

 **Current** DECEMBER  
**Astronomy** 2004  
RIVER BEND ASTRONOMY CLUB NEWSLETTER

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**Kitt Peak National Observatory, high above the Sonoran Desert, offers the world's largest array of optical telescopes. The building at left, affectionately known as the "spray can," houses the 2.3-meter Bok reflector. At right stands the Mayall 4-meter telescope. PHOTO BY BRUCE KRYFKA**

# RIVER BEND



## ASTRONOMY CLUB

RIVERBENDASTRO.ORG

*River Bend Astronomy Club serves astronomy enthusiasts of the American Bottom region, the Mississippi River bluffs and beyond, fostering observation, education and a spirit of camaraderie.*

### Officers and administrators

|                                  |  |
|----------------------------------|--|
| <b>PRESIDENT</b>                 | Gary Kronk<br>kronk@amsmeteors.org           |
| <b>VICE-PRESIDENT</b>            | Deb Wagner<br>starstuff@starband.net         |
| <b>TREASURER</b>                 | Ed Cunnius<br>ecunnius@att.net               |
| <b>LEAGUE CORRESPONDENT</b>      | Jamie Goggin<br>jamie.goggin@ugsplm.com      |
| <b>SECRETARY</b>                 | Eric Young<br>younger@wustl.edu              |
| <b>ASTRONOMY DAY COORDINATOR</b> | Mark Brown<br>loneastronomer@charter.net     |
| <b>LIBRARIAN</b>                 | Lois Butler<br>tenbyfifty@starband.net       |
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Affiliated with the Astronomical League, dedicated to fostering astronomical education, providing incentives for astronomical observation and research, and assisting communication among amateur astronomical societies.  
[www.astroleague.org](http://www.astroleague.org)



Affiliated with the NASA Night Sky Network, a nationwide coalition of amateur astronomy clubs bringing the science, technology and inspiration of NASA's missions to the general public.  
[nightsky.jpl.nasa.gov](http://nightsky.jpl.nasa.gov)

### Current Astronomy CLUB NEWSLETTER

**EDITOR** Eric Young  
younger@wustl.edu

Submissions to the newsletter are encouraged.  
Contact the editor for more information.

## Events

### Holiday Star Party

**Saturday, December 11th, 2004 • 7:00 p.m.**

**Kronk Observatory • Bring a dish!**

132 Jessica Drive, St. Jacob, IL 62281

## Looked up lately?

### Join River Bend Astronomy Club

Want to learn more about astronomy? The members of River Bend Astronomy Club invite you to join. You won't need expensive tools or special skills — just a passion for observing the natural world.

- Meetings offer learning, peeks through great telescopes and fun under the stars.
- You will receive the club newsletter, *Current Astronomy*, packed with news and photos.
- Get connected with our member-only web site and discussion group.
- Borrow from the club's multimedia library.
- And that's not all! Through club membership you also join the Astronomical League, with its special programs and a colorful quarterly newsletter to enrich your hobby.

We meet monthly, observe regularly, e-mail news and quips constantly, and generally have a good time. Won't you join us?

Name(s) \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone (Day) \_\_\_\_\_ (Evening) \_\_\_\_\_  
Email address (to receive club news and information): \_\_\_\_\_

Where did you hear of our club?  
\_\_\_\_\_

How long have you been interested in astronomy? \_\_\_\_\_

Do you have optical equipment? \_\_\_ Telescope \_\_\_ Binoculars

Are you afraid of the dark? \_\_\_ Yes \_\_\_ No (just kidding)

I am submitting my application for:

\_\_\_\_\_ Adult membership(s) \_\_\_\_\_ Youth membership(s)  
@ \$20.00/year @ \$15.00/year  
(18 years or older) (under 18)

I enclose a check for a total of \$ \_\_\_\_\_  
made out to "Ed Cunnius, Treasurer RBAC."

Signature \_\_\_\_\_

Date \_\_\_\_\_



**River Bend Astronomy Club**

c/o Gary Kronk, 132 Jessica Drive, St. Jacob, IL 62281

web: riverbendastro.org e-mail: riverbendastro@att.net

SEPTEMBER 04

# Welcome, PST

## RBAC views nuclear fusion demonstration in St. Jacob Park

BY ERIC YOUNG

“I was happily surprised at what I saw,” said Jace Perham of his first look through the club’s new Personal Solar Telescope, or PST, “and it was more than I expected.”

