, CA. "It is undergoing a major baby boom, producing most of its stars all at once. If our human population was produced in a similar boom, then almost all people alive today would be the same age."

Capak is lead author of a paper entitled "Spectroscopic Confirmation of an Extreme Starburst at Redshift 4.547" detailing the discovery in the July 10th issue of *Astrophysical Journal Letters*.

The galaxy appears to be a merger, a "train wreck" of two or more galaxies crashing together. The crash is what produces the baby boom. Clouds of interstellar gas within the two galaxies press against one another and collapse to form stars, dozens to hundreds at a time.

This isn't the first time astronomers have witnessed a galaxy producing so many stars. "There are some other extreme starburst galaxies in the local universe," says Capak. But the Baby Boom galaxy is special because it is not local. It lies about 12.3 billion light years from Earth, which means we are seeing it as it was 12.3 billion years ago. The universe itself is no older than 14 billion years, so this galaxy is just a youngster (Capak likens it to a 6-year-old human) previously thought to be incapable of such rapid-fire star production.



The "Baby Boom" galaxy loosely resembles the galaxy shown here, called Zw II 96, in this Hubble Space Telescope image. This galaxy is only 500 million light-years away, while the Baby Boom galaxy is 12.3 billion light-years away.

The Baby Boom galaxy poses a challenge to the Hierarchical Model of galaxy evolution favored by many astronomers. According to the Hierarchical Model, galaxies grow by merging; Add two small galaxies together, and you get a bigger galaxy. In the early years of the universe, all galaxies were small, and they produced correspondingly small bursts of star formation when they merged. "Yet in J100054+023436, we see an extreme starburst. The merging galaxies must be pretty large."

Capak and colleagues are busy looking for more Baby Boomers "to see if this is a one-off case or a common occurrence." The theory of evolution of galaxies hangs in the balance.

Meanwhile… A star is born. A star is born. A star is born.

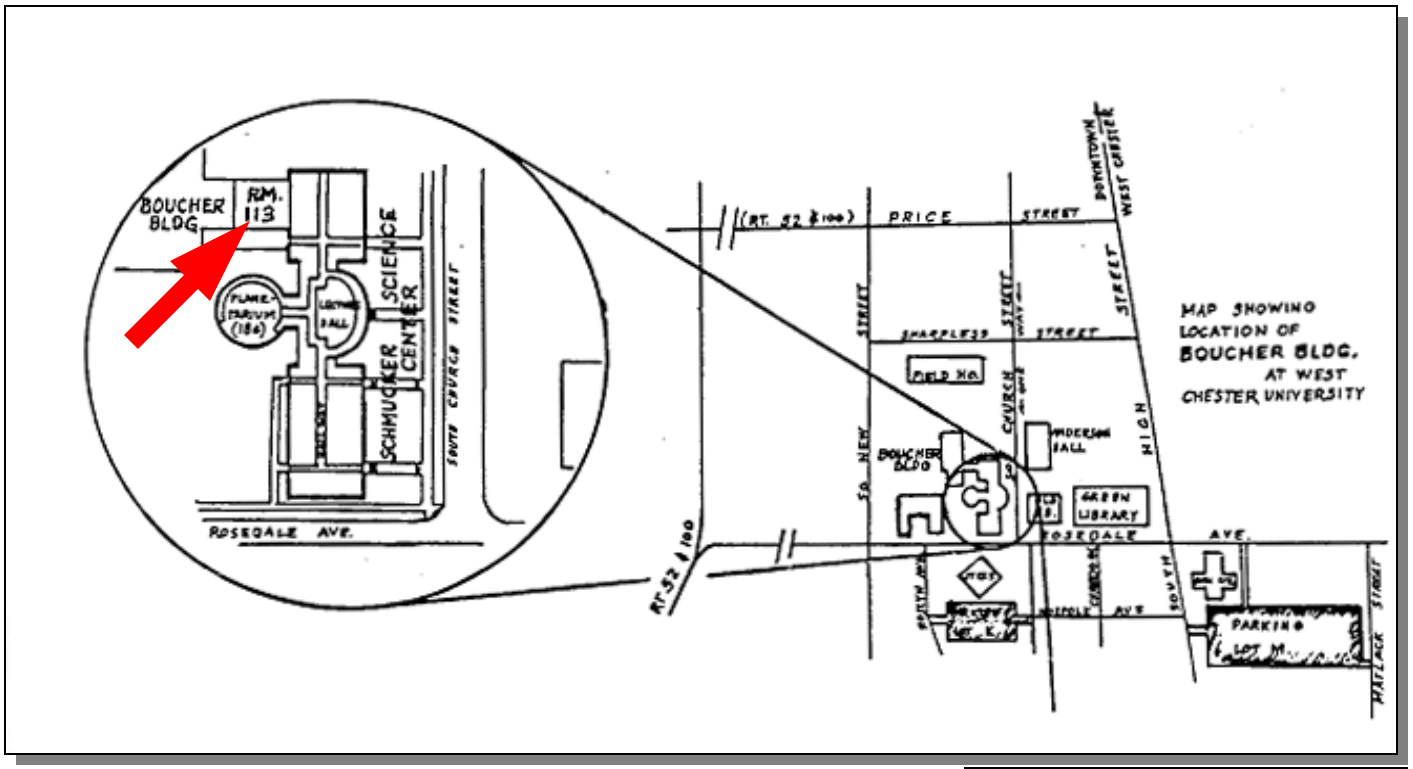
See more breathtaking Spitzer images at *www.spitzer.caltech.edu/Media/mediaimages*. Kids can play the new Spitzer "Sign Here!" game at *spaceplace.nasa.gov/en/kids/spitzer/signs*.

