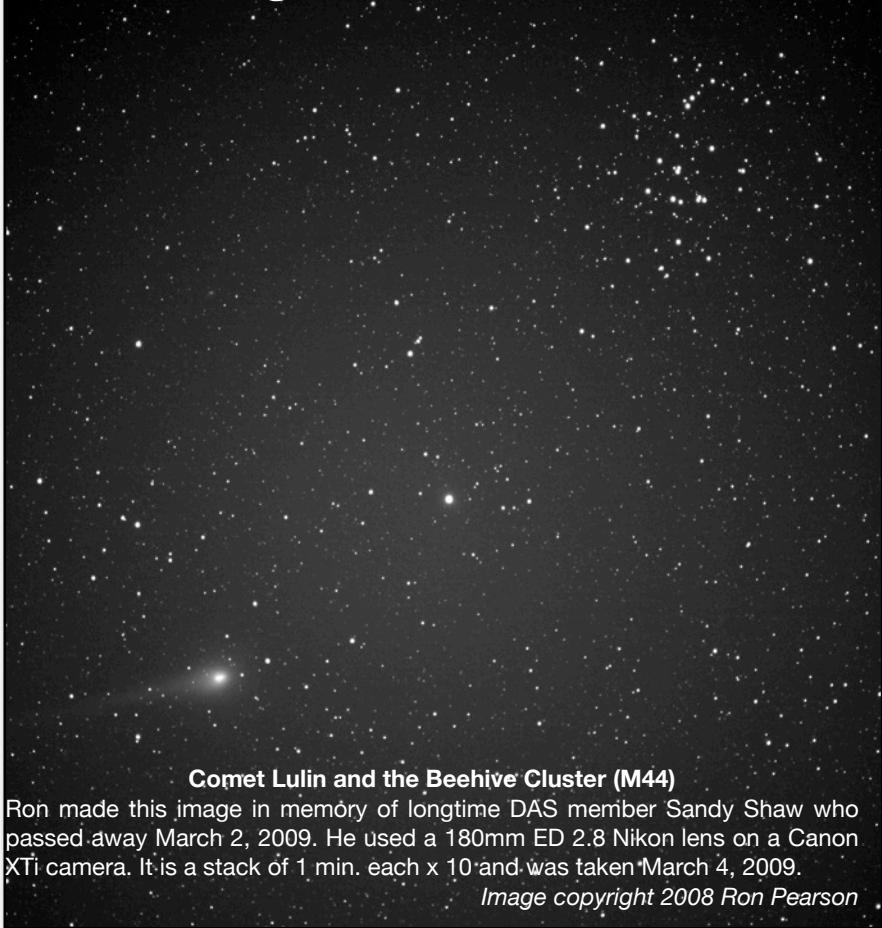


OBSERVER

So Long, Gentle Friend



Comet Lulin and the Beehive Cluster (M44)

Ron made this image in memory of longtime DAS member Sandy Shaw who passed away March 2, 2009. He used a 180mm ED 2.8 Nikon lens on a Canon XTi camera. It is a stack of 1 min. each x 10 and was taken March 4, 2009.

Image copyright 2008 Ron Pearson

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2..... First quarter moon

9..... Full moon

17..... Last quarter moon

24..... New moon

APRIL SKIES *by Dennis Cochran*

Look for Comet Lulin near the ecliptic as it goes thru the bottom half of Gemini the Twins. The first-quarter moon passes thru here on the 2nd of the month. Southeast of that is bright Procyon of Canis Minor. With your binoculars put the two stars of Canis Minor in the field and then aim along that line down to the southeast three times that distance to find M48, a widespread star cluster in the middle of nowhere. After you've taken this in, look up to see Leo farther east. Under Leo is a bright all-night interloper, Saturn, not showing much ring. See if you can see it at all. Saturn's big brother Jupiter rises after midnight, so relax.

Last month we spoke of the galaxies to be seen in Leo, especially the famous M65, M66 and NGC 3628 trio that can fit into a single low-

power field (See Page 3). These three are up from Saturn almost to the 90-degree corner of Leo's aft-end triangle. Look at them again. Now if you can imagine yourself skiing down the sloping hypotenuse of that triangle you'll schuss into the big bowl at the top of Virgo defined by the curve of stars from epsilon thru gamma and up again to beta of that constellation. These fainter stars are way north of bright Spica. And in this bowl is the Virgo Galaxy Cluster, one of the wonders of Nature.

