



# GuideStar

January, 2009

*At the January 9 meeting...*

*Note: This is the SECOND Friday of the month*

**Happy New Year 2009**

**Welcome to the:**

**International  
Year  
of  
Astronomy**

## Highlights:

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HAS Web Page:

<http://www.AstronomyHouston.org>

See the *GuideStar's* Monthly Calendar of Events to confirm dates and times of all events for the month, and check the Web Page for any last minute changes.

## Schedule of meeting activities:

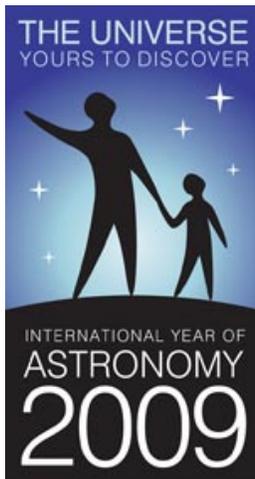
All meetings are at the University of Houston Science and Research building. See the inside back cover for a map to the location.

Novice meeting: ..... 7:00 p.m.

Site orientation meeting: ..... 7:00 p.m.  
Classroom 121

General meeting: ..... 8:00 p.m.  
Room 117

See last page for a map and more information.



## The Houston Astronomical Society

The Houston Astronomical Society is a non-profit corporation organized under section 501 (C) 3 of the Internal Revenue Code. The Society was formed for education and scientific purposes. All contributions and gifts are deductible for federal income tax purposes. General membership meetings are open to the public and attendance is encouraged.

### Officers & Past President

President: Bill Leach.....H: 281-893-4057  
 Vice Pres: Ken Miller .....H: 936-931-2724  
 Secretary: Open  
 Treasurer: Bill Flanagan .....H:713-699-8819  
 Past President: Steve Sartor .....

### Additional Board Members

Steve Goldberg.....713-721-5077  
 Don Pearce.....713-432-0734  
 Doug McCormick.....  
 Alan Grissom.....  
 John Missavage.....

### Committee Chairpersons

Audit .....Tom Blocker.....  
 Education.....Richard Nugent.....  
 Field Tr./Obsg.....  
 Novice.....Justin McCollum.....  
 Observatory.....Bob Rogers.....281-460-1573  
 Program.....Brian Cudnik.....  
 Publicity.....John Missavage.....  
 Telescope.....Bram Weisman.....  
 Welcoming.....Susan Bruneni.....

### Ad-Hoc Committee Chairpersons

Historian .....Leland Dolan.....713-688-0981  
 Librarian.....Peggy Gilchrist.....281-443-8773  
 Logo Mds Sales.....Judy Dye.....281-498-1703  
 Long Range Plan.....Bill Leach.....281-893-4057  
 Parliamentarian.....Kirk Kendrick.....281-633-8819  
 Publ. Star Party.....Richard Nugent.....713-524-1993  
 Rice U. Coord.....Matt Delevoryas.....713-666-9428  
 Schedule Obs'v't'y.....Steve Goldberg.....713-721-5077  
 Texas Star Pty.....Steve Goldberg.....713-721-5077

### Special Interest Groups & Help Committees

These are now listed on the inside of *GuideStar* (not every month). See the Table of Contents

### Advisors

Dr. Reginald DuFour, Rice Univ.  
 Dr. Lawrence Pinsky, U. of H.  
 Dr. Lawrence Armendarez, U. of St. Thomas

### Dues and Membership Information

Annual Dues:Regular .....\$36.00  
 Associate .....\$6.00  
 Sustaining .....\$50.00  
 Student .....\$12.00  
 Honorary .....None

All members have the right to participate in Society functions and to use the Observatory Site. Regular and Student Members receive a subscription to *The Reflector*. Regular, Student, and Honorary Members receive *The GuideStar*. Associate Members, immediate family members of a Regular Member, have all membership rights, but do not receive publications. Sustaining members have the same rights as regular members with the additional dues treated as a donation to the Society. *Sky & Telescope* and *Astronomy* magazines are available to members at a discount.

Membership Application: Send funds to address shown on outside cover of *GuideStar*. Attention - Treasurer, along with the following information: Name, Address, Phone Number, Special Interests in Astronomy, Do you own a Telescope? (If so, what kind?), and where you first heard of H.A.S.

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## Special Interest Group Listing

Any member who wants specific information on a SIG listed below may call the listed individual. Also, see the "Ad Hoc Committee Chairpersons" on the inside front cover and the "Special Help Volunteers" listing (not in every issue).

Advanced.....	Bill Leach.....	281-893-4057
Comets.....	Don Pearce.....	713-432-0734
Lunar & Planetary.....	John Blubaugh.....	713-921-4275

## Other Meetings...

**Fort Bend Astronomy Club** meets the third Friday of the month at 8:00 p.m. at the First Colony conference Center. Novice meeting begins at 7:00, regular meeting begins at 8:00. Web site: <http://www.fbac.org>

**Johnson Space Center Astronomical Society** meets in the the Lunar and Planetary Institute on the 2nd Friday of each month. Web site: [www.jscas.net](http://www.jscas.net)

**North Houston Astronomy Club** meets at 7:30 p.m. on the 4th Friday of each month in the Teaching Theatre of the Student Center at Kingwood College. Call 281-312-1650 or E-mail [bill.leach@nhmccd.edu](mailto:bill.leach@nhmccd.edu). Web site: [www.astronomyclub.org](http://www.astronomyclub.org)

# January/February Calendar:



Photo by Scott Mitchell

Check the web site:  
[www.astronomyhouston.org](http://www.astronomyhouston.org)  
**Webmaster: Kay McCallum**  
[kaym@mcclibrary.net](mailto:kaym@mcclibrary.net)

The Houston Astronomical Society Web page has information on the society, its resources, and meeting information.