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

CCAS Directions

West Chester University Campus

The monthly meetings (September through May) are held in Room 113 in Boucher Hall, attached to the Schmucker Science Center. The Schmucker Science Center is located at the corner of S. Church St. & W. Rosedale Ave. Parking is generally available across Rosedale in the Sykes Student Union parking lot.



Through the Eyepiece

(Continued from page 6)

and it has an area at its center with an enormous number of stars surrounding what may be a central black hole.

M15 is perhaps the densest of all globular star clusters in our Milky Way galaxy. The Hubble Space Telescope has photographically resolved its super-dense core, as shown in the image from 1998.

So before Pegasus flies upside down into the west, grab your binoculars or telescope and enjoy this beautiful collection of stars while it is well placed in the sky for extended viewing and contemplation. Information credits:

Dickinson, Terence 2006. Nightwatch: a practical guide to viewing the universe. Buffalo, NY. Firefly Books
http://en.wikipedia.org/wiki/Messier_15
http://www.astr.ua.edu/gifimages/m15r.html
http://www.seds.org/messier/m/m015.html

Image credit: http://en.wikipedia.org/wiki/Image:M15_-_Hubble_1998.jpg

1950's Sci-fi and Society

(Continued from page 12)

I recommend revisiting these five films over several weekends. While you watch them, ask yourselves the following questions:

- *What are the main themes of each film?*
- *Is the scientific language in the film still used today?*
- *Has the movie influenced American society, e.g., are references made to the film in other books and publications?*
- *Are the themes identified in the first question still relevant today, and if so, how?*

And for those people that think science fiction can't be taken seriously, just point out to them that a lot of ***science fiction*** turns into ***science fact***!

22nd Annual Stella Della Valley Star Party
by Dwight Dulsky

Fall is upon us and October is just around the corner. The **Bucks-Mont Astronomical Association** is busily preparing for our 22nd annual **Stella Della Valley Star Party**. We're looking forward to a fun filled weekend of star gazing, guest speakers, swap meet, pizza buffet and most of all enjoying your company among fellow astronomy enthusiasts.

We have camping directly on the observing field, elevated platforms for tents, elevated and enclosed tents with bunk beds (first come first served basis). For an additional cost there are also some indoor dormitory type accommodations available. The indoor facilities are limited and we suggest you get your registrations in early to reserve your spot.

