



Current JANUARY
Astronomy 2004

RIVER BEND ASTRONOMY CLUB NEWSLETTER



Few farms have such a fence: A hexagonal enclosure and a nearby storage shed make for easier astronomy, and an RBAC member built it for less than the proverbial pot of gold. A rainbow appeared to rise out of the “corn field observatory” on September 13, 2003. PHOTO BY ERIC YOUNG

Space for (outer) space

Observer thinks outside the box – or, dome

BY ERIC YOUNG

Our house has all the usual rooms — bed, bath, kitchen, living, dining — that make a home: places to eat, sleep, brush teeth, amuse ourselves and put stuff away. But until recently we had no space for stargazing.

My telescope was sentenced to hard time in the basement or the garage — dark, dusty cells with no escape excepting the clearest nights. Outside setup, as well as the often time-consuming scavenger hunt for lights, charts, chair, table and other accessories, was daunting enough to keep me armchair-bound.

My telescope — my hobby — needed a home.

A dedicated observer soon desires an astronomical “home” for a telescope, a place where all stands ready any clear night, a place that, although it may lack the panache of Palomar mountain, still holds great expectations for every eyepiece. And the advantages of a home observatory extend beyond convenience. Walls can block frigid, telescope-jiggling winds and may also hide distracting stray light. This is why amateur astronomers turn amateur architects and builders — or hire professionals — to turn observatory dreams into reality.

Amateur observatories are as varied as the stargazers who make them. Some cover permanent, pier-mounted telescopes with lightweight, weatherproof boxes that come off for use. Others build small sheds where top and sides open or the whole roof rolls off to reveal big scopes. And in the ultimate paean to professional sky watching, some serious folks build or buy venerable, white, domed-roof classics: mountain-top temples of the heavens in miniature to adorn special backyard instruments. Yet wherever imagination leads, any observatory must be engineered to withstand Mother Nature’s darker moods, despite the fact that the roof must open or come off, whereas a typical building depends on the interlocked integrity of walls and roof for stability. Also, big permanent structures must meet the approval of skeptical zoning boards. And don’t forget cost...which can really creep

... a typical backyard

**observatory enshrines and
protects a particular investment**

– that is to say, instrument –

and thus serves the special

needs of only one telescope.

up on you. Even a shanty’s worth of lumber and hardware can really ring the register at a neighborhood builder’s supply.

Speaking of cost, a typical backyard observatory enshrines and protects a particular investment — that is to say, instrument — and thus serves the special needs of only one telescope. Today’s popular compact telescopes take up little space and can squeeze into small protective structures. Traditional long-tube telescopes like mine, however, need a bit more elbow room. In addition to using my four-foot-long reflector, I also enjoy armchair meteor watching as well as using tripod-mounted binoculars, so I wanted room enough to handle all this activity and then some. (Can you say, “Star party!”)

After much daydreaming, sketching, head-scratching, and educational forays to hardware stores, I decided to combine a sizable, multi-purpose, open-air observing area with nearby storage. Today, my hybrid solution feels right at home near a corn field on the family farm where we used to raise crops and livestock. Funny, but my “shed and a pen” concept is not unlike the humble quarters that once housed our pigs and poultry (although it smells much better!).

Pre-made wooden fence panels measuring eight foot wide and six feet tall circle the “pen,” a hexagonal

ring of six panels. This encloses just enough space and puts the walls just far enough from my telescope to let me see a broad swath of sky. (Like most observatories, the walls of mine hide objects near the horizon, but that hazy region isn't ideal for viewing telescopic objects anyway.) The panels were securely bolted to upright four-by-fours set in concrete. Taller than the fencing, the protruding poles reference a famous large circle of wooden posts planted by local prehistoric mound builders long ago, presumably for use as a "sun calendar" to mark the seasons. One panel of my hexagon swings open as an entry way and a gravel floor keeps my feet warm and dry (bet the mound builders didn't think of that amenity). A deck chair within makes for comfortable moon bathing.

With gate panel shut, wind, stray lights, and drooling coyotes are kept at bay.


North of the pen, I built a shed that makes older visitors do a double take. No, it isn't...but yes, it looks like a two-seater outhouse. Actually, it resembles ice shanties that northerners drag onto frozen lakes, and just like those fishing shacks, mine sits on a sled



runner, for possible relocation someday. Though tiny, the four by six foot shed stores telescope, accessories and writing desk.

