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RIVER BEND ASTRONOMY CLUB

NEWSLETTER \* August 18, 2003

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> NEXT MEETING

Saturday, September 20, 2003  
Kronk Observatory Kitchen  
7:00 PM

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> PROPOSED MEETING SCHEDULE

The president proposes the following meeting schedule. Please compare it to your personal calendar and send Gary your comments.

Saturday, October 18  
Saturday, November 15  
Saturday, December 13

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> MARS VIEWING EVENT

After the Highland News Leader inquired about the club's Mars plans, Gary and Mark decided to hold a public event at St. Jacob Park on September 5, with September 6 being a rain day. (Gary said he hated to pass up the free publicity...) Gary and Mark have made this commitment and invite other club members to join them. "If the public turnout is not very good," said Gary, "at least the group can have another Mars observing session." Please e-mail Gary if you want to join in.

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> PRESENT AND ACCOUNTED FOR AT THE AUGUST MEETING

Deb, Lois, George, Mark, Gary, Eric, Mark, Jamie, Mike

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> LUNAR ECLIPSE NOVEMBER 8

Club members may want to view this event together. Stay tuned for more discussion.

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> HIGH ON ASTRONOMY

As this newsletter goes to "press," Gary Kronk and Mark Brown should be perched somewhere atop Mt. Evans in Denver. Based on their research proposal they were selected to be part of a summer observing program. Through thin air at 14,148 feet elevation the boys will be watching comets (as well as keeping an eye on Mars.)

We share Gary and Mark's pride in this opportunity--a fitting reward for their continued dedication to amateur astronomy. And out of the expedition shall come stories as well as data that the club can share.

The observatory's live webcam may catch a glimpse of them in action. Mark said, "We'll be up there from August 18 thru August 23rd or 24th. You can probably start to see us at the observatory between the hours of 8pm to 6am local time (7pm to 5am MT)."

<http://womble2.phys.du.edu>

Mark noted that the webcam has been experiencing problems due to a lightning strike at the observatory in July. "Hopefully, things will be fully operational when we get there."

The observatory's web site is located at:

<http://www.du.edu/~rstencil/MtEvans/>

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> MAD MAN MARTIAN MARK

Even more fascinating than a close opposition of Mars are the untiring imaging efforts of Mark Brown. In fact, due to Mark's many fine Mars pictures--produced using his new webcam and drawing upon his years of experience in astrophotography--I've been able to sleep soundly in my warm, bug-free bed while Mark did the hard work outside. Mark's pictures make my pencil sketches from two years ago pale by comparison (although mine did have that personal scribbly touch.) The quality of Martian Mark's images thus far has been outstanding, and it's a delight to compare the detail he captures with the computer-generated maps he also supplies.

To grab his images, Mark has uses a ToUcam, an electronic device with a name TooCute, and then processed the frames using software called Registax. Mark said the camera is not made in the U.S. and is available only through two suppliers. Contact Mark for more information. Or better yet, just ask him to take a picture for you.

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> MARS NEARS

And on August 27th it will be the closest it's ever been since the dawn of time, since the Big Bang, since your favorite team won the World Series, since... oh well, however long it's been it's the closest, biggest Mars you'll ever see. Jace realizes it's a workday for most people but asks: Is anyone interested in observing Mars on the 27th? Jace was thinking of either going to Carlyle Lake or the Greenville Observatory (provided we have permission). "I don't want to miss this once in a lifetime opportunity," he said. Drop Jace a line if you wish to join him.

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> ARMCHAIR ASTRONOMY SUPPLIES

More than enough members signed up for Sky and Telescope magazine subscriptions, according to club treasurer Ed Cunnius. However, he later got a better deal on "Reptile and Amphibian World Weekly," so that's what he ordered with the money you sent; just read it when it comes and shut up about it.

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> STILL WORKING TO PUT SHIRTS ON OUR BACKS

Members agreed that proper attire would make future public events extra special, and help hide our dingy gray underwear. "The Shirt Man" George promised to get prices on customized shirts and he has done so. In order to defray the cost, it was suggested that we print sponsor logos on the fabric, just like race car drivers. But instead of Pennzoil and Viagra, we might have logos for Orion, Celestron, Meade, AstroPhysics...

Here's George's latest numbers:

White pocket t-shirts:

12-35	36-71
\$7.45	\$6.25

(There would be four screen charges of \$15.00 each.)

For colored shirts, we would need to add white to the logo for the whitebackground, so this would be a five-color imprint.

12-35	36-71
\$7.85	\$6.65

(There would be five screen charges @ \$15.00 each.)

So...if we were to order the t-shirts there would be a \$60 set up fee for the white t-shirt and a \$75 set up fee for the colored shirts. Then the price of the t-shirts would vary depending on how many we get. George also asked his sales rep about adding some Jackets to the order--and it turns out a second set-up fee would not be required.

Please mull over these costs before the next meeting.

In other shirt news, Jamie will try one of those desktop printer iron-on transfers and see how it looks. He intends to wash the shirt at least 50 times and see what goes first--the transfer or the shirt.

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> PROMOTING THE CLUB

Eric (that's me) has proposed a "marketing scheme" and a new brochure to promote the club to potential new members. Those present at the meeting found the concept generally likable, especially the requirement that new members serve current members fresh coffee and donuts while observing as part of a "secret club initiation ritual." Eric (that's me, again) will do more work to fine-tune the brochure and circulate it for further comments.

