

The Denver

# OBSERVER

Newsletter of the Denver Astronomical Society  
*One Mile Nearer the Stars*

Image copyright 2007 Steve Solon

## Hat Trick!

Okay, so technically it's not— there's only one (in this universe at least) of the magnificent Sombrero Galaxy (M104) in Virgo. Steve scored this shot with an SBIG ST8e camera through his 12.5-inch reflector on a Paramount mount. Specifics are : H-alpha - 2 hours and luminance-1 hour.

# GEAR UP FOR SUMMER!

## JUNE SKIES

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Venus continues to dominate the western evening sky like a plane that never lands. She lines up left of Pollux and Castor, the heads of the Gemini twins, at the beginning of the month; look for Mercury just to the right of their feet. A marvelous lineup of planets occurs June 16 as Saturn joins them to the upper left. In the next two days, the moon will swell its crescent and drift east on the ecliptic towards Saturn. Finally, at the end of the

month, Saturn creeps up on Venus for a furtive kiss. All of this planetary activity happens at dusk, so don't wait too long in the evening to start observing.

Jupiter lies east of Antares, the red heart of Scorpius, at mid-month, low in the southern sky. The globular cluster M4 can be seen just west of the big red star, while two other globular clusters, M19 and M62, float a bit southeast of the the gaseous nebulae and open star clusters hovering above the teapot shape of Sagittarius—more about those next month. Mars is a dawn object, while the distant gas giants Uranus and Neptune rise

7 .....	Last quarter moon
14 .....	New moon
21 .....	First quarter moon
.....	Summer Solstice (12:05:57 P.M.)
29 .....	Full moon

*Continued on page 7*



Image copyright Joe Gafford

### The Pleiades (M45)

With summer on the way some of our celestial winter friends will be bidding good-bye until next year. A most spectacular and notable object—stars within The Pleiades (M45) in Taurus are the main characters in numerous tales and myths from around the world. In Greek mythology, they are known as the “Seven Sisters,” and are the daughters of Atlas. According to the legend, after being pursued by Orion, they were given refuge in the sky. Made up of more than 100 stars, The Pleiades make up an open cluster which, when viewed through large binoculars or a wide-field telescope, reveal a delightful field of stars and whispers of faint nebulosity.

DAS Schedule

JUNE	JULY
<p>1 General Membership Meeting at D.U.'s Olin Hall (<i>Begins at 7:30 P.M.</i>)</p> <p>8 E-Board meeting at Chamberlin Observatory (<i>Begins at 7:30 P.M.</i>)</p> <p>14-17 Rocky Mountain Star Stare</p> <p>17 Father's Day</p> <p>23 Open House at Chamberlin Observatory (<i>Begins at 7:30 P.M.</i>)</p>	<p>6 General Membership Meeting at D.U.'s Olin Hall (<i>Begins at 7:30 P.M.</i>)</p> <p>27 E-Board meeting at Chamberlin Observatory (<i>Begins at 7:30 P.M.</i>)</p> <p>28 DAS Annual Picnic/Potluck (<i>Begins at 3:00 P.M.</i>) and Open House at Chamberlin Observatory (<i>Begins at 7:30 P.M.</i>)</p>

*Public nights are held 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. at Chamberlin Observatory  
 Costs to non-members are: \$3.00 adults, \$2.00 children.  
 Please call (303) 871-5172 for reservations.

## Society Directory

**President:**  
Wayne Green (303) 530-1023  
*Email: wgreen@infosavvy.org*

**Vice President:**  
Keith Pool (303) 718-7273  
*Email: stargeezer9@msn.com*

**Secretary:**  
Darrell Dodge (303) 932-1309  
*Email: dmdodge@aol.com*

**Treasurer:**  
Brad Gilman (720) 488-1028  
*Email: treasurer@thedas.org*

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### Executive Board Members

Jack Eastman	Ron Pearson
Joe Gafford	David Shouldice
Frank Mancini	Bryan Wilburn
Ron Mickle	Dan Wray

Steve Solon, Past President  
 President Emeritus, Larry Brooks

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### Committees

**Van Nattan Scholarship Fund**  
P.O. Box 150743  
Lakewood, Colorado 80215-0743

**EGK Dark Site Committee:**  
Wayne Kaaz (Chair) (303) 840-1549  
*Email: kaazmos@msn.com*

**IDA Representative:**  
Dr. Robert Stencel

**Public Outreach Committee:**  
Ron Mickle (Chair)  
Bryan Wilburn (External Outreach Coordinator)  
*Email: bwilburn@4dv.net* (303) 542-5137

**Student Astronomy Committee:**  
Naomi Pequette (Chair)

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### Volunteers or Appointed Representatives