If one connects a line across the top of the bowl, the big elliptical galaxies that dominate the cluster center are in the well-stocked neighborhood just above the middle of that line: M84 and 86 and to their left,

Continued on Page 3

PRESIDENT'S CORNER

I want to take this opportunity in my first contribution to the President's Corner to thank departing President Wayne Green for leading the Denver Astronomical Society (DAS) during the 2006-2008 period.

We in the DAS are fortunate enough to have an outstanding membership. Our membership reaches from those who have recently joined, to those who have been a part of DAS for several decades. Each member is valuable and has something unique to contribute, and every one of us should be proud to be a part of this Society. The DAS is a fiscally strong organization with cash reserves to weather even these economic times. The Van Nattan-Hansen Scholarship fund is strong, enabling us to offer the student majoring in astronomy, the physical sciences, or mathematics the opportunity to apply.

Our public outreach provides services to over 5000 visitors annually at the University of Denver's Chamberlin Observatory and a variety of star parties. We've even added a seventh Public Night team assigned to the monthly Open House. We recently added three apprentices to the Public Night staff for training toward certification on the Alvan Clark 20-inch refractor at Chamberlin Observatory. If you enjoy sharing what you know about astronomy and contact with the public, then there is a place for you on the teams. If you're interested in joining contact any Public Night staff person or Executive Board member.

As with any profession or serious hobby, astronomy has its devoted followers. For those of us in the DAS who long for the dark, clear nights free of most light pollution, DAS offers the E.G. Kline Dark Site. Over the past 10 years, the EGKDS has evolved into a place where the serious venture. As a member of the DAS, you have access to this site.

By the time you read this edition of *The Observer*, the Denver Astronomical Society will have already co-sponsored, along with the University of Denver's Astronomy Department, its first event celebrating the International Year



DAS President

Ron Mickle in the Meyer-Womble Observatory atop Mt. Evans.

Photo by Joanie Mickle

of Astronomy 2009 (IYA 2009). The event, GLOBE at Night, is an annual sky observation event and allows participants to enter their observations of various stars around the GLOBE and contrast the effects of light pollution. Our next event will be the 100 Hours of Astronomy, which is a Cornerstone Project of the IYA 2009. Between April 2nd and April 5th, a wide range of public outreach events will occur around the world with the goal being to have as many people as possible look through a telescope, just as Galileo did over 400 years ago. For the DAS, the Public Night of April 2nd and the Open House on April 4th will serve as our events toward the 100 Hours of Astronomy. There will be a press release addressing the latter.

Dale Carnegie once said that people rarely succeed unless they have fun at what they are doing. If you've never visited one of the public night functions on Tuesday and Thursday nights, or an Open House event on Saturday, you should. Visit our website at www.DenverAstro.org for more details. Your fellow members genuinely enjoy what they do, and celebrate their dedication to the science of astronomy by sharing it with others.

I look forward to seeing each of you at the upcoming events. — Ronald E. Mickle



Society Directory

President:

Ron Mickle (303) 229-6868

Vice President:

Keith Pool (303) 718-7273

Secretary:

Ron Pearson (303) 670-1299

Treasurer:

Brad Gilman (720) 488-1028

Executive Board Members

Jack Eastman	David Shouldice
Joe Gafford	Tim Pimentel
Ginny Kramer	Steve Solon
Frank Mancini	Dan Wray
Wayne Green, Past President	
President Emeritus, Larry Brooks	

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Van Nattan-Hansen Scholarship Fund:

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EGK Dark Site Committee:

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IDA Representative:

Dr. Robert Stencil
Email: coloida@hotmail.com

Public Outreach Committee:

Ron Mickle (Chair)
Bryan Wilburn (External Outreach Coordinator)
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Chamberlin Observatory c/o Wayne Green
2930 East Warren Avenue
Denver, Colorado 80210

The Executive Board conducts the business of the DAS at 7:30 p.m. at Chamberlin Observatory. Please see the Schedule of Events for meeting dates. All members are welcome.

www.denverastro.org

DR. PHILIP GOOD TO SPEAK AT THE APRIL GENERAL MEETING

by Keith Pool



Dr. Philip Good will present a talk on the Mars Reconnaissance Orbiter's photograph of the Mars Phoenix Lander as it was soft landing on Mars last year. This is the only instance of one spacecraft photographing another from orbit around a distant planet.