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> REFRACTORS MULTIPLYING LIKE RABBITS

Deb and Lois misunderstood the club membership rules and thought you had to buy a NEW telescope in order to join. So they did. They bought a BIG Orion refractor (same as Gary's.) This scope gives great views and will no doubt repay their investment. Later in the

evening, Gary was apprehended with a roll of duct tape attempting to strap the two long refractors side-by-side in order to make a "really bad ass pair of binoculars."

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> MIKE SELLS RIVER BEND

In order to meet his membership quota for the month, Mike has been in touch with someone named Larry who has indicated an interest in the club. No word on Moe and Curley, however. (All people named Larry find this sort of thing very funny.)

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> ODE TO KAREN KRONK'S CHEESE BALL

I think that I shall never see  
A cheese ball lovely as thee.  
Cream cheese, butter,  
Chocolate chips and sugar,  
This treat goes down smoother  
than almost any other.  
So when the stars dim,  
and the clouds roll in,  
I head to the kitchen  
to load up a Graham cracker  
and open wide the pearly gates  
to sweet cream cheese heaven.

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> RIVER BEND GROWIN' AND GROAN

Members requested that, as new members join, an updated e-mail list be distributed so we can all stay in touch.

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> RIVER BEND GROWIN' AND GROAN SOME MORE

If we keep on groaning, we may someday need more space than Gary's kitchen in order to accommodate all the membership. Gary said he can use his church's meeting hall for free, and if we meet on Saturday nights we can have all the mostaccioli and wedding cake we can eat.

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> BUILD YOUR ASTRO VOCABULARY: DIOSCURI

"Dioscuri: The twins Castor and Pollux reunited as stars in the sky by Zeus after Castor's death and regarded as patrons of athletes and sailors."--from Merriam-Webster's Collegiate Dictionary, 11th edition.

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> WHISPERING IN THE DARK

Following some scope time under the nearly full moon, members adjourned to the Kronk's pool furniture to enjoy friendly conversation in the cool night air. Moonbeams danced across the chlorinated pool water as members talked all things astronomical and otherwise. We were reminded how a club like ours provides a wonderful opportunity to spend time with others in a friendly, social situation. The scopes stood silent while their owners talked and laughed.

If this keeps up, we may abandon the computers and optical equipment we keep like nerd badges of honor and actually spend more time with warm human beings like other people do. We'll talk, we'll relate, we'll engage. Sure, yeah, that's what we'll do, that's it, uh, I, oh, what was all that about? Whew. What got into me? Well, nevermind, I'm going to lie down and study a software manual. Anyway, until next month...

> CLEAR SKIES

Eric Young  
River Bend Astronomy Club Secretary

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> CAREFUL PLANNING AND QUICK IMPROVISATION SUCCEED  
IN SPACE BIZ

By Tony Phillips

On December 18, 2001, ground controllers at JPL commanded NASA's Deep Space 1 (DS1) spacecraft to go to sleep. "It was a bittersweet moment," recalls Marc Rayman, the DS1 project manager. Everyone was exhausted, including Deep Space 1, which for three years had taken Rayman and his team on the ride of their lives.

DS1 blasted off atop a Delta rocket in 1998. Most spacecraft are

built from tried-and-true technology--otherwise mission controllers won't let them off the ground. But Deep Space 1 was different. Its mission was to test 12 advanced technologies. Among them: an experimental ion engine, a solar array that focused sunlight for extra power, and an autopilot with artificial intelligence. "There was a good chance DS1 wouldn't work at all; there were so many untried systems," recalls Rayman.

Nevertheless, all 12 technologies worked; the mission was a big success.

Indeed, DS1 worked so well that in 1999 NASA approved an extended mission, which Rayman and colleagues had dreamed up long before DS1 left Earth--a visit to a comet. "We were thrilled," says Rayman.

And that's when disaster struck. DS1's orientation system failed. The spacecraft couldn't navigate!

What do you do when a spacecraft breaks and it is 200 million miles away? "Improvise," says Rayman.

Ironically, the device that broke, the 'Star Tracker,' was old technology. The DS1 team decided to use one of the 12 experimental devices--a miniature camera called MICAS--as a substitute. With Comet Borrelly receding fast, they reprogrammed the spacecraft and taught it to use MICAS for navigation, finishing barely in time to catch the comet. "It was a very close shave."

In September 2001, DS1 swooped past the furiously evaporating nucleus of Comet Borrelly. "We thought the spacecraft might be pulverized," Rayman recalls, but once again DS1 defied the odds. It captured the best-ever view of a comet's heart and emerged intact.

By that time, DS1 had been operating three times longer than planned, and it had nearly exhausted its supply of thruster-gas used to keep solar arrays pointed toward the Sun. Controllers had no choice but to deactivate the spacecraft, which remains in orbit between Earth and Mars.

Rayman has moved on to a new project--Dawn, an ion-propelled spacecraft that will visit two enormous asteroids, Ceres and Vesta, in 2010 and 2014. "Dawn is based on technologies that DS1 pioneered," he says.

Even asleep, DS1 continues to amaze.

Find out more about DS1 at <http://nmp.jpl.nasa.gov/ds1>. For kids, go to <http://spaceplace.nasa.gov/ds1dots.htm> to do an interactive dot-to-dot drawing of Deep Space 1.

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