**ALCor:**  
Jerry Sherlin (303) 680-6894  
*Email: sherlinj@msn.com*

**IDA Representative: (International Dark Sky Association):**  
Dr. Robert Stencel

**DAS Librarian**  
Jerry Sherlin (303) 680-6894  
*Email: sherlinj@msn.com*

**Newsletter:**  
Observer editor, Patti Kurtz (720) 217-5707  
*Email: p\_kurtz@comcast.net*  
**The Observer is available in color PDF format from the DAS website.**

**Website:**  
Darrell Dodge  
**DAS Information Line:**  
(303) 871-5172

**DAS Correspondence:**  
Denver Astronomical Society  
Chamberlin Observatory C/O Wayne Green  
2930 East Warren Avenue  
Denver, Colorado 80210

*The Executive Board conducts the business of the DAS at 8 P.M. at Chamberlin Observatory. Please see the Schedule of Events for meeting dates. All members are welcome.*

# t h e d a s . o r g

# General Meeting Guest Lecturers for the Summer

by Keith Pool

General meetings this summer promise to hold a little something for everyone in the form of our guest lecturer line-up. On June 1st, Dr Mark Bottorff is returning by popular demand, and will give a talk on "A Novice Lunatic's View of the Moon." This promises to be a fun, light-hearted lecture that should appeal to everyone. Mark was last here in January 2007 to speak at the general meeting, but as many of you may remember that was one of those wintry nights in which only the bravest of souls ventured forth.

Dr Mark is home-grown, a graduate of Littleton High School and a former member of the DAS associates group (when we had such a thing). He was also active with public night outreach, and an operator of the 20-inch Clark Saegmuller refractor at Chamberlin Observatory in the 1970's when he was a teenager. Mark Currently resides in Georgetown, TX where he is an Assistant Professor of Physics at Southwestern University. He is also very active as both a professional and amateur astronomer, teaching astronomy and working both with the university's 16-inch cassegrain and his own 6-inch refractor.

After graduating high school, Mark went on to earn a MS in applied Mathematics from the University of Colorado at Denver in 1986. Mark then moved to Carlisle, PA where he taught at Dickinson College for 3 years, before moving on to the University of Kentucky where he earned his Ph.D. in 1999.

Mark's current area of research is Seyfert Galaxies and quasars and associated

work on plasmas and photoionized environments, but he has published papers over a broad area of topics, including planetary atmospheres.

Mark has continued the public outreach and education work he started with the DAS at Southwestern, where he shares his love of the night sky with both his students and the community of Georgetown through monthly public viewing nights at the Fountainwood Observatory.

Our July 6th Guest speaker is Max Moe, A Student at the University of Colorado, studying under Dr. Nahum

Arav. Max will speak on the "Origins, Evolutions and Morphologies of Planetary Nebulae." Max is currently pursuing a career in astrophysics, but is an avid amateur as well. He was the vice president of NCAS in Ft. Collins a few years back, and observes regularly with his own 12-inch and also the Sommers-Bausch observatory's 24-inch telescopes. He's also currently observing remotely with the 3.5-meter telescope located at Apache Point, in New Mexico.

Currently scheduled to speak at our August 3rd meeting is Dr Dick McCray,

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**The Southern Skies Star Party**

**July 14-21, 2007**

**A "Sky Watcher" offering from Phoenix Travel**

**[www.phoenix-travel.net](http://www.phoenix-travel.net)**

The advertisement features a background of star trails in a night sky. In the foreground, a Viking longship is shown. An inset photograph shows three people wearing hats and blue shirts, looking towards the sky.



# Ron Mickle Receives Honor at Local High School

*On Thursday evening, May 3, 2007, Ron Mickle was recognized as an outstanding teacher/mentor during a National Honor Society Banquet at ThunderRidge High School in Highlands Ranch, Colorado. Eighteen teacher/mentors were honored for their individual contributions to graduating senior members of the National Honor Society. Courtney Kais presented Ron to all attendees and read the enclosed letter she created to thank him for the time and energy he has provided throughout her four-year association with the Denver Astronomical Society. Each honoree also received a plaque and a yellow rose. A copy of Courtney's letter to Ron follows.*

May 3, 2007

Dear Ron Mickle,

Imagine. It's eight P.M. on a clear Thursday evening at the Chamberlain Observatory. You glance at your wristwatch then peer outside the window. You turn to a telescope operator and say, "What are we looking at tonight?" Together you both step outside and peer up into the dark sky. Then you return to the front of the classroom, open your briefcase, and shuffle through many notes. You fire up the computer and sift through numerous slide images of celestial objects, nebulas, and galaxies. Students of every age who are curious about the night sky and their parents and teachers begin to fill the desks. You survey the crowd and smile. "Let's get started, shall we?" as you begin one of countless numbers of lectures on astronomy you have given over the years. As a volunteer teacher for the Denver

Astronomical Society, your mission is to teach anyone and everyone everything they ever wanted to know about the stars, galaxies, distant planets, and universes. And that is where our association began.