Want your astronomy work and name on the Internet for the whole world to see? Have some neat equipment? Pictures in film, CCD, hand drawings or video format are all welcome on the page. Do you have an idea to improve the page? I'm listening. Send me Email at [kaym@mcclibrary.net](mailto:kaym@mcclibrary.net).

**Date Time Event**

## January

4	11:56 a.m.	Moon at first quarter
9	7:00 p.m.	HAS Novice Meeting, U of H
	8:00 p.m.	HAS General Meeting, U of H
10	9:27 a.m.	Full Moon
17	8:46 p.m.	Moon at last quarter
24		Prime Night, Columbus Observing Site
		Star Party, Columbus Observing Site
26	7:55 a.m.	New Moon
28	7:30 p.m.	HAS Board Meeting, Houston Chronicle Building Downtown

## February

2	5:13 p.m.	Moon at first quarter
6	7:00 p.m.	HAS Novice Meeting, U of H
	8:00 p.m.	HAS General Meeting, U of H
9	8:49 a.m.	Full Moon
16	3:37 p.m.	Moon at last quarter
21		Prime Night, Columbus Observing Site
24	7:37 p.m.	New Moon

Send calendar events to Doug McCormick  
 - [skygazer10@sbcglobal.net](mailto:skygazer10@sbcglobal.net)

## Publicity Suggestion Box

I welcome any suggestions that *any* member has to offer. It doesn't matter how trivial you think your idea may be. All input will be reviewed and welcomed.

Let's grow.

Please drop me a note at the following address.

[itjdm0@yahoo.com](mailto:itjdm0@yahoo.com)

John Missavage- HAS Publicity Chair

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**GuideStar deadline  
for the February  
issue  
is January 15**

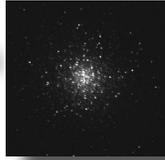
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## Observations... of the editor

by Bill Pellerin, GuideStar Editor



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### Happy New Year... and Welcome to the International Year of Astronomy!

This is it... the year during which we need to make an all-out effort to engage the public in astronomy. There will be a lot going on in celebration of IYA 2009 and you can get involved. We now have an active public star party in the HAS, and we can do more.

Stay tuned; stay engaged. Check out page 84 of the January, 2009 *Sky and Telescope* magazine for a list of major projects that will be going on in support of IYA 2009. The article "The Year to Celebrate Astronomy" begins on page 82 of the same issue.

### Planning for 2009 Observing and Travel

- Northeast Astronomy Forum (NEAF) - April 18-19
- Texas Star Party - April 19-26
- AAVSO Conference - May 20-21
- Total Solar Eclipse (India/China) - July 22
- Astronomical League (ALCON Expo) - August 7-8
- Okie-Tex Star Party - September 12-20
- Eldorado Star Party - October 12-18
- All Clubs Mtg/Astronomy Day - October 23/24

### The year of new software

TheSky (bisque.com) may get around to releasing its new version in 2009. There's already a 'student' version...

SkyTools (skyhound.com) is releasing a new version of its software soon with some notable improvements. The objects in the observing list are given a 'difficulty' rating; double stars are given an observability rating. There will be a standard edition and a 'pro' edition.

### The Weather Outside is Frightful

I'm writing this on December 27, the day of the new moon. The Clear Sky Clock is predicting a clear evening. The weather.com web site is predicting clouds, with clearing after midnight. Who is right? Who knows? The Clear Sky Clock does a good job of predicting the weather, though, and its prediction needs to be weighed against other predictions. Like many of you, I got some new astronomy stuff for the

holidays (an eyepiece) and I'm eager to try it out. This is one of these situations where the skies could be good or bad; it's impossible to know whether making the investment in getting ready to observe will pay off. The astronomer's dilemma.

### Deadline for Texas Star Party

#### **Registration**

January 16 is the last day to submit a Registration Request for the 2009 Texas Star Party. Go to [www.texasstarparty.org](http://www.texasstarparty.org) to get all the details. You can submit your request on-line or via regular mail. Don't let this deadline go by.

**Until next time...**

**clear skies and new moons!**

*..Bill*





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# Observing the Night Sky With Binoculars

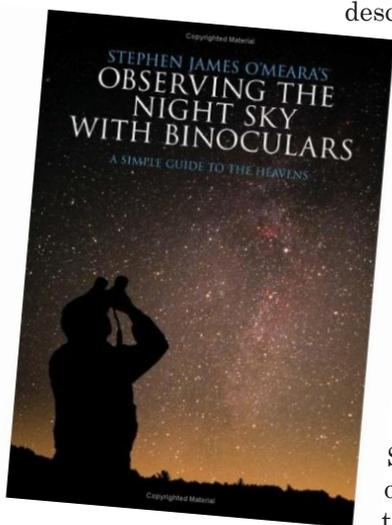
by Stephen O'Meara

Book review by Bill Pellerin, GuideStar editor

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Whenever Stephen O'Meara comes out with a new book, it's almost an automatic purchase for many amateur astronomers. There's nobody who loves the sky (day and night) and its phenomena more than Stephen, and there's nobody who does a better job describing what he sees in the sky and

helping us experience some of the enjoyment that he has.



So, I was excited to discover that Stephen has come out with a new book, *Observing the Night Sky with Binoculars*. There are other books available that cover this subject, many with similar names, so be careful when you're looking for this one that you get the right one.