Six walls and a shed transformed a backyard corner into a personal window on the universe. My outdoor room frames the sky and focuses my mind upwards. Now my optical equipment is always handy and easy to set up. Watching from my

lounge chair in the "pen," I trace constellations as stars and planets arc overhead and meteors ignite in flight. I can study a cluster through my binoculars or align the telescope for a closer look — or just lay back and enjoy the show.

My home observatory was a worthwhile investment in my hobby and makes it easier and more fun to do my kind of astronomy. I feel home, sweet * starry * home at last. 



No pigs in this pen — rather, a corral of optics to serve a country stargazer. Left: The six-inch Newtonian reflector telescope stands ready, the binoculars are tripod-mounted in front of a "bucket seat," and the deck chair is available for really laid-back viewing. Above: The telescope tube cradled against the wall inside the shed.

Wild rendezvous

NASA's Stardust mission will capture particles from a comet and return the sample to Earth.

BY PATRICK L. BARRY AND DR. TONY PHILLIPS

Philosophers have long sought to “see a world in a grain of sand,” as William Blake famously put it. Now scientists are attempting to see the solar system in a grain of dust — comet dust, that is.

If successful, NASA's Stardust probe will be the first ever to carry matter from a comet back to Earth for examination by scientists. It would also be the first time that any material has been deliberately returned to Earth from beyond the orbit of the Moon.


And one wouldn't merely wax poetic to say that in those tiny grains of comet dust, one could find clues to the origin of our world and perhaps to the beginning of life itself.

Comets are like frozen time capsules from the time when our solar system formed. Drifting in the cold outer solar system for billions of years, these asteroid-sized “dirty snowballs” have undergone little change relative to the more dynamic planets. Looking at comets is a bit like studying the bowl of leftover batter to understand how a wedding cake came to be.

Indeed, evidence suggests that comets may have played a role in the emergence of life on our planet. The steady bombardment of the young Earth by icy comets over millions of years could have brought the water that made our brown planet blue. And comets contain complex carbon compounds that might be the building blocks for life.

Launched in 1999, Stardust will rendezvous with comet Wild 2 (pronounced “Vilt” after its Swiss discoverer) on January 2, 2004. As it passes through the cloud of gas and dust escaping from the comet, Stardust will use a material called aerogel to capture grains from the comet as they zip by at 13,000 mph. Aerogel is a foam-like solid so tenuous that it's hardly even there: 99 percent of its volume is just air. The ethereal lightness of aerogel minimizes damage to the grains as they're caught.

Wild 2 orbited the sun beyond Jupiter until 1974, when it was nudged by Jupiter's gravity into a Sun-approaching orbit-within reach of probes from Earth. Since then the comet has passed by the Sun only five times, so its ice and dust ought to be relatively unaltered by solar radiation. Some of this pristine “stuff” will be on board Stardust when it returns to Earth in 2006, little dusty clues to life's big mysteries.

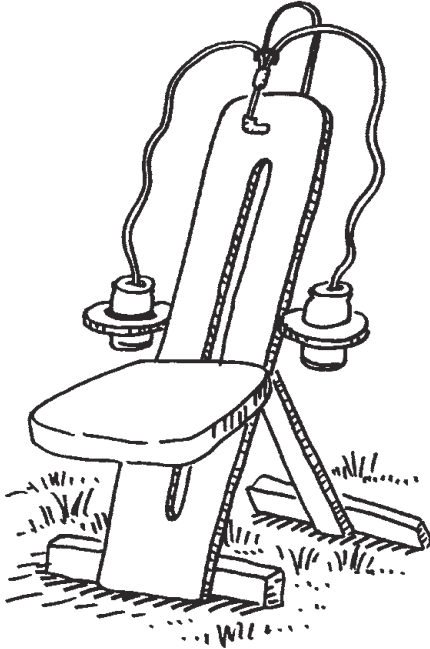
To learn more about Stardust, see the mission Web site at stardust.jpl.nasa.gov. Kids can play a fun trivia game about comets at spaceplace.nasa.gov/stardust. 