Bobby May will be serving up some great hot food and drink for hungry astronomers with his May's Munchables food concession throughout the entire weekend. We'll also keep the fireplace going in our large enclosed commons area just a short walk from the observing field. Stella Della has flush toilets and hot showers on site – just like home!

Our Door Prize list keeps growing and growing with great products for some lucky winners. See http://www.bma2.org/Sdv_sponsors.html for an up to date list of prizes. Every registration receives a door prize ticket, and more are available for purchase at SDV before the drawings at 4:30 PM on Saturday.

Information and registration forms are available on line at:http://www.bma2.org/Sdv.html. Save some money - take advantage of our early registration discount if you register before Oct. 10th.

Questions? Contact Dwight Dulsky at sdv@bma2.org or call 267-733-7253.

A Thank You and a Challenge
by Bob Popovich

I was deeply moved to have received the Edwin T. Lurcott Founder's Award. To say that I was surprised would be an understatement. I could neither then, nor now, express how I feel about this recognition. Seeing it hanging on my wall every day prompts me to recount the wonderful people and wonderful experiences of the Society that have enriched my life over the years. Thank you all!

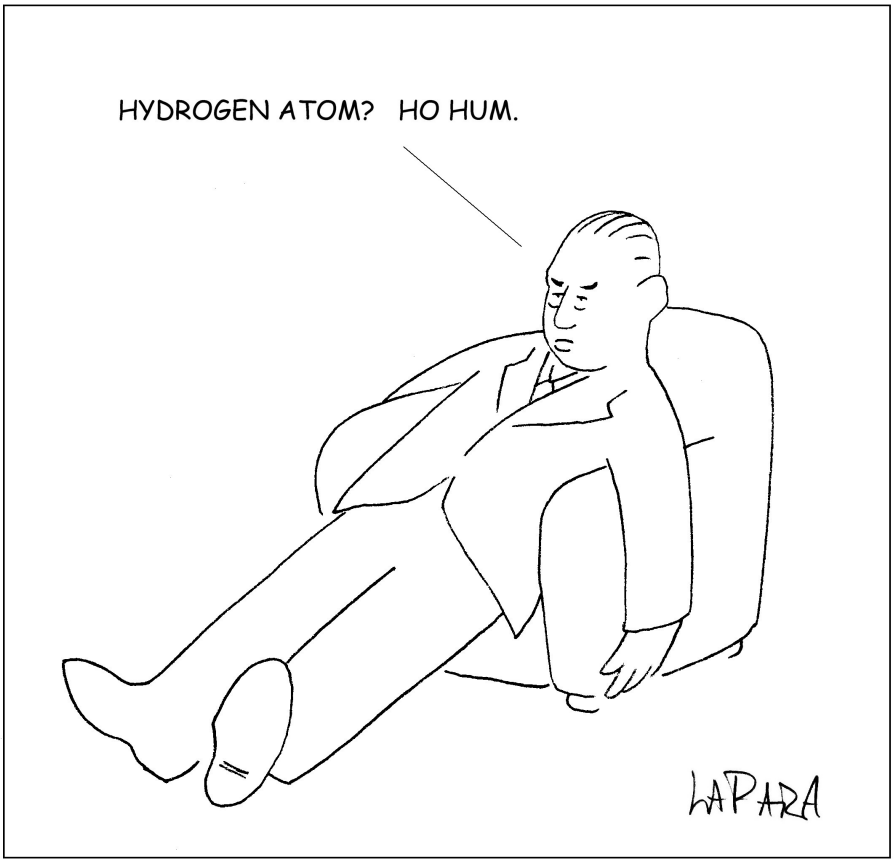
Having said this, I would like to make it clear that my contributions were not extraordinary in nature. I merely wanted to be part of the Society- to learn about astronomy from people far more knowledgeable than I and to socialize with fellow members whose company I have always enjoyed.