Stephen introduces the subject of the night sky by taking us on a tour of the Big Dipper (asterism). This is a good choice because it's almost always up and available for

viewing. From our latitude, at this time of the year, however, the Big Dipper is only partly above the horizon at 9:00 p.m. and not well placed for viewing until around midnight. That said, the author assumes no previous experience at finding things in the sky and takes you by the hand to find it. This is more detail than most HAS'ers will need, but it makes the content of the book accessible to more readers.

He talks about the constellation's lore, angles in the sky, the brightness of stars, observing techniques, and only then gets into some detail on the objects that you can find with your binoculars in the Big Dipper. One of the dangers that Stephen flirts with is that he is such an astute observer that he sees things in the sky that few of us mere mortals can pick out. Some of the objects you're supposed to be able to see with binoculars may be difficult for you.

The book continues by dividing the discussion into available objects in each of the four seasons, further sub-dividing the material by month within the seasons. There's considerable opportunity for overlap, of course, but this seems like a reasonable approach for this book.

For January, he says, "If you go outside at 9:00 pm on New Year's day and look high in the south you will see two distinct star patterns..". He goes on to describe the V shape of the Hyades cluster

and the (very) little dipper shape of the Pleiades. Even if you've seen these clusters many times, as I have, you probably haven't seen it all, and you don't know all of the things that Stephen will tell you about. He'll tell you about the history of the clusters, "The stars of Taurus have been seen as a Bull since at least 4000 BC...", he'll tell you about objects or aspects of the clusters that you haven't paid attention to, "Theta (Tau) is a yellow G-type giant.." and he encourages you to compare it with the color of Aldebaran.

How many of us actually *look* at the objects we see through the telescope and gather in all the information from the object? How much more is there yet to know and understand? All of this contributes to our sense of wonder as we see the sky, and this is where Stephen's expertise really comes into play. He's an *observer* and wants you to be one too.

The January section continues with a discussion of the Pleiades, an absolutely beautiful open cluster of stars that have recently, in astronomical time, turned on. There's a discussion of Perseus, too, and the Double Cluster.

So, for those nights when you don't want to bother setting up the telescope and you still want to get out under a clear dark sky, this book is the ticket. A lot of us now own small refractor telescopes (I have a 66mm version) which would be a good match for the objects and observations described here.

One thing... there's very little discussion in this book about buying binoculars. Check with other HAS members, your observing friends, and with vendors, but know that you don't have to pay a lot to get acceptable performance. If you can afford it, the Canon Image Stabilization binoculars are outstanding.

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## *Just Looking*

A GuideStar Interview by Clayton L. Jeter

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## **Alan Hale - One of Us**

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At last month's general meeting, just before it began, I went book browsing in our club's library. One book caught my eye immediately... it was Alan Hale's *Everybody's Comet ... A Layman's Guide to Comet Hale-Bopp*. I grabbed it! At midnight when I finally got home I relaxed in my recliner and practiced some armchair astronomy. After reading Alan's introduction, a preface by Janet Asimov, and a foreword by Thomas Bopp (co-discoverer of this comet), I was hooked. I woke up late Saturday morning with the book still open! If you love comets...you'll love this book. If you love astronomy... you'll love this book.

After reading and learning about Mr. Hale, I was in total awe of his accomplishments. You'll agree that Alan loves the science of astronomy. Because of his 'working' science, he co-discovered Comet Hale-Bopp.

It's my pleasure to introduce you to one of "us". Meet Alan Hale...

### ***The Alan Hale interview...***

Alan Hale was born in Tachikawa, Japan, in 1958 but moved with his family later that year to Alamogordo, New Mexico, where he spent the remainder of his



childhood years. After graduation from Alamogordo High School in 1976 he attended the U.S. Naval Academy in Annapolis, Maryland, where he graduated with a Bachelor's Degree in Physics in 1980.

After assignments at duty stations in San Diego and Long Beach, California, he left the Navy in 1983 and began working at the Jet Propulsion Laboratory in Pasadena, California, as an engineering contractor for the Deep Space Network. While at JPL he was involved with several spacecraft projects,

most notably the Voyager 2 encounter with the planet Uranus in 1986.

Following the Uranus encounter Alan Hale left JPL and returned to New Mexico, enrolling in the Astronomy department at New Mexico



*Comet Hale-Bopp  
Image by Loyd Overcash*

State University in Las Cruces. He earned his Master's Degree in 1989 and his Ph.D. in 1992 with a thesis entitled "Orbital Coplanarity in Solar-Type Binary Systems: Implications for Planetary System Formation and Detection" (which was published in the January 1994 issue of the *Astronomical Journal*). Upon earning his doctorate he initially worked at The Space Center (now the New Mexico Museum of Space History) in Alamogordo, New Mexico as its Staff Astronomer and Outreach Education Coordinator, and in 1993 he founded the Southwest Institute for Space Research (now the Earthrise Institute).

Alan Hale's research interests include the search for planets beyond the solar system, including those which might have favorable environments for life; stars like the sun; minor bodies in the solar system, especially comets and near-Earth asteroids; and advocacy of spaceflight. He is

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## *Just Looking... from previous page*

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primarily known for his work with comets, which has included his discovery of Comet Hale-Bopp in 1995 and his participation in the International 'HalleyWatch' during the return of Halley's Comet in 1986. In one of his more recent projects he has led two delegations of American scientists, students, and educators to Iran to engage in person-to-person science diplomacy with the Iranian people, the first to collect observations of the August 11, 1999 total solar eclipse and the second in July 2000 to participate in an international astronomical conference in Esfahan.