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

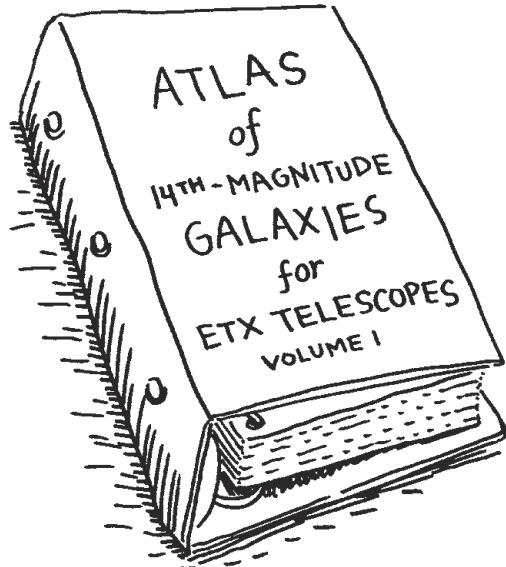
The River's Edge

BY Y. DIDN'T U. PTOLEMY

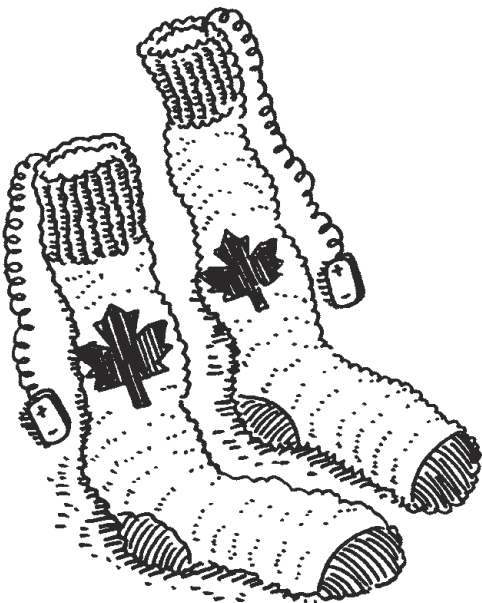
Presenting some things you won't soon see at RBAC



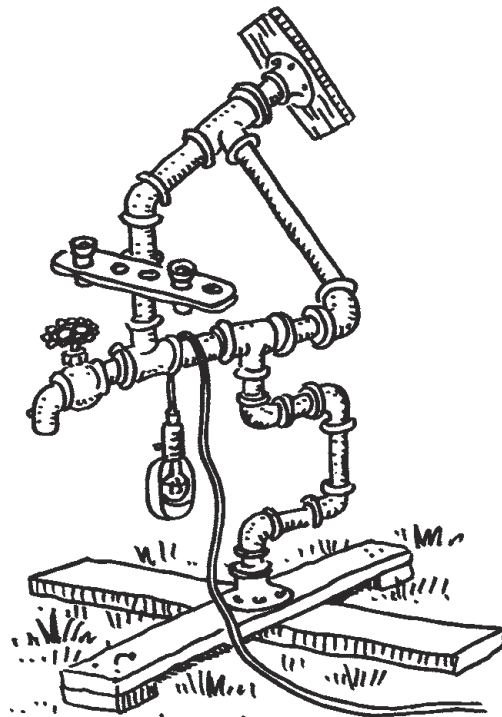
Jamie Goggin's homemade observing chair with drink holders.



Mike Veith's big book of really deep sky objects.



Toronto Maple Leafs battery-powered socks belonging to George Roethemeyer.



The pipe mount for Ed Cunnius' Astro-Physics refractor.

Arc Minutes

Let it snow, let it snow, let it snow

DECEMBER 11, 2004, ATTENDEES

Gary Kronk, Kurt Sleeter, Mark Brown, Deb Wagner, Lois Butler, Bruce Kryfka, Eric Young, Mark Young.

A WINTRY MIX The first seasonal snow fell just in time to decorate our December meeting. Messy roads didn't deter our hardy crew, though some were unable to attend due to other holiday commitments.

GOOD EATIN' No one arrived empty handed: there was ham and homemade sourdough bread and a cheese ball and treats and plenty of Ski soda. Fortunately, Bruce Kryfka stirred up a pot of curly noodles, one of the few food groups that my son, Mark, will eat.

AMERICANS IN PARIS Club president Gary Kronk has been asked to participate in the Third International Workshop on Cometary Astronomy, to be held June 4–6, 2004 in Paris and Meudon, France. Organizers of the event really wanted Britney Spears, who wouldn't return their calls, but they eventually settled for Gary after he agreed to wear a belly button ring. Full details are pending.