Dr. Good holds a Bachelor's Degree in Engineering Mechanics from Lehigh University; a Master's Degree in Aeronautical Engineering from Stanford University and a PhD from the University of Colorado at Boulder. He has worked 24 years in the aerospace industry including the last 8 as a consultant and President of Infiniti Engineering. He has worked many space exploration programs including the 2001 Mars Odyssey, Stardust, Genesis, Mars Phoenix Lander and the Mars Reconnaissance Orbiter (MRO).

He is currently working mission operations for the MRO and helping to design and build the Juno spacecraft which will be launched to Jupiter in 2011.

His hobbies include astrophotography, biking, running and Irish whiskey.

The April general meeting will be held on the 10th at 7:30 P.M. in room 105, Olin Hall on the DU campus. As always, coffee and refreshments will follow at nearby Chamberlin Observatory following the meeting.

APRIL SKIES (CONTINUED FROM PAGE 1)

M87. More M-objects abound in the region: 98 & 99 above-right, 88, 91 & 100 arcing above, 89, 90, 58, 59 & 60 to the left, M49 a ways below. Deep in the bowl where the galaxies thin out is 3C273, the original quasar discovered as a visible object with an anomalous spectrum by Martin Schmidt at the 200-inch Palomar telescope in the 1960s. It's not an easy object. You'd need a detailed chart and a large scope. If you fall out of the bowl down towards four-sided Corvus the Crow, look for Spica to the left. Between Spica and Corvus but closer to the latter and a bit above them is M104, the Sombrero Galaxy.

Now if you were a flea jumping up and left off of Leo's triangle you'd run into the naked-eye star cluster Melotte 111 nestled in the upper right corner of Coma Berenices' large 90-degree angle. First-timers looking for the Virgo Cluster often think that this must be it, but they're too far north. Now imagine a line connecting the star cluster down and to the left to the other end of the angle, the alpha star of CB. Two-thirds of the way down that diagonal is M64 the Black-Eye Galaxy, named after the dark dust lane cutting under the nucleus like a smear of some exotic cosmetic.

Photo Ops: the morning of Wednesday the 22nd the Moon occults Venus, who is now the Morning Star, just after sunrise. The Sun, of course, will be at the other end of the sky, so this might work for a photo op or a timeable event if you want to be more scientific. A bit earlier the same morning one could look at the Lyrid meteors whose radiant is in the east. The best place to see meteors, however, is not near the radiant but overhead in the open sky. Then at sundown on Sunday the 26th the very thin crescent New Moon cradles the earthshine-lit Old Moon in its arms while right below are the Seven Sisters attempting to climb up into the cradle. Meanwhile Mercury passes farther below, no doubt ogling said sisters. Off to the left is the downward-diving vee of Taurus and farther left is Orion, with M42, perhaps presenting your last chance to see it this year.



The Leo Triplet

This image was made with an SBIG ST2000XM ccd camera on a Stellarvue SV80L 80mm f/7.5 APO refractor at f/6 with a Televue 0.8 reducer. It was taken on the evenings of April 17-19, 2006 in Denver, CO, by this month's meeting speaker, Dr. Philip Good.

Photo copyright Philip Good

The Open House on Saturday the 4th celebrates the International Year of Astronomy.

A GENTLE SOUL BIDS FAREWELL

by Steve Solon

In this life, there are those who hold the balance, keeping things in check for the betterment of not only their own lives, but also the lives of those in their sphere. We, in that sphere, are not always aware of the gifts given by these peaceful beings, but the mark is indelible, the rewards, precious.

Sandy Shaw, giftor, friend, companion, and observer, died peacefully and began her journey to the stars on March 2nd here in Denver. She had been ill for several months with multiple myeloma, a cancer of the blood.