Earlier this year the club pooled its money to buy a PST — a hot little solar telescope. The instrument allows us to see more detail than permitted with typical solar filters on regular telescopes.

Jace’s view: “There happened to be a large golden prominence in the shape of an ‘M’ rising off the Sun. (I guess McDonald’s will advertise anywhere.) The smaller prominences, sunspots, and other detail were also very impressive, but I will *never* forget the ‘M’ view. Wow! The only problem I had with the PST was Jamie Goggin tapping me on the shoulder saying, ‘It’s my turn! It’s my turn! It’s my turn!’ Makes getting a steady view kind of difficult.”

Jamie Goggin instigated the PST purchase, gathered the money and placed the order on his own plastic. Then, our hopes sank when we learned how backorders would delay our new toy for months. But now the wait is over.

“I’m extremely happy with the PST,” says Jamie. “The views of the Sun are amazing.”

Although RBAC took a risk buying a new product,

### Mike Veith enjoys his first look through the PST.




**Satisfied customers and their community property.**

Jamie says that “the PST is everything Coronado said it would be. It is extremely easy to set up. The finder is dream to use for aiming the scope at the Sun. The views at the eyepiece are exactly what I expected. Coronado didn’t over sell this, and did not need to.”

“When you are involved in astronomy you become used to the idea that the view at the eyepiece is never like the slick photos in the advertisements,” says Jamie. “This is not one of those times.”

Dennis Rippelmeyer had planned to attend the maiden voyage of the PST in St. Jacob but too many things just got in the way — including clouds. “Except for a brief period after lunch, my sky was clouded over, so I didn’t feel so bad not making the trip. That consolation was shattered when I later pulled up the weather radar on the Internet and saw this huge “hole” in the clouds directly over St. Jacob — everything else was socked in. Evidently the ‘New Scope Curse’ doesn’t apply to St. Jacob-ites.”

Several non-astronomers have looked at the Sun through the RBAC PST. Their reaction is similar to the reaction when someone sees Saturn for the first time: Lots of “Wows” and “Ooooohs.” RBAC hopes to give more people this experience.

“I’m glad to be in a club where many people were able to pool their resources for a common cause,” says Jamie. “We should be able to use the PST for ourselves and the education of the public for years to come.” 



# Have you seen the Sun?

## Observing the old Sol for the first time

BY BILL BREEDEN

**S**unday afternoon, October 31, 2004, provided a short break from the seemingly endless clouds that have plagued amateur astronomers all through the month of October. The sky was mostly clear this particular afternoon, with thin clouds drifting by. As the afternoon wore on, the clouds returned. My wife Rita and I had our first viewings through River Bend Astronomy Club's new Personal Solar Telescope (PST), as well as through a 5-inch Maksutov-Cassegrain Meade ETX telescope with a standard solar filter attached.

**WARNING: NEVER LOOK AT OR TOWARD THE SUN THROUGH A TELESCOPE WITHOUT A SAFE FILTER ATTACHED.**

I observed the Sun for the first time since becoming an active amateur. *What a treat!* There is no other way to describe my first close-up view of our wonderful star.

Let me get my emotional reactions out of the way first. Gazing upon the Sun and seeing first-hand things like sunspots, solar flares, and prominences gave me a new, reverent appreciation for the Sun. This star makes all life on Earth possible, provides all the

energy on this planet, and is by far the most significant object in the sky. I was really impressed with what I saw with my own eyes. This is what astronomy is all about.

I had my first look through the PST using the 12.5mm eyepiece that was supplied with the instrument. The PST presents the Sun in hydrogen-alpha ( $H\alpha$ ) wavelengths, giving you a clear view of solar prominences and activity on the surface. The field of view was slightly larger than the image of the Sun, giving me a lot to take in with one viewing. I found that I needed to train my eyes to see more detail, much like looking at faint fuzzy Messier objects. The color of the Sun appeared deep orange.