Understand that I have not devoted all my waking hours to the Society- I do have a day job and Betsy and I have raised 2 children in between doing major work on our home. But when the time and energy were available, nothing pleased me more, intellectually or spiritually, than to be part of the Chester County Astronomical Society.

This then, is why I'd like to call on each and every one of you to nudge up your participation just a bit. Offer an idea, a new way of doing something, a new venue. The "what" doesn't matter, the involvement does. I guarantee that you will get receive back far more than you give.

Standing at the doorstep of the International Year of Astronomy, is there a better time to begin? Just boldly go where no man has gone before...

Bob



NEILS BOHR IN HIS LOWEST ENERGY STATE.

CCAS Information Directory

Join the Fight for Dark Skies!

You can help fight light pollution, conserve energy, and save the night sky for everyone to use and enjoy. Join the nonprofit International Dark-Sky Association (IDA) today. Individual memberships start at $30.00 for one year. Send to:

International Dark-Sky Association
3225 North First Avenue
Tucson, AZ 85719

Phone: **520-293-3198**
Fax: **520-293-3192**
E-mail: **ida@darksky.org**

For more information, including links to helpful information sheets, visit the IDA web site at:

www.darksky.org

Note that our CCAS Webmaster John Hepler has a link to the IDA home page set up on our Society's home page at **www.ccas.us**.

Dark-Sky Website for PA

The Pennsylvania Outdoor Lighting Council has lots of good information on safe, efficient outdoor security lights at their web site:

www.POLCouncil.org

Find out about Lyme Disease!

Anyone who spends much time outdoors, whether you're stargazing, or gardening, or whatever, needs to know about Lyme Disease and how to prevent it. You can learn about it at:

www.LymePA.org

Take the time to learn about this health threat and how to protect yourself and your family. It is truly "time well spent"!

CCAS Observing Session Phone Number

We've set up a special phone number you can dial to find out if the monthly observing session will be held or postponed. Call **610-436-0829** after 5 PM ET to hear a recording to find out if the observing session will be held or not.

Good Outdoor Lighting Websites

One of the biggest problems we face in trying to reduce light pollution from poorly designed light fixtures is easy access to good ones. When you convince someone, a neighbor or even yourself, to replace bad fixtures, where do you go for good lighting fixtures? Check out these sites and pass this information on to others. Help reclaim the stars! And save energy at the same time!

Starry Night Lights

Light pollution from poor quality outdoor lighting wastes billions of dollars and vast quantities of valuable natural resources annually. It also robs us of our heritage of star-filled skies. Starry Night Lights is committed to fighting light pollution. The company offers the widest selection of ordinance compliant, night sky friendly and neighbor friendly outdoor lighting for your home or business. Starry Night Lights is located in Park City, Utah.

Phone: **877-604-7377**
Fax: **877-313-2889**

www.starrynightlights.com

★ ★ ★ ★ ★

Green Earth Lighting
Formerly
Outdoor Lighting Associates

Green Earth Lighting is a dedicated lifetime corporate member of the International Dark-Sky Association. GEL's products are designed to reduce or eliminate the negative effects outdoor lighting can have while still providing the light you need at night.

Green Earth Lighting LLC
620 Onion Creek Ranch Rd
Driftwood, Texas 78619

Phone: **512-944-7354**

www.greenearthlighting.com

Local Astronomy-Related Stores

Listing retail sites in this newsletter does not imply endorsement of any kind by our society. This information is provided as a service to our members and the public only.

Skies UNLIMITED

Skies Unlimited is a retailer of telescopes, binoculars, eyepieces and telescope accessories from Meade, Celestron, Televue, Orion, Stellarvue, Takahashi, Vixen, Losmandy and more.

Skies Unlimited
Suburbia Shopping Center
52 Glocker Way
Pottstown, PA 19465

Phone: **610-327-3500** or **888-947-2673**
Fax: **610-327-3553**

www.skiesunlimited.net

★ ★ ★ ★ ★

Spectrum Scientifics
Quality Science Products for All Ages

Located in Manayunk, Spectrum Scientifics educates and entertains customers with an array of telescopes, microscopes, binoculars, science toys, magnets, labware, scales, science instruments, chemistry sets, and much more.