RBAC GOES TO FRANCE All RBAC members will accompany Gary and his wife, Karen, on the trip, so we can scope out the international comet scene and heckle him when he gives his talk. Club dues will be increased \$1,500 per person this year to pay for plane fare and souvenirs. Everyone will sleep on cots in Gary and Karen's hotel room. Did I mention they'll be celebrating their 25th wedding anniversary?

VISIT TO KSDK RBAC ambassadors Gary Kronk and Mark Brown were invited to visit KSDK-TV in November. "John Fuller and Cindy Preszler are really nice people," noted really nice visitor Gary Kronk. Fuller, said Gary, was enthusiastic about the station's capabilities and delighted in showing off the computerized equipment. Visiting the sets, staying out of the way of the robotic cameras, Gary and Mark toured the facility with a new RBAC member, Steve Mifflin, who's

employed at the station. Mark presented the weather people with several photos as gifts. KSDK, you will recall, broadcast the club's aurora photos.

MORE IRONS IN THE FIRE Needing some warm clothing with winter coming on, and wanting it personalized with genuine RBAC logos, Deb Wagner and Lois Butler purchased something new from Office Depot — Avery Personal Creations Printable Fabric, an inkjet-printable cotton fabric that can be ironed- or sewed-on. The examples they were wearing looked good. The fabric patches are easier to apply and may wear better than the other transfer materials we've experimented with.

MARK'S MIGRATION RBAC stalwart Mark Brown, astronomy day instigator and all-around enthusiast, looks to become a long-distance member come this summer. Mark's military-career wife will invade another base then, and Mark and the kids will be making new friends in a new place once more. Mark will keep us alerted as details firm up. Plans for Mark to hide in a hole with an air vent in Gary's backyard are still preliminary and subject to change without notice.



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

Officers

PRESIDENT Gary Kronk
VICE-PRESIDENT Kurt Sleeter
TREASURER Ed Cunnius
LEAGUE CORRESPONDENT Jamie Goggin
SECRETARY Eric Young

Membership

ADULT \$10.00/year
(18 years or older)
YOUTH \$8.00/year (under 18)

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Astronomical League

Members of the world's largest amateur astronomical organization.

WEB www.astroleague.org

Current Astronomy Club Newsletter

EDITOR Eric Young
E-MAIL younger@wustl.edu
Submissions to the newsletter are encouraged. Contact the editor for more information.

THE FIENDISH HENRIETTA Conversation veered to the story of Henrietta Swan Leavitt (1868–1921). Leavitt was called a “variable star ‘fiend’” by one of her contemporaries, so prolific were her discoveries in the Large and Small Magellanic Clouds. Her examination of photographic plates at Harvard College Observatory led her to grasp the relationship between the brightness and regular pulsations of Cepheid variable stars, enabling astronomers to measure the distance to Cepheids in other galaxies.

NO JOSHING Santa’s sleigh arrived early at the home of Kevin Sleeter and family with a new 10” Dobsonian reflector telescope from Hardin Optical Company. These scopes are an incredible value and come with a great finder for star hopping and a mind-blowing two-inch eyepiece — get outta town! After the set-up, Josh, Kevin’s son, trained the telescope on Saturn and put the big mirror to task estimating the relative brightness of stars. With budding observing skills like that, Josh may soon shame his uncle Kurt Sleeter, RBAC vice-president. Kurt’s vocal pitch rises in direct proportion to an object’s magnitude, a handy reference point for companion observers standing in the dark. Will Josh’s genetics lead him to do the same?

DO YOU YAHOO!? All is well with the Yahoo! Groups Web site and discussion group. Thanks to Mark Brown for setting this up. To register, go to www.yahogroups.com. You’ll be prompted to create a unique Yahoo! ID and password. When that’s done, go to <http://groups.yahoo.com/group/RBAC/>. View the postings, calendar, images, and more! The Yahoo! chatterbox worked well as autumn aurora mania wound down. Since then, the message-sending cooled as more of us spent time and money partying and shopping instead of observing. Oh, well. Everyone eagerly anticipates returning to our sad and lonely existences, desperately reaching out for some human companionship through our computer keyboards, soon after the holidays.

NEWS-WORTHY A plaque of appreciation was presented to your humble newsletter editor, “for informing, enlightening, and entertaining us with the *Current Astronomy* newsletter.” My pleasure, folks.