Many in the DAS had the distinct pleasure and honor of traversing the night sky with Sandy, a Master Observer with a vast retinue of observing awards from the Astronomical League—Messier, Caldwell, Lunar and Binocular, to name a few. Her passion for hunting down and logging observations of the heaven's treasures is akin to stories we've heard of Caroline Herschel, Fritz Zwicky, Halton Arp and Henrietta Leavitt. Indeed, scriptors of current women astronomers would do well to include Sandy in their pages, for she was truly a driven observer, not for the attain-

ment of the award, but the joy of the observation.

There are many stories that have come to light since Sandy's death, but one of the most poignant comes from Rocky Mountain Star Stare a few years back. A particular night had not been productive for Sandy; clouds and fatigue were dogging her efforts to observe; indeed, many of her fellow observers had turned in for the night. Around 3 A.M., our David Shouldice awakened to tour the observing field, curious as to whom might be up—there was no one—but Sandy. All alone, huddled at her scope, she was anxious to get just a few more



Always Contributing

Sandy, Laurie Scholl (right) and Wayne Green plot nefarious deeds at a DAS Open House, where Sandy and Laurie greeted guests with information on the Society.

Photo by Steve Solon

Herschels. Many would be hard-pressed to find more persistent determination or passionate dedication.

Sandy was many things in this life—activist, world traveler, CPA, haiku poetess, sculptor—all things she enjoyed immensely. She was also a fastidious keeper

CONGRATULATIONS!

by Ron Mickle

Since 2006, five members from the Denver Astronomical Society join the ranks of a select few by becoming certified telescope operators of the Clark 20 inch at the University of Denver's Chamberlin Observatory. These DAS members, who volunteer in outreach education programs, are assigned to the Public Night staff. The certified scope operators are:

Stuart Hutchins
Bryan Wilburn
Todd Thomas
Hugh Davidson
John Moyles

Each completed the written exam, a minimum of six apprenticeship sessions under the guidance of a current certified operator and a final preparation review followed by the final "check ride" from Dr Robert Stencel, Director of Observatories.

The Denver Astronomical Society's certified telescope operators are volunteers who staff the public nights at Chamberlin Observatory every Tuesday and Thursday, every week of the year,

taking off only on Thanksgiving and Christmas. In addition, they staff the monthly Open House and special viewing events. Our public night volunteers reach over 6,000 guests annually, carrying on since 1949, a 60-year-old tradition of which we are very proud. Thanks to all the volunteers for their service and for making 2008 accident free at Chamberlin Observatory.

If you are interested in joining one of "The Teams", please contact Ron Mickle at slingwing@comcast.net. Apprentices receive training by selecting one or more of the seven public night teams.

Dr Robert "Bob" Stencel
Director of Observatories
Professor, Physics and Astronomy Department

Ron Mickle
President
Denver Astronomical Society

of records. When she served as Treasurer, the DAS financial books were a credit to her tenacity for organization. Members of the Executive Board will always recall her calm demeanor and steadfast delivery of the oft-times depressing money news. Her nature certainly rubbed off on us all and her gentleness was a much-needed tonic to argumentative souls at Board meetings.

As was indicative of her character, she wished no one to know of her illness, preferring, instead, to concentrate on the living of the remainder of her life.

There are many thoughts as to where, if any place, spirits journey after finishing their business here. We have our different hopes, but invariably look up to the sky when asked the question.

To that end, Sandy –

Stars, far to reach
Light points at hand's end, enticing
Call me to my home.

Rest well, friend.

SANDY'S KNOWN ASTRONOMICAL LEAGUE AWARDS

AWARD	AWARD NO.	DATE
Binocular Messier Club	209	1995-09-11
Deep Sky Binocular Club	55	1996-06-07
Southern Sky Binocular Club	6	1996-06-24
Messier Club	1765	2000-07-02
Messier Club honorary	1765	2000-09-20
Lunar Club	230	2000-08-19
Universe Sampler Club	21(T)	2001-03-15
Universe Sampler Club	22(N)	2001-03-15
Herschel 400 Club	247	2002-07-01
Asteroid Club regular	11	2002-08-12
Urban Observing Club	37	2002-08-19
Caldwell Club silver	31	2003-04-04
Double Star Club	204	2003-04-05
Master Observer Club	20	2003-06-16
Planetary Observers Club	36	2005-07-18
Constellation Hunter		
Northern Skies Club	41	2006-11-21

Chasing Totality

Pauline Ide, Laurie Scholl and Sandy staked out observing spots at the April 2006 total solar eclipse in Egypt.