Besides his research activities, he is an outspoken advocate for improved scientific literacy in our society, for better career opportunities for current and future scientists, and for taking individual responsibility to make ours a better society. He has written for such publications as *Astronomy*, the *International Comet Quarterly*, the *Skeptical Inquirer*, *Free Inquiry*, and the *McGraw-Hill Yearbook of Science and Technology*, and he writes a weekly newspaper column entitled "In Our Skies" (which has recently been compiled into an e-book available on CD). He is the author of *Everybody's Comet: A Layman's Guide to Comet Hale-Bopp* (High-Lonesome Books, 1996), is a frequent public speaker on astronomy, space, and other scientific issues, and from 2004 to 2006 was host of a weekly radio program, "The Other Side of the Sky" (the precursor to Earthise Radio).

Alan Hale lives in the Sacramento Mountains outside of Cloudcroft, New Mexico, with his wife Eva and son Tyler (older son Zachary is now away at college), dog Percy, and several cats. On clear nights he can often be found making observations of the latest comets or other astronomical phenomena. When he is not engaged in his astronomical activities he enjoys running up and down the mountain roads, hiking in the hills, listening to the latest rock 'n roll music, and watching football games.

### *The Alan Hale interview...*

**Clayton:** How did you first become interested in astronomy? Why the fascination with comets?

**Alan:** There were several influences that combined to get me going. One was simply being raised on the outskirts of a desert town in New Mexico, where the stars were as near as right outside my bedroom window. When I was in 1st Grade my father checked out some books on astronomy from the local library and handed them to me to look at, and that is what I credit more than anything else to starting my interest in astronomy. I did tend to gravitate to other fields of interest over the ensuing years (the inevitable fascination with dinosaurs, plus volcanoes, birds, etc.) but I always came back to astronomy, and after I had bugged him about it almost constantly for a couple of years my father finally relented and purchased a small telescope for me when I was 11.

Other influences included the Gemini and Apollo programs that were going full swing during the 1960s, and a certain television program called Star Trek.

Once I got that first telescope, I tried to see all types of astronomical objects. There was a sort-of bright comet (Tago-Sato-Kosaka) in the sky at that time (early 1970) and I observed that on a few occasions, and then a "Great" comet (Bennett) appeared a

couple of months later – that is what got me hooked.

**Clayton:** I'm sure you'll agree it's always strange how one meets a new friend along life's highway. I'm thinking about you and Thomas Bopp's lives intersecting in such a very unusual way. I read in your book that you guys finally met at the Enchanted Skies Star Party in Socorro, NM. Do you two still communicate?

**Alan:** We've swapped occasional e-mails over recent years, but aren't in what one might call "regular" communication. He was supposed to come here for the 10-year discovery anniversary celebration I had back in 2005, but he took ill a few days earlier and had to enter the hospital for a while.

Interestingly, during the Hale-Bopp hoopla in '97 when he and I were both traveling all over the place, we coincidentally happened to run into each other in, of all places, the FAO Schwartz toy store in Manhattan!

**Clayton:** It was fun to learn that your discovery telescope was a Meade DS-16 reflector. I recently restored one of those big monsters and its German mount. Can you tell us a bit about that scope? Do you still own it?

**Alan:** I purchased it (used) at the Riverside Telescope Makers' Conference in 1987. Yes, I still own it, and use it regularly.

**Clayton:** OK... you're peeping into the eyepiece on that fateful Saturday night back in July 1995; besides your DS-16, can you describe the equipment you were using on that evening (finder, star atlas, oculars, etc). Were you keeping notes?

**Alan:** I was using the normal finder that came with the telescope, and normal eyepieces (25 mm and 10 mm Plossls, if I remember correctly). For my initial check I was using the Uranometria 2000 star atlas. (I later went inside and checked various deep-sky catalogues, and then did an on-line search at the Minor Planet Center's web site to see if there were any known comets in that location.)

I was in the midst of an otherwise "normal" observing session, and kept my standard notes of the two other comets I observed that

*Continued ...*

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## Just Looking... from previous page

night – in addition to this new one, of course.

**Clayton:** Do you feel it's absolutely necessary to use a Rich Field Telescope (RFT) for visual comet hunting? How about the use of a binocular?

**Alan:** With all the comprehensive surveys that are operating these days, it's quite unlikely that one will find a comet visually. (Although not impossible – witness David Levy's discovery a year and a half ago.) I don't think any specific type of instrument is necessarily any better or worse than any other – but if one wants any chance of success now, it's probably best to look close to the sun (i.e., during or just before/after dusk/dawn) and hope for some luck! Or perhaps travel to the southern hemisphere – those skies still aren't being as heavily surveyed as those here in the northern.

**Clayton:** Where is most of your observing performed these days? Do you take astrophotos too?

**Alan:** I still do most of it from home – from the Hale-Bopp discovery site, in fact.

I've taken some astrophotos over the years, but normally just of the "camera-on-tripod" variety. I do have the capability of CCD imaging and do that from time to time – mainly of faint comets and near-Earth asteroids (sometimes for astrometric purposes).

**Clayton:** Did either of your two sons ever get interested in your hobby? Do they observe?

**Alan:** Neither of them took to astronomy in any big way, which is fine with me. My older son (now in college) did compete in the astronomical portion (among others) in the Science Olympiad competition, and my younger son (now in high school) has occasionally observed with me, and took some fairly decent photographs of the lunar eclipse last summer.

**Clayton:** Do you have an amateur observing mentor?

**Alan:** Not really – much of what I learned early on was self-taught. There was one individual -- an Air Force officer stationed at the base near me, and who was an amateur astronomer – who got me involved in a couple of projects when I was in high school; interestingly, he's now retired and lives fairly close to me, although I only see him on occasion.