CROCK OF POOP New to astronomy? You may not realize that all companies that purport to “sell” stars to the public are complete scams! The heavens, among other extraordinary best things in life, remain free. Cosmic sights are identified by international scientific convention, period. Plus, it’s an embarrassment to the recipient when they discover the truth from a knowledgeable astronomer faced with the unenviable task of setting the record straight. The deception is, however, apparently legal, not unlike the fundraising schemes of certain televangelists. Leave the stars to the care of angels or astronomers, as you like, just don’t pay anyone so much as a dime for the privilege of sharing the night sky.

MARATHON MADNESS Several members are just itching to try their hands, or eyes, at a bona fide Messier marathon this spring. The Messier objects, a favorite list of telescopic targets for amateurs, span the sky, and on a few select nights a year it’s possible (though far from probable) that you can see each and every one. Pulling this off requires planning, practice and a whole night’s worth of persistence from dusk until dawn. Serious observing it ain’t, but a serious challenge and maybe serious fun while testing you and your telescope’s true grit. Gary Kronk has a book that reveals some secrets of a successful marathon — he promises to study it for the next meeting and encourages other members to learn what they can about “running” the marathon. Jamie Goggin has suggested the Greenville Observatory as a good dark site for a marathon, as it has electricity, though no bathrooms. Will you take the challenge? Looks like 2004’s best chances are March 19th or 20th.

SCRAP PAPER RECYCLING A three-ring binder scrapbook of club news clippings, photos, newsletters and more has been started by Deb Wagner. She’s willing to share it at future meetings and public events, but stresses that the book is her own personal memento and will remain in her possession. Bringing the scrapbook up-to-date, Deb inserted several slices of ham and cheese and a large piece of fudge for future reference.

Arc Minutes continued on page 8

January Events



Museum-goers gather while Kurt Sleeter and Tom Schalk survey the telescopes at Astronomy Day, 2003.



SPECIAL EVENT

Saturday, January 10, 2004 • 5:30 p.m. – 7:30 p.m. • Children's Museum at Edwardsville (Setup at 5:00 p.m.)

STARRY, STARRY NIGHT

JANUARY MEETING

Saturday, January 17, 2004 • 7:00 p.m. • Kronk Observatory

PLANNING FOR ASTRONOMY DAY, 2004

Arc Minutes *continued from page 7*

PLANNING FOR ASTRONOMY DAY


Through Astronomy Day, RBAC has reached out to people of all ages and interest levels with the message that astronomy is fun and interesting for everyone. We've triumphed over a tornado, battled rain and heavy wind, and through it all we've learned a thing or two about how to plan, promote and host a public event. It takes some effort, and last year we were fortunate to benefit from the tireless efforts of Mark Brown, who'd had experience hosting Astronomy Days elsewhere. Also, the Children's Museum at Edwardsville were family-friendly hosts and offered an accessible location. At the January meeting, we'll plan for 2004's event. If you're new to Astronomy Day, visit: <http://www.astroleague.org/al/astroday/astroday.html>

RAISE YOUR GLASS Please consider making a small contribution for refreshments at future meetings so we can remain fat and happy stargazers. Deb Wagner is concerned that Gary opens his house to us, and even cleans up after us, so therefore he shouldn't have to provide us drinks, too. In other news, there will now be a \$7 parking fee, a \$25 backyard observing site fee, and 75 cents per toilet flush (all to subsidize the international plane tickets, of course).

STARS COME OUT On January 10th, the Children's Museum at Edwardsville will host "Starry, Starry Night." Last year, Jamie Goggin and Tom Foster attended and gave folks a look through telescopes. Says Tom, "Since this is the first time looking up for many of the visitors, it's fun." Please consider joining us for this year's event. See above for times.

ALL SEWED UP ImageWorks of Troy, IL, has offered a great deal on logo embroidery/stitching. Thanks to Lois Butler for inquiring about this — a nice option when we're ready to move up from the iron-ons.