*Image courtesy
2006 Pauline Ide*



2009 SPRING BANQUET: CHANGING OF THE GUARD, AWESOME ROGER CLARK PRESENTATION, GOOD COMPANY, GREAT FOOD

by Darrell Dodge

About 75 DAS members and friends filled the sanctuary of the Columbine Unitarian Universalist Church for this year's Spring Banquet. One of the highlights was new president Ron Mickle's presentation to Wayne Green of a plaque acknowledging Wayne's three productive years as society president—a period of growth and positive change. The banquet marked the official installation of new officers and e-board members.

Roger Clark did not disappoint with his wonderful, richly illustrated presentation on the latest status of the Cassini VIMS team's attempts to characterize the composition of the rings and moons of Saturn. The take-away message was probably: beware of researchers bearing papers about water ice versus cyanide on Saturn's moons.

Roger dramatized the extended debates offered by the VIMS data with some great close-ups of grizzly bear fights.

There was lots of great Italian food, red wine, Tiramisu and cheesecake. In all, a wonderful evening and a good start to the new DAS year and the International Year of Astronomy.

We'll have more photos and news in the next issue of the Observer.



Ron Mickle presents a plaque of appreciation to Wayne Green at the banquet.

Image courtesy Joe Gafford

ABOUT THE DAS

Membership in the Denver Astronomical Society is open to anyone wishing to join. The DAS provides trained volunteers who host educational and public outreach events at the **University of Denver's Historic Chamberlin Observatory**, which the DAS helped place on the National Register of Historic Places. First light at Chamberlin in 1894 was a public night of viewing, a tradition the DAS