Some of my professors, both during my undergraduate and graduate school days, could probably be considered as "mentors" to some extent, and I had formal "advisors" both times.

**Clayton:** You recently told me that three years ago you wrote a 4th Chapter for "Everybody's Comet" to mark the ten-year anniversary of the discovery. You said that it's available as a CD (.pdf files) for only \$5. How can we obtain a copy?

**Alan:** One can contact me through the Earthrise Institute's web site (<http://www.earthriseinstitute.org>). I've got a description of the book and other items at the Earthrise Store (<http://www.earthriseinstitute.org/store.html>) -- all proceeds go to fund Earthrise activities.

**Clayton:** How do you envision amateur astronomy in the next 25+ years?

**Alan:** Hard to say. It would be nice if we had to deal with less light pollution, but that may be just a fantasy. With the (presumably) continuing improvements in computer technology and the more and more light pollution we have to deal with, I foresee a shift towards more remote and electronic observations. That, unfortunately, means a personal disconnect from the "real" night sky. Perhaps the use of telecommuting might allow more individuals to live in the places where the night sky still can exist.

There will always be plenty of interesting objects to observe, of course.

**Clayton:** Do you have any helpful advice to pass on to observers just starting out in astronomy?

**Alan:** I always tell people who ask me about starting out to get a good pair of binoculars (in lieu of a telescope) and learn their way around the sky using those. (That was pretty much what I did.) A good, but not too detailed, star atlas, should also be helpful. It's also important to have access to information about what's up there and what's happening; magazines like *Sky & Telescope* and *Astronomy* are good, plus there are good on-line sources of information these days, too. Getting a decent introductory astronomy textbook might be good as well. (I'm not so sure I would recommend taking a formal course in the subject – that sometimes tends to degenerate into a "grading" exercise – unless one is auditing the course.)

**Clayton:** Is there an email address that you have that a Houston Astronomical Society member could contact you for an additional question or two?

**Alan:** [ahale@earthriseinstitute.org](mailto:ahale@earthriseinstitute.org)

**Clayton:** Thanks Alan for taking the time to share your interest and thoughts with us for our monthly HAS newsletter, *The GuideStar*. Thanks too for being one of 'us'. We wish you luck with all of your astronomy interests. Please come visit our society when in the Houston area, we'd love to see you. Clear skies, always.

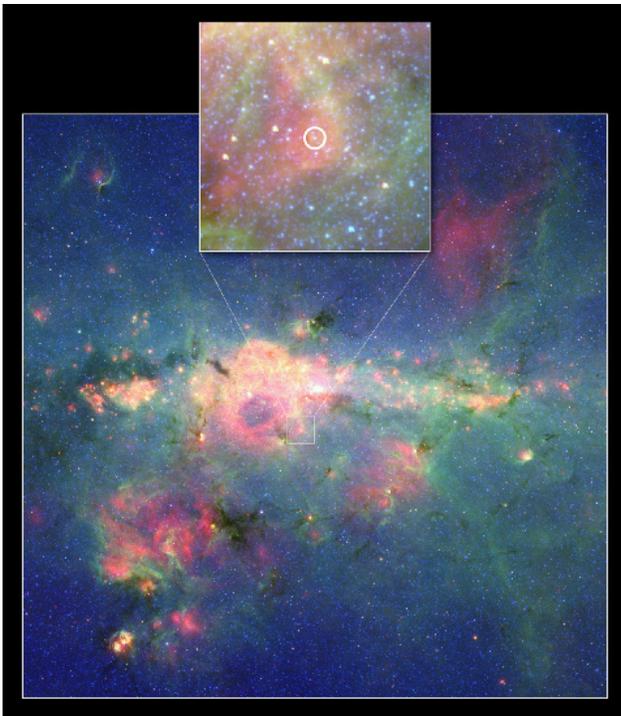
# The Superstar Hide and Seek



by Dr. Tony Phillips

It sounds like an impossible task: Take a star a hundred times larger in diameter and millions of times more luminous than the Sun and hide it in our own galaxy where the most powerful optical telescopes on Earth cannot find it.

But it is not impossible. In fact, there could be dozens to hundreds of such stars hiding in the Milky Way right now. Furiously burn-



ing their inner stores of hydrogen, these hidden superstars are like ticking bombs poised to 'go supernova' at any moment, possibly unleashing powerful gamma-ray bursts. No wonder astronomers are hunting for them.

Earlier this year, they found one.

"It's called the Peony nebula star," says Lidia Oskinova of Potsdam Uni-

Oskinova believes this is just the tip of the iceberg. Theoretical models of star formation suggest that one Peony-type star is born in our galaxy every 10,000 years. Given that the lifetime of such a star is about one million years, there should be 100 of them in the Milky Way at any given moment.

Could that be a hundred deadly gamma-ray bursts waiting to happen? Oskinova is not worried.

"There's no threat to Earth," she believes. "Gamma-ray bursts produce tightly focused jets of radiation and we would be extremely unlucky to be in the way of one. Furthermore, there don't appear to be any supermassive stars within a thousand light years of our planet."

Nevertheless, the hunt continues. Mapping and studying supermassive stars will help researchers understand the inner workings of extreme star formation and, moreover, identify stars on the brink of supernova. One day, astronomers monitoring a Peony-type star could witness with their own eyes one of the biggest explosions since the Big Bang itself.

Now *that* might be hard to hide.