4403 Main Street
Philadelphia, PA 19127

Phone: **215-667-8309**
Fax: **215-965-1524**

Hours:
Tuesday thru Saturday: 10AM to 6PM
Sunday and Monday: 11AM to 5PM

www.spectrum-scientifics.com

CCAS Information Directory

CCAS Lending Telescopes

Contact Kathy Buczynski to make arrangements to borrow one of the Society's lending telescopes. CCAS members can borrow a lending telescope for a month at a time; longer if no one else wants to borrow it after you. Kathy's phone number is 610-436-0821.

CCAS Lending Library

Contact our Librarian, Linda Lurcott Fragale, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings, and on the CCAS website. Linda's phone number is 610-269-1737.

Contributing to *Observations*

Contributions of articles relating to astronomy and space exploration are always welcome. If you have a computer, and an Internet connection, you can attach the file to an e-mail message and send it to: **newsletter@ccas.us**

Or mail the contribution, typed or handwritten, to:

John Hepler
500 W. Rosedale Ave.
Apt. A-3 Trinity Bldg.
West Chester, PA 19382

Get CCAS Newsletters via E-mail

You can receive the monthly newsletter (in full color!) via e-mail. All you need is a PC or Mac with an Internet e-mail connection. To get more information about how this works, send an e-mail request to John Hepler, the newsletter editor, at: **newsletter@ccas.us**.

CCAS Website

John Hepler is the Society's Webmaster.

www.ccas.us

John welcomes any additions to the site by Society members. The contributions can be of any astronomy subject or object, or can be related to space exploration. The only requirement is that it is your own work; no copying copyrighted material! Give your contributions to John at (484-266-0699) or e-mail to webmaster@ccas.us.

CCAS Purpose

The Chester County Astronomical Society was formed in September 1993, with the cooperation of West Chester University, as a non-profit organization dedicated to the education and enjoyment of astronomy for the general public. The Society holds meetings (with speakers) and observing sessions once a month. Anyone who is interested in astronomy or would like to learn about astronomy is welcome to attend meetings and become a member of the Society. The Society also provides telescopes and expertise for "star nights" for school, scout, and other civic groups.

CCAS Executive Committee

For further information on membership or society activities you may call:

President:	Kathy Buczynski 610-436-0821
Vice Pres:	Jim Anderson 610-857-4751
ALCor and Treasurer:	Bob Popovich 610-363-8242
Secretary:	Don Knabb 610-436-5702
Librarian:	Linda Lurcott Fragale 610-269-1737
Observing:	Don Knabb 610-436-5702
Education:	Kathy Buczynski 610-436-0821
Webmaster and Newsletter:	John Hepler 484-266-0699
Public Relations:	Deb Goldader 610-304-5303

CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER…….$25/year
SENIOR MEMBER……..$10/year
STUDENT MEMBER……...$ 5/year
JUNIOR MEMBER…… $5/year
FAMILY MEMBER…… .$35/year

Membership Renewals

Check the Treasurer's Report in each issue of *Observations* to see if it is time to renew. If you need to renew, you can mail your check, made out to "Chester County Astronomical Society," to:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

Phone: 610-363-8242
e-mail: B2N2@verizon.net

*Sky & Tele*scope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **$32.95,** much less than the newsstand price of $66.00, and also cheaper than individual subscriptions ($42.95)! Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

To **start** a **new** subscription, make **sure** you make out the check to the **Chester County Astronomical Society**, note that it's for *Sky & Telescope*, and mail it to Bob Popovich.

To **renew** your "club subscription" contact Sky Publishing directly. Their phone number and address are in the magazine and on their renewal reminders.

If you have **any** questions call Bob first **(610-363-8242).**

Astronomy Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **$34.00** which is much less than the individual subscription price of $42.95 (or $60.00 for two years). If you want to participate in this special Society discount offer, **contact our Treasurer Bob Popovich.**