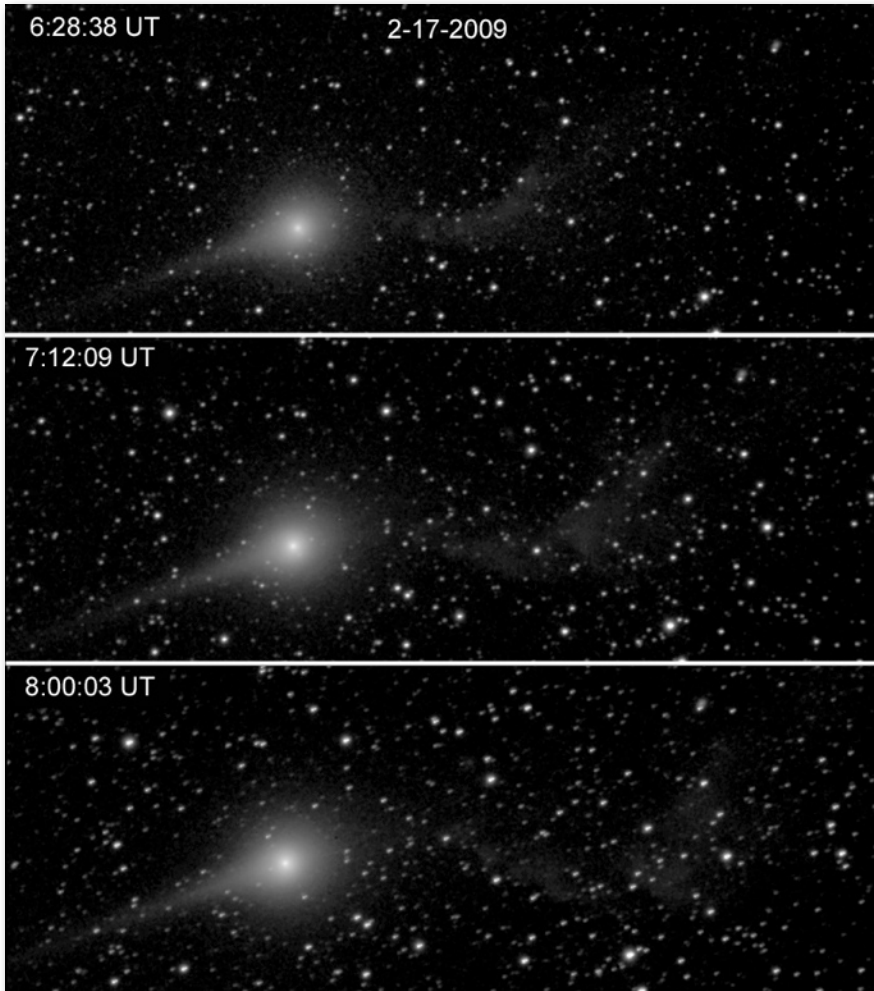


has helped maintain since its founding in 1952.

The DAS is a long-time member in good standing of the **Astronomical League** and the **International Dark Sky Association**. The DAS' mission is to provide its members a forum for increasing and sharing their knowledge of astronomy, to promote astronomical education to the public, and to preserve Historic Chamberlin Observatory and its telescope in cooperation with the University of Denver.

The DAS is 501 (c)(3) tax-exempt corporation and has established three tax-deductible funds: the Van Nattan-Hansen Scholarship Fund, the Public Outreach Fund and the Edmund G. Kline Dark Site Fund. To contribute, please see the bottom of the membership form for details (found on the DAS website: thedas.org).

More information about the DAS, its activities and the special tax-deductible funds is available on the DAS website at www.denverastro.org.



Comet Lulin

Comet C/2007 N3 Lulin's tail disconnection was taken the morning of February 7, 2009. This event took 92 minutes to occur. The disconnection may have been caused by a solar wind gust. The animated version was featured on the front page of *Spaceweather.com* and the Astronomical League web site's front pages.

This was taken with a Mamiya 110 mm lens at f/4.5 on an SBIG ST-2000XM ccd camera. It is a collage of three 5-minute luminance exposures. Great job, Joe and thanks!

Image copyright Joe Gafford

The Horsehead (Barnard 33) and Flame Nebulae (NGC 2024) region in Orion

Two of the most photogenic deep-space objects, the Horsehead and Flame nebulae are often overlooked visually due to the blinding glare of Alnitak (Zeta Orionis.) Patience at the eyepiece, coupled with proper filtering, can reveal the subtle wisps of nebulosity that give these two their obvious monikers. This deep detailed image, through an 80mm refractor, is the result of two hours each through red, green and blue, plus four hours through h-alpha. Ten 30-second h-alpha images were also layered in to reduce Zeta's dominating light.

Image copyright Steve Solon



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DAS SCHEDULE

APRIL

- 4 Open House at Chamberlin Observ-
atory (Begins at 5:00 P.M.)
- 10 General Meeting at D.U.'s Olin Hall
(Begins at 7:30 P.M.)
- 12 Easter
- 17 E-Board meeting at Chamberlin Ob-
servatory (Begins at 7:30 P.M.)
- 19-26 Texas Star Party
- 24-25 EGK Dark Sky weekend

MAY

- 2 Open House at Chamberlin Observa-
tory (Begins at 8:30 P.M.)
- 8 General Meeting at D.U.'s Olin Hall
(Begins at 7:30 P.M.)
- 15 E-Board meeting at Chamberlin Ob-
servatory (Begins at 7:30 P.M.)
- 22-24 EGK Dark Sky weekend
- 22-24 RTMC
- 30 Open House at Chamberlin Obser-
vatory (Begins at 8:30 P.M.)

Public nights are held at Chamberlin Observatory every Tuesday and Thursday evenings

beginning at the following times:

March 9 - April 14 at 8:00 p.m.

April 15 - September 1 at 8:30 p.m.

September 2 - March 8 at 7:00 p.m.

Costs to non-members are: \$3.00 adults, \$2.00 children.

Please make reservations via our website (www.denverastro.org) or call (303) 871-5172.



The Denver Astronomical Society
C/O Chamberlin Observatory
2930 E. Warren Ave.
Denver, Colorado 80210

The DAS Now Has a FACEBOOK Site.

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anecdotes, etc.