Find out the latest news on discoveries using the Spitzer at [www.spitzer.caltech.edu](http://www.spitzer.caltech.edu). Kids (of all ages) can read about "Lucy's Planet Hunt" using the Spitzer Space Telescope at [spaceplace.nasa.gov/en/kids/spitzer/lucy](http://spaceplace.nasa.gov/en/kids/spitzer/lucy).

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

*Ex*The "Peony Nebula" star is the second-brightest found in the Milky Way Galaxy, after Eta Carina. The Peony star blazes with the light of 3.2 million suns.

versity in Germany. "It shines like 3.2 million suns and weighs in at about 90 solar masses."

The star lies behind a dense veil of dust near the center of the Milky Way galaxy. Starlight traveling through the dust is attenuated so much that the Peony star, at first glance, looks rather dim and ordinary. Oskinova's team set the record straight using NASA's Spitzer Space Telescope. Clouds of dust can hide a star from visible-light telescopes, but Spitzer is an infrared telescope able to penetrate the dusty gloom.

"Using data from Spitzer, along with infrared observations from the ESO's New Technology Telescope in Chile, we calculated the Peony star's true luminosity," she explains. "In the Milky Way galaxy, it is second only to another known superstar, Eta Carina, which shines like 4.7 million suns."

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## Want Ads

### For Sale:

- **Orion 4.5" Starblast** telescope. Alt/az mount, two eyepieces, collimation tool, red-dot finder. Excellent starter telescope. Orig, \$180; sell for \$115
- **6' Home Dome**. Updating my observatory. Existing 6' Home Dome for Sale. See [www.homedome.com](http://www.homedome.com) Call or email for more info

Contact Bill Pellerin -- [billpellerin@sbcglobal.net](mailto:billpellerin@sbcglobal.net)  
cell: 713-598-8543.

### For Sale: Takahashi NJP Temma Mount

The mount is in excellent condition and comes with auto guider cable, custom made heavy duty Scope Guard case, power supply in Pelican case, four 14 lb weights, hand controller, polar finder illuminator, PC cable, Losmandy saddle plate and software. I am asking \$4,500. Contact Mike Squicciarini, Richmond, Texas 281-277-1885 (home), [msquic@alltel.net](mailto:msquic@alltel.net).

### For Sale: Nexstar 5se

Nexstar 5se bought in June 07. Like new condition, barely used (bought a bigger scope): This is a great starter scope if you're new to the hobby!

Includes a Zhumell 1.25 Inch Eyepiece and Filter Kit and A/C power source. Still have all the original boxes. Asking \$550.00

Rick Hillier  
Call 713-875-6463 (cell)  
e-mail [hillier\\_rick@yahoo.com](mailto:hillier_rick@yahoo.com)

### For Sale: 17.5" Newtonian

Perfect for imaging or visual star parties. 17.5" f4.5 Newtonian telescope with highly accurate microprocessor-controlled, step-per-based alt-az drive system with focal plane rotator. Designed and built by Andy Saulietis and the owner. Accepts ST4-compatible inputs for autoguiding. Mechanical and calibration work done by the owner to optimize system accuracy for autoguided CCD imaging. Original 1981 Coulter mirror refigured to smooth 1/8th-wave surface by Sky Optical in late 80's. Primary and secondary recoated with enhanced coatings group by PAP in early 90's. Optics in excellent condition. 80mm f5 finder. Breaks down to numerous major pieces for transport. With modest effort, can be a traveling scope, but better as a semi-permanent observatory. See my website for many images made with this system over the last decade.

Price negotiable. For pickup/delivery, maybe can meet you half-way. Call 281-482-5190 or E-mail Al Kelly.

### For Sale: Celestron Nexstar 8

Like New Condition...Celestron Nexstar 8, Used only 2 times in back yard. Some extras include Solar filter, 1 1/4" star diagonal, 40 mm multi-coated nexstar plossel, 8-24 mm Z00 eyepiece, variable polarizing filter, 2X multicoated Barlow. \$ 850.00 Jack DeNina, Willis, Texas 936-856-0704, [jjack9485@cs.com](mailto:jjack9485@cs.com)

*Email your ads to Kay McCallum, our Webmaster, at [KayM@MccLibrary.net](mailto:KayM@MccLibrary.net) and to Bill Pellerin, GuideStar editor at [billpellerin@sbcglobal.net](mailto:billpellerin@sbcglobal.net)*

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## How can I learn more about the Astronomical League?

Amateur astronomers from across the country benefit from perusing the many pages of the Astronomical League's website, [www.astroleague.org](http://www.astroleague.org). Naturally, this is the place to go if you're looking for information about upcoming events and League news. But there is so much more...

Want to learn all about one of the great League observing programs? Go to [www.astroleague.org/observing.html](http://www.astroleague.org/observing.html).

Do you know of a worthy candidate for one of the many League awards? Look at <http://www.astroleague.org/al/awards/awards.html>.

Are you interested in buying a particular book about our fascinating hobby? Then go to [www.astroleague.org/al/bookserv/bookserv.html](http://www.astroleague.org/al/bookserv/bookserv.html).

There is even something to help your club function better. Try [www.astroleague.org/al/socaid/socaidid.html](http://www.astroleague.org/al/socaid/socaidid.html)

Make the most of your Astronomical League membership! To find out more about what the Astronomical League offers you, why not log on to [www.astroleague.org](http://www.astroleague.org) today?