I next viewed the Sun through the 5-inch Mak-Cass ETX with a regular "non- $H\alpha$ " (thanks to Deb Wagner for this designation) solar filter attached, and a 15mm eyepiece. This view was excellent, but provided less surface detail than the PST. In this instrument the Sun appeared a faded yellow color, with sunspots very clearly visible as dark dots. The Sun nearly filled the field of view. Next, I viewed it with a 9mm eyepiece. Only half the Sun's disk then fit in the field of view, but I didn't really detect much more detail than with the 15mm eyepiece.

I did learn that simply finding the Sun with a telescope equipped with a solar filter is no easy task. The PST offers a clever dot-type finder, but it's a different story with a regular scope. You can't use the finderscope! Looking up the telescope tube is out also, due to the Sun's glare. What to do? Projecting the finderscope's shadow on your hand until it appeared straight-on worked fairly well, but I still don't think I could easily do it myself just yet.

I really enjoyed observing the Sun through these instruments. I need to repeat my earlier warning: **NEVER LOOK AT OR TOWARD THE SUN THROUGH A TELESCOPE WITHOUT A SAFE FILTER ATTACHED.** Doing so will cause instant and irreversible blindness. Please be sure the filter you intend to use is designed for observing the Sun. [!\[\]\(d3102649f02e825ddb76dc3de0190154\_img.jpg\)](#)



**Bill Breeden observes through the PST (foreground) while Jeff Menz peers through a filtered Meade ETX.**

# Mountain climbers

## The Kryfkas visit Kitt Peak National Observatory

AN INTERVIEW WITH BRUCE KRYFKA

**H**ow did you and your wife decide to spend a day at Kitt Peak in Arizona? I had the idea in my head for quite awhile. This was just a simple vacation for us to get away and look at the area from a retirement point of view. It's a nice area to visit with lots to see and dark skies if you get away from the Tucson area. Kitt Peak was the highlight of the trip. I wanted to try the all-night observing program but I planned my trip at the wrong time.

**Was it a hard trip up the mountain?** No. Its a nice ride up there — a little steep but it's a paved road. I wouldn't recommend going there on a bicycle. Nothing to see other than the road and a few cactus until you start reaching the peak then the telescopes come into view. Actually, the 4-meter is the only one visible from the road where you start to make the climb up.

**Any surprises?** It was a little strange to see Border patrol cars all around. I guess they have a problem there with illegals trying to come across — they all gather in South Tucson. Reminded me of my home town Chicago. But it was fun.

**How did the thin air make you feel?** I didn't feel any different at 6800 feet up.

**What impressed you the most?** Seeing all the telescopes and learning how they came about. The guided tour was superb.

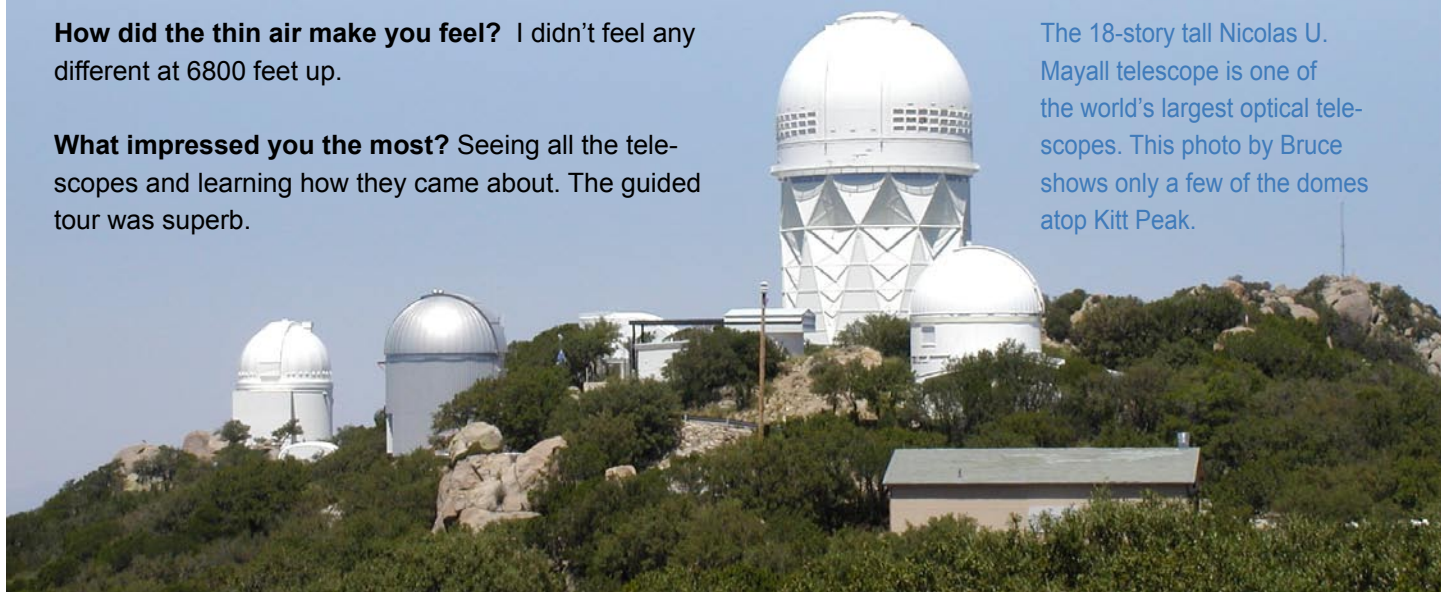
**Would you recommend the tour?** Yes, Yes, Yes! If possible, get reservations for the night observing program in advance — its a popular program and is filled up each night. The overnight program is a bit expensive but if you want to use a state of the art telescope with all the bells and whistles, it's available. Reservations are needed for that one, too...months in advance. Plan wisely.