THE DARK SIDE OF THE RAINBOW

As a holiday showing of the *Wizard of Oz* came on Gary's big-screen TV, the RBAC'ers began discussing the effect of synching this movie with an audio recording of Pink Floyd's *The Dark Side of the Moon*. I'm familiar with the movie, I'm familiar with the music, and I've heard of this legendary coincidence, though I've never tried it myself. Gary and Mark, however, devoted several years of their lives to decoding this mystery, whenever they needed a break from analyzing pyramid alignments and devising JFK conspiracy theories. The following Web site explains this audiovisual curiosity. (By the way, the audio and video must be precisely synchronized to make it work — yes, the site offers complete instructions). http://members.cox.net/stegokitty/dsotr/_pages/dsotr.htm 

January 2004



December 2003

S	M	T	W	T	F	S
30	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

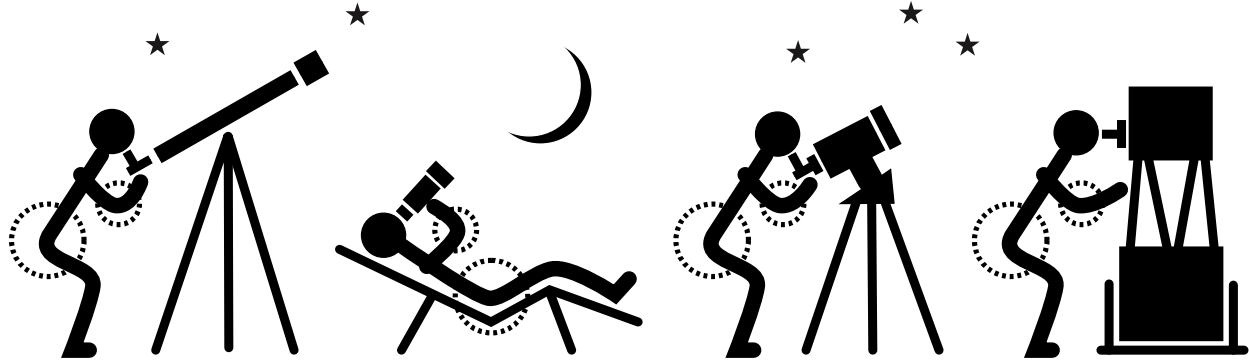
February 2004

S	M	T	W	T	F	S
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	1	2	3	4	5	6

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

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30 ■ First Quarter Moon	31	1 ■ New Year's Day ■ Saturn at peak magnitude	2 ■ Stardust samples Comet 81P/Wild 2	3
4 ■ Rover Spirit on Mars ■ Quadrantid meteor shower	5	6 ■ Moon near Saturn at dusk	7 ■ Full Moon	8	9	10 ■ Starry, Starry Night at Children's Museum, setup at 5:00 p.m.
11	12	13	14 ■ Uranus 1 degree N of Venus in ■ Last Quarter Moon	15	16	17 ■ Mercury at greatest elongation ■ RBAC meeting 7 pm
18 ■ Antares near Moon in morning sky	19 ■ Martin Luther King Jr's Birthday (observed)	20	21 ■ New Moon	22	23	24 ■ Venus near Moon in evening sky
25 ■ Rover Opportunity on Mars	26	27	28	29 ■ First Quarter Moon	30	31

We recommend light bending nightly.



Exercise your sense of wonder — join the River Bend Astronomy Club.

Meteoroids explode high above the Earth. Comets exhale dusty, million-mile-long tails while hurtling towards the Sun. Galactic collisions rip stellar systems to shreds of stardust. Oh, and don't forget the Big Bang...

These aren't scenes from Hollywood's latest action flick. The drama of the universe plays nightly over your backyard. All it takes to enjoy the show is a little know-how and maybe some modest optical equipment. Popcorn is optional.

While often exciting, astronomy is also a peaceful, deeply meaningful, and some might say spiritual pursuit, a search for a "cosmic connection"—reaching out from our tiny blue world to try and grasp our place in the universe.

The thrilling WOW! of a child's first glimpse of Saturn through a telescope as well as quiet, personal moments are among the many rewards of amateur astronomy. The River Bend Astronomy Club aims high to make your pursuit as rewarding as possible.

Anyone interested in learning more about astronomy may join. Expensive tools or special skills are unnecessary. But space is a big place—it helps to know someone with a road map. Members have maps, and they'll gladly show you around the sky—plus you'll enjoy sharing great sky views using quality astronomical telescopes. Besides, it's more fun to share the night together (and having a friend close by helps ward off night-feeding hungry bears, surprise alien attacks, etc.).

Through club membership, you join the Astronomical League, a national federation of over 240 local astronomy societies. The League's many special programs and quarterly newsletter will 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?



River Bend Astronomy Club Membership Application

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)
 @ \$10.00/year @ \$8.00/year
 (18 years or older) (under 18)

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

Signature _____

Date _____

River Bend Astronomy Club
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