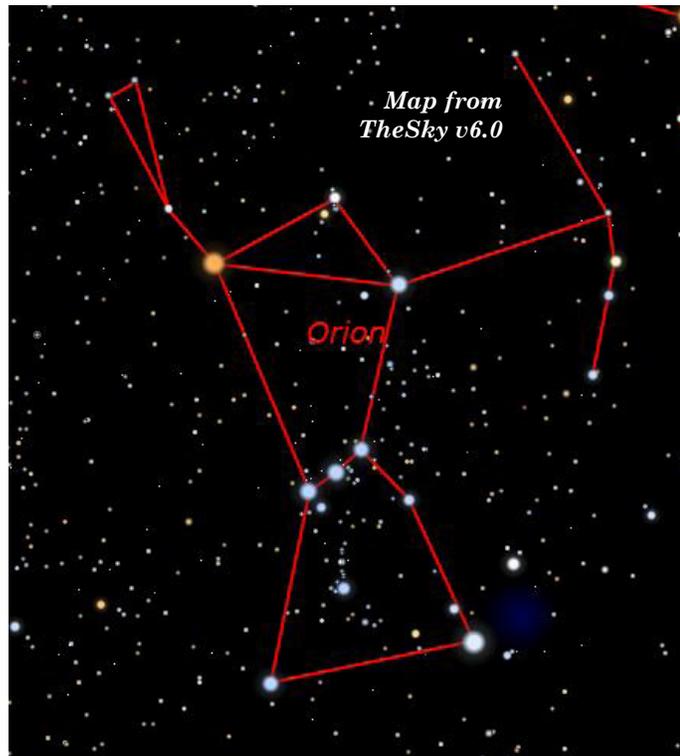
# Orion Star Cluster

by Bill Pellerin, GuideStar Editor

**Object:** Star Cluster (Collinder 70)  
**Class:** OC  
**Magnitude:**  
**R.A.:** 5 h, 36 m, 00 s  
**Dec:** -1 degrees, 00 minutes, 00 seconds  
**Distance:** 1340 ly (to Alnilam)  
**Constellation:** Orion  
**Size:** 2.5 degrees x 2.5 degrees  
**Optics needed:** Binoculars or wide-field telescope

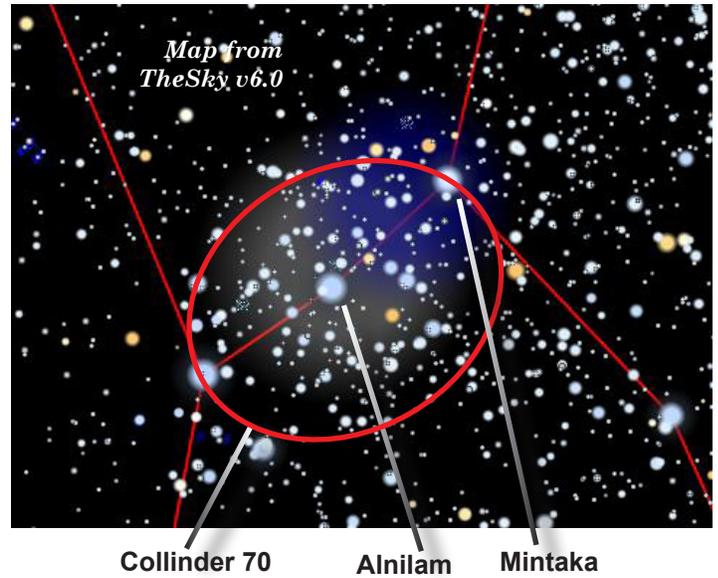
## Why this object is interesting.

The lifecycle of stars can be observed by viewing star clusters. New stars are represented by the trapezium stars in M42. Stars that have been around a bit longer



are represented by the Pleiades cluster (not all the star forming gas has dissipated), and more mature clusters are typified by the Hyades cluster, or by this month's object, the Orion star cluster, also known as Collinder 70.

To see the cluster, get out your binoculars and point them at Alnilam, the center star of the Orion belt stars. In this star-dense region of the sky lives the Collinder 70 cluster. Alnilam is from the Arabic meaning 'string of pearls' (Alnilam with its bright companions Alnitak, and Mintaka). The belt stars are all part of the Collinder 70



cluster. If you look closely, you'll see several double stars, including Mintaka. Mintaka is a 2.5 magnitude star with a 6.8 magnitude companion about 1 minute away (and almost due north).

Open clusters don't have sharp edges, so the extent of the cluster that you'll see depends on the observing conditions and your observing equipment. Expect to see 125 stars or so, though.

This cluster is from the catalog of Per Collinder, a Swedish astronomer who published his catalog of open clusters in 1931 as an addendum to his doctoral dissertation on clusters. With a bit of searching on the Internet, you'll be able to find the entire catalog of 471 objects (with some errors, duplications, and so on). I found it on CloudyNights.com. There are numerous well-known Collinder objects, including the 'Coathanger' (Cr 399, a summer object), the double cluster, and several Messier clusters.

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## Membership Renewals...

**Your membership is renewable on January 1 of each year.**

Total yearly dues are \$36.

Your payment for 2009 is due as of January 1, 2009.

Magazine subscriptions can be renewed at any time and the renewal does not need to be synchronized with your HAS dues.

Membership in the Houston Astronomical Society is one of the great bargains in Astronomy. For a regular membership of \$36 you get the opportunity to support an active and growing organization, you get the monthly **GuideStar** newsletter, and you get access to the outstanding H.A.S. **observing site** near Columbus, Texas. (You must attend an orientation, given regularly, to use the site.) And, after two months of membership you can borrow, at no charge, one of the Society's **loaner telescopes**. It's the best deal in town, we think. Please renew your membership when it expires.

Encourage other astronomy enthusiasts to join the organization as well. It's a great group.