**How's the sky?** I knew that there was a light pollution problem with Tucson but they also have a problem with the light dome from Phoenix 150 miles away and some of the smaller towns that are increasing in size.

**How much did you get to see?** There are only three telescopes open to the public— the Solar, the 2.3 and the 4-meter, which is the largest on the mountain. The two used for the overnight programs are the 20-inch RC Optical System and the 16-inch Meade SCT and both scopes are fully loaded with equipment. 📷

**Web site:** [www.noao.edu/kpno/](http://www.noao.edu/kpno/)

The 18-story tall Nicolas U. Mayall telescope is one of the world's largest optical telescopes. This photo by Bruce shows only a few of the domes atop Kitt Peak.



# X Prize awarded

## The Spirit of St. Louis makes history, again

BY MARK BROWN

**S**pace Tourism: Ordinary citizens buying tickets to space and back. Many people find this idea futuristic. But on September 29 and October 4, 2004, the idea of ordinary citizens traveling to space became one step closer.

Burt Rutan and his company, Scaled Composites, sent Mike Melvill and Brian Binnie into space twice in one week aboard a privately designed rocket ship dubbed SpaceShipOne. Those “test pilots” (now certified “astronauts”) piloted the craft to altitudes above 62.5 miles (100 km) or 328,000 feet. This is the official FAA designation that defines where Earth’s atmosphere ends and space begins. So what, you say? By doing so, Rutan was able to galvanize the private space flight business and overcome government control over human space flight efforts.

The X Prize foundation got its start in St. Louis in 1996, when its creator Peter Diamandis read Charles Lindbergh’s “The Spirit of St. Louis” and realized how aviation contests, like the \$25,000 Orteig prize awarded to Lindbergh, helped launch mainstream air travel.


Next, several aviation enthusiasts donated \$25,000 apiece to jump-start the X Prize concept. The Ansari family of Texas then pledged more than \$1 million, which helped draw more investors like Microsoft billionaire Paul Allen. Allen then partnered with Rutan forming Mojave Aerospace Ventures.

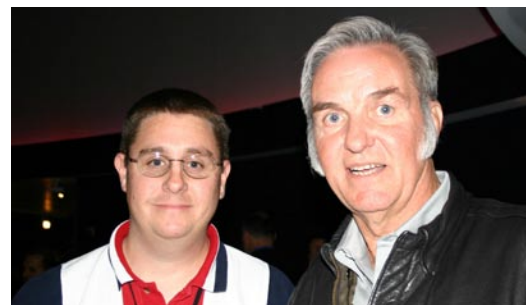


The competition’s criteria called for a private spacecraft to fly twice, within a two-week period before the December 31 deadline, with a pilot and the weight equivalent of two additional people — and, of course, return safely to the earth. Mojave Aerospace Ventures won the prize and beat out over 20 other teams from around the world that had entered the competition.