I have learned so much from you in my four years at the Chamberlain Observatory. As the youngest member to ever participate as a volunteer, you have mentored me in every aspect of astronomy. You taught me how to locate and identify objects through the telescope. I now know the biggest, smallest, brightest, darkest, coldest, and hottest places in the universe and I have seen distant galaxies and stars. But most of all, you have shown me, by your example, to have confidence in myself.

These past four years, you have always been there for me. You always made sure I was safe. You provided me with moral support, encouraging me to continue learning and to never give up or quit.

The most important thing I have learned from you cannot be learned from a textbook or in a lecture hall. You have taught me the discipline needed to continue my focus in the math and science field. If you had not given me the opportunity to work as a volunteer

at the Chamberlain Observatory, I would not have had the confidence in my self to apply for a summer job at Lockheed Martin or the courage to apply to Colorado School of Mines. I can now continue to pursue my passions in math and science because I know that no matter what I decide to do, I will succeed no matter what anyone says or how difficult the tasks presented become.

For all you have done for me, I thank you. For all the time you took out of your busy schedule to be there for me, I thank you. I hope that you will keep this letter as a reminder to you of all you have been to me. Although I now get ready to go to college, please remember that I will keep you in my heart forever.

Sincerely,

*Courtney Kais*



Courtney Kais (left) presented DAS member Ron Mickle with a plaque and yellow rose—he was recognized as an outstanding teacher/mentor at ThunderRidge High School.

updates

# DAS in the News and on the Web

by Darrell Dodge, DAS Secretary

A *Rocky Mountain News* (RMN) story on Monday, May 14th quoted DAS president Wayne Green and provided a link to the DAS Web site.

The RMN article by Roger Fillion ("Far Reaches of Cyberspace") was about using the Web to learn about astronomy and access images, technical and equipment information, and astronomy news. Wayne gave the reasonable advice to novices to wait until they have defined their interests in astronomy before buying a telescope. He also recommended joining an astronomy club to learn about astronomy and equipment from members and club activities.

The link to the DAS Web site coincided with the roll-out of a new home page format. Representing an evolution from the previous left-aligned, 6-inch wide page, the new center-aligned, 8-inch page provides more room for content and graphics, while still being fully viewable on a laptop or even a PDA (and the author's Blackberry.) It can still be printed without clipping on IE6 browsers.

A new page for beginning astronomers was quickly developed to take advantage of the increased traffic from the news article. This is a work in progress and suggestions from members are welcomed.

The RMN article is on their Web site at: [http://www.rockymountainnews.com/drmn/tech/article\\_0,2777,DRMN\\_23910\\_5535458,00.html](http://www.rockymountainnews.com/drmn/tech/article_0,2777,DRMN_23910_5535458,00.html) or by searching the RMN site for "astronomy, cyberspace."

Additional features envisioned for the DAS Web site (based on input from members) are a revised online store, a member's page with photos of DAS members and their telescopes, and a page listing members who have won various observing, research, and honorary awards. The "d-files" and ATM section will also be enhanced to include more of the "how-to" and historical articles that have appeared in the *Observer* over the past five years. Beginning this month, the E-

The new look of the DAS website (right) shows new sections for members including an area for beginners.

Board minutes will again be posted on the site.

A new astrophotography page now features images by several DAS members.

If you have ideas for additional content on the website, or want to send images for posting on the website, please contact me at [dmdodge@aol.com](mailto:dmdodge@aol.com) or speak to me at any DAS function.



# Summertime's Old Friends Are Back



M27 (The Dumbbell Nebula)

Image copyright Joe Gafford

It seems as though it was a long time coming, but Summer is in the air! For observers that means a reunion with some old friends, and some of them are of the celestial type. During 2002, Joe Gafford caught the Dumbbell Nebula (M27) in Vulpecula (above). Thank you, Joe, your images continue to delight! Some members kick off the summer observing season by travelling to a couple of the national star parties: The Texas Star Party and The Riverside Telescope Makers Conference. While the weather at these events can be dicey, it's always enjoyable to reunite with old comrades and make new ones. The "Swan" (or "Omega") Nebula is an old friend that many of us look forward to seeing each year (right). M17 in Sagittarius is just spreading her wings for more northerly latitudes, but during 2002 in Texas, Chris Tarr was able to image her as she flew a bit higher for those at the Prude Ranch. He used a 12-inch f/5 LX200 telescope and stacked four images for this lovely shot. On the next page, Gary Jensen captured another glorious high-flyer: The Eagle Nebula (M16) in Serpens.