**Thanks!**

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***Minutes***  
***of the December, 2008 Meeting of the***  
***Houston Astronomical Society***

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The December, 2008 meeting of the Houston Astronomical Society was called to order on December 5<sup>th</sup> at 8:16 p.m. by HAS President, Bill Leach.

**Closing Announcements:**

- Bill Leach pronounced the meeting adjourned at 9:32 p.m.

**Opening Announcements:**

- Bill Leach introduced himself and welcomed everyone to the meeting.
- Bill recognized the seven guests in attendance.

**Announcements:**

- Telescope Loaner Program Co-Chair, Bram Weisman, reviewed the details of the Loaner Telescope Program and displayed the new Celestron C-6 SCT and the Orion StarBlast Dob loaner scopes in our inventory.
- Bram also discussed the NASA-sponsored Night Sky Network, which provides materials for astronomy-related public outreach. HAS is now a member of the Night Sky Network, and members interested in learning more about it are encouraged to visit the Night Sky Network website: <http://nightsky.jpl.nasa.gov/>
- HAS Treasurer, Bill Flanagan, announced that it was again time to renew our memberships for 2009. All memberships must be renewed in January. Bill also announced the 2009 Astronomy calendars are available for order. To renew memberships or order a calendar, members should contact Bill.
- Don Pearce gave the Comet Report, citing no new comet activity. For the latest comet information, see Don's Comet Corner on the HAS website: [www.astronomyhouston.org](http://www.astronomyhouston.org)
- Steve Goldberg announced that registration for the 2009 Texas Star Party is now open on the TSP website: <http://tex-asstarparty.org/>

**Program:**

- Program Chair, Brian Cudnik, introduced the featured speaker for the evening, HAS President, Bill Leach, who delivered his presentation entitled, "Phoenix: Mars Mission." At the conclusion of his excellent presentation, Bill answered questions and received a gift of appreciation from the society.

### General Membership Meeting

The Houston Astronomical Society holds its regular monthly General Membership Meeting on the first Friday of each month, unless rescheduled due to a holiday. Meetings are in Room 117 of the Science and Research Building at the University of Houston. A Novice Presentation begins at 7:00 p.m.. The short business meeting and featured speaker are scheduled at 8:00 p.m. Also typically included are Committee Reports, Special Interest Group Reports, current activity announcements, hardware reviews, an astrophotography slide show by members and other items of interest. Parking is NOW across from Entrance 14, by the stadium.

### Board of Directors Meeting

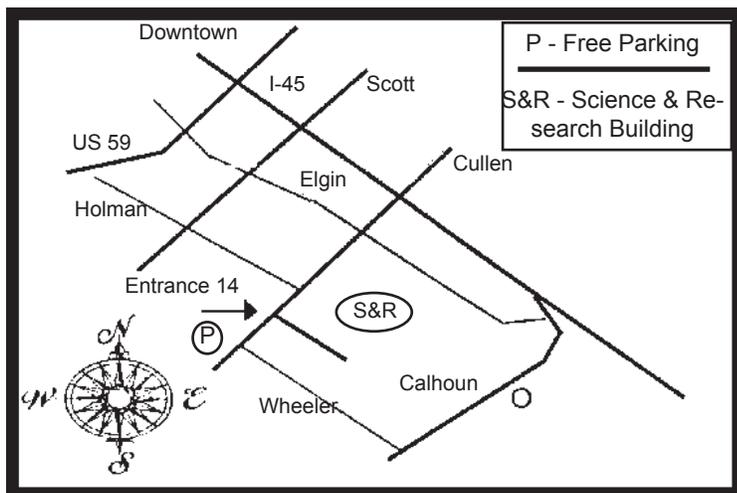
The Board of Directors Meeting is held on dates scheduled by the board at 7:00 p.m. at the University of St. Thomas. Information provided to GuideStar will be published. The meetings are open to all members of the Society in good standing. Attendance is encouraged.

### GuideStar Information

The H.A.S. *GuideStar* is published monthly by the Houston Astronomical Society. All opinions expressed herein are those of the contributor and not necessarily of Houston Astronomical Society. The monthly Meeting Notice is included herein. *GuideStar* is available on the HAS web site to all members of H.A.S., and to persons interested in the organization's activities. Contributions to *GuideStar* by members are encouraged. Electronic submission is helpful. Submit the article in text, MS-Word format via email [BillPellerin@sbcglobal.net](mailto:BillPellerin@sbcglobal.net). Copy must be received by the 15th of the month for inclusion in the issue to be available near the end of the same month. Or, bring copy to the General Membership Meeting and give it to the Editor, or phone to make special arrangements.

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Email: [BillPellerin@sbcglobal.net](mailto:BillPellerin@sbcglobal.net)

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## Houston Astronomical Society

Meeting on Friday, January 9  
Note -- **Second Friday!!!**

7:00 Novice & Site Orientation  
8:00 General Meeting

University of Houston

### Houston Astronomical Society

P.O. Box 20332 • Houston, TX 77225-0332



The Houston Astronomical Society welcomes you to our organization. The HAS is a group of dedicated amateur astronomers, most of whom are observers, but some are armchair astronomers. The benefits of membership are:

- Access to our 18 acre observing site west of Houston -- a great place to observe the universe!
- A telescope loaner program -- borrow a HAS telescope and try observing for yourself!
- A monthly novice meeting, site orientation meeting, and general meeting with speakers of interest.
- Opportunities to participate in programs that promote astronomy to the general public (such as Star Parties at schools)
- A yearly banquet with a special guest
- A yearly all-clubs meeting for Houston area organizations
- Meet other amateurs and share experiences, learn techniques, and swap stories

***You're invited to attend our next meeting.  
You'll have a great time.***