People can realize their dream of space travel because the technical know-how to make passenger space launch vehicles is now available. “We’ve always known that our prize is just a start,” said Gregg Maryniak, the X Prize’s executive director. “The real prize is the business, opening the frontiers of space for everyone.”

On November 6, ceremonies were held on a field adjacent to the St. Louis Science Center, a major supporter of the foundation to award Mojave Aerospace Ventures their prize. Burt Rutan accepted the Ansari X Prize money, along with a 150-pound trophy, and likened the victory to David versus Goliath.

Peter Diamandis summed it all up by saying, “All of you will have a chance to go to the stars. Know it in your heart, it’s not an if — it’s a when.” 



**Left: The \$10 million dollar check is awarded to Mojave Aerospace Ventures on November 6th. Pictured from left to right: Doug King (CEO and President St. Louis Science Center), Erik Lindbergh (back), Burt Rutan, Gregg Maryniak, Paul Allen, Robert Weiss, Peter Diamandis, and Amir Ansari. At right: Mark Brown, RBAC member and St. Louis Science Center employee, meets Burt Rutan, right.**



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# November aurora

**Colors light up the night. It's autumn déjà vu all over again.**

**BY MARK BROWN**

**A**n Aurora Warning for the mid-latitudes was issued shortly after 4:00 p.m. local time on Sunday, November 7th, 2004. I quickly began looking at the various websites to determine the intensity of the aurora. To my surprise, everything was in our favor and it seemed apparent that we should see auroras shortly after sunset. The AEWS (RBAC's Astronomical Early Warning System) went into effect and people were notified. I loaded my kids and camera gear into the car and we headed toward St. Jacob.

A definite green-blue arc extended from NW to NE by 5:30 p.m., yet twilight had not ended. Shortly thereafter I made a call to Deb Wagner during which she exclaimed, "It's going red!" Brilliant blotches of red emerged above the green northern glow and was visible to nearly the zenith. Gary Kronk soon joined me at St. Jacob Park where we shot nearly 300

images between ourselves with our Canon Digital Rebel cameras. Below is one example of the brilliant colors we were able to capture.

This was the best auroral display I had seen from any location. I didn't think anything could top the aurora of October 28, 2003, but I was wrong. I was amazed at the movement of the auroral curtains and the pulses and flashes emitted by the pillars.

The show appeared to die down around 8:00 p.m., but a definite green glow was visible in the north the entire evening. Later at about 10:30 p.m., the sky opened up again with vivid auroral curtain displays. Deb Wagner and I spent several minutes on the phone to one another marvelling at this sight and comparing views from our separate locations. With each aurora, we've become a bit more spoiled than the last — only to wonder what next year will bring. [fb](#)



**A "green snake" auroral ribbon swirls up and overhead on November 7th, 2004. Photo by Mark Brown.**

# The River's Edge

BY ERIC YOUNG

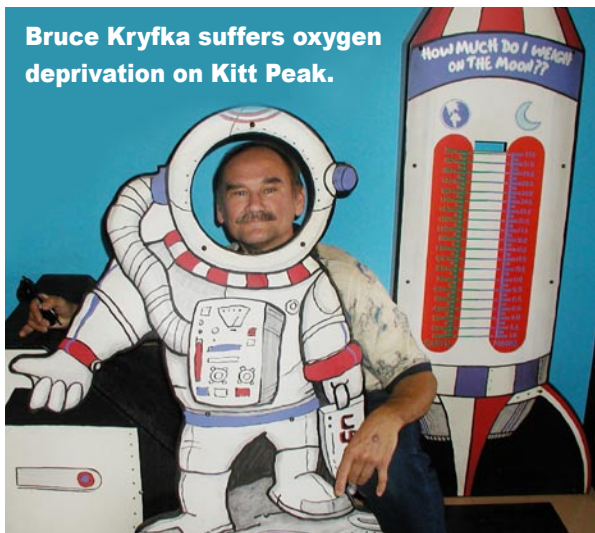
## Another cloudy night, but then...

**NOVEMBER 13, 2004** Since we were socked in with clouds, we watched *Cosmic Voyage*, a show about the relative scale of the universe from microcosmic to macrocosmic. What a mind-blowing experience, especially since Gary Kronk showed the end of the tape — because he'd forgotten to rewind it — then started at the top...omega, alpha, omega again.