M17 (The Swan or Omega Nebula)

Image copyright Chris Tarr



## June Skies (continued)

Continued from page 1

as after-midnight objects in Aquarius and Capricorn.

The moon is full at the end of the month and dark (new) on the 14th, with Saturday the 16th being the most moonless Saturday to go to our dark-sky site—some will attend and some will not due to rising fuel costs and new rules imposed on-camp. The moon will be at

1st quarter on our Open House Saturday the 23rd—be there or be square!

Gary Seronick in *Sky & Telescope* writes about three double stars in Boötes the Herdsman. I'll admit I've never been a double star fan but I keep meaning to widen my repertoire in this direction. Let's look at Boötes, the elongated kite-shape constellation overhead in the

evenings. Find the upper apex of the kite, specifically the eastern edge. The left-most star of this triangle is  $\delta$  (delta), a close pair. Now make a shallow triangle up off of that segment to prominent  $\upsilon$  (upsilon) Boötes, which Seronick calls the "prettiest pair." Finally, farther up from  $\upsilon$  in the direction the kite is flying, is the colorful, widely-separated pair,  $\nu$  (nu) Boötes.

Now, are we prepared to explore the wilds of the Virgo Galaxy Cluster? (faint cries of "NO!" from the dark.) If you're a starter, just wade into it and don't worry about what is what. Where is it? Just to the left of Leo's tail, or down and west-ish from brilliant Arcturus. Are these large-scale galactic concentrations of cosmic matter remnant kinks of uneven dimensions of String Theory? That is a truly cosmic question with a lot of ways to ponder it. Meanwhile, we can look through telescopes at one of the true wonders of the summer sky. Do it! See you in the dark! — Dennis Cochran

## Summer Speakers (continued)

Continued from page 3

who has spoken to our group in the past. His area of expertise is Supernova 1987a, which he has followed closely since it was first discovered. Indeed, his talk is titled "Supernova 1987a, 20 years later."

DAS General Membership meetings always begin at 7:30 P.M. in room 105 at Denver University's (DU) Olin Hall, located at University and Illiff on the DU campus. General meetings are open to the general public, and particularly those who are interested in learning about the DAS. DU charges a fee for parking in its lot, which can be paid inside Olin Hall, but some nearby street parking is also available. Immediately following the general meeting, we adjourn to nearby Chamberlin Observatory for refreshments, conversation, and seeing conditions permitting, viewing through the 20-inch refractor. So, mark your calendars now and we hope to see you there!

### Call for Photos

As many of you have probably noticed, the editor has been reaching into her archives for images to grace the pages of *The Observer*. Now that our wet weather may be giving us a break, it's time to break out the tripods and cameras! Please submit high resolution jpeg or tif files to the editor at [p\\_kurtz@comcast.net](mailto:p_kurtz@comcast.net). Thank you!—Patti Kurtz

M16 (The Eagle Nebula)



Image copyright Gary Jensen



## About the Denver Astronomical Society

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 participates in **NASA's Project Astro** program.

The DAS' credo 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 a 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.

More information about the DAS, its activities, and the special tax-deductible funds is available on the DAS web site at [www.thedas.org](http://www.thedas.org).



APPLICATION FOR MEMBERSHIP TO THE DENVER ASTRONOMICAL SOCIETY	
New	<input type="checkbox"/>
Renewal	<input type="checkbox"/>
Name: _____	
Address: _____	
City, State, Zip: _____	
Phone numbers: Home ( )      Work ( )	
E-mail Address: _____	
Occupation: _____	
Other Interests: _____	
(Students Only) School:	Grade: _____
Do you want to download the newsletter in PDF format from our website instead of by postal mail?	
Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
Do you want the above information excluded from the yearly roster?	
Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
<i>Please Circle All That Apply:</i>	
Regular Membership: \$35	Students: \$12 (Students under age 23)
..... \$	
Astronomy Magazine/\$34	
Sky & Telescope Magazine/\$32.95	
..... \$	
Van Nattan Scholarship Fund	..... \$
Public Outreach Fund	..... \$
Total Amount Paid	..... \$
Please make donations to the Dark Sky Site Fund payable to the DAS EGKDS Fund and mail to Steve Solon, 9774 W. Elmhurst Place, Littleton, CO 80128-5199. Please make other amounts payable to the Denver Astronomical Society and mail along with this completed form to Brad Gilman, DAS Treasurer, 7003 S. Cherry St., Centennial, CO 80122-1179.	



## Denver Astronomical Society

c/o Chamberlin Observatory  
2930 East Warren Avenue  
Denver, Colorado 80210

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