**DRAWING ON EXPERIENCE** Members discussed drawing as an observing practice when studying planets, comets and constellations. Lois Butler is working on her Constellation Club certificate which requires drawing the stars visible within a constellation.

**FREE ENTERPRISE** Deb Wagner wants to sell advertising space on her telescope's tube in order to support her photon-gathering habit. Any takers?

**BANK ON IT** Founding member Ed Cunnius, who kick-started RBAC years ago, serves as treasurer from his home on the east coast. Now, Mike Veith has graciously agreed to step in and help as a local bean counter. No longer will Ed bury our funds in his backyard — instead money will be safely hidden in a hole in an oak tree in Edwardsville. Don't tell anyone, though.



**Opaque clouds over our area obscured the October 27th lunar eclipse. Maryland resident Ed Cunnius, however, captured this photo of the pumpkin Moon as the Red Sox trounced the Cardinals in the World Series.**

**NOCTURNAL COLORS** Many members wanted to/ tried to see the November 7th auroral display. Jeff Menz tried to wake his son but the boy was more interested in sleep. (Who can blame him, since auroras are becoming a regular autumn occurrence at our latitude.) Deb Wagner showed off her colorful photos of the geomagnetic storm.

**TRADITION CONTINUES** RBAC will hold its 5th annual Astronomy Day on Saturday, April 16, at the Children's Museum in Edwardsville. Astronomy Night will be held at the William C. Shaw Sky Lab near the SIUE campus. Event coordinator/weatherbird Mark Brown says that "the Moon will be at first quarter and within 6 degrees of the Beehive Cluster, Saturn will be 12 degrees west of the moon and Jupiter will shine like a diamond in the eastern sky."

**STARRY NIGHT** This event runs from 5:30 p.m. to 7:30 p.m. on January 15, 2005, at Children's Museum. We need enthusiastic people, willing to brave the cold, to bring telescopes and binoculars and set up in the ballfield next to the museum.

**TO THOSE WHO WAIT** The sky cleared, we ventured into the backyard, out came Jamie Goggin's Discovery telescope and several pairs of binoculars. Mighty constellations — the charioteer, the hunter, the twins, and the bull commanded our attention until chills set in. These wintry jewelboxes will highlight the evening sky just in time for the holidays. [↗](#)



# December 2004



November 2004

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
| 31 | 1  | 2  | 3  | 4  | 5  | 6  |
| 7  | 8  | 9  | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 1  | 2  | 3  | 4  |

January 2005

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
| 26 | 27 | 28 | 29 | 30 | 31 | 1  |
| 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | 1  | 2  | 3  | 4  | 5  |

■ Holidays    
 ■ Moon Phases    
 ■ RBAC    
 ■ Space Mission    
 ■ Observing    
 ■ Trivia

| Sun                                   | Mon   | Tue                         | Wed   | Thu                       | Fri   | Sat   |
|---------------------------------------|---|-----------------------------|---|---------------------------|---|---|
| 28<br>● Mariner 4 Launch (1964)       | 29  | 30                          | 1   | 2<br>● SOHO launched 1995 | 3<br>● 30th ann. of Pioneer 11 Jupiter flyby                  | 4<br>● Last quarter 6:53 p.m.                       |
| 5<br>● Mars is 1.2 degrees from Venus | 6   | 7<br>● Moon occults Jupiter | 8<br>● Hanukkah first day                           | 9                         | 10<br>● Major planets line up                                 | 11<br>● RBAC meeting 7 p.m.<br>● New Moon 7:29 p.m. |
| 12                                    | 13<br>● Geminids peak<br>● Cassini: 2nd Titan flyby   | 14                          | 15<br>● Cassini: Dione flyby                        | 16                        | 17  | 18<br>● First quarter 10:40 a.m.                    |
| 19                                    | 20  | 21<br>● Winter Solstice     | 22<br>● First Light Hale Tel. 1947<br>● Ursids peak | 23                        | 24<br>● Huygens probe release<br>● C/2003 K4 closest to Earth | 25<br>● Christmas Day                               |
| 26<br>● Full moon 9:06 a.m.           | 27<br>● Johannes Kepler b.1571<br>● Eric Young b.1964 | 28                          | 29  | 30                        | 31<br>● New Year's Eve  | 1   |