A S T R O N O M Y

Rochester Skies

A publication of the Rochester Astronomy Club

A Quarterly Newsletter **Issue #19 4th Quarter 2011**

NCRAL 2013

by President Randy Hemann

Just an update on our NCRAL 2013 planning. Some of you have heard most of this, but it's good to keep everyone informed. We do have a signed contract with the Kahler Hotel for guaranteed rooms for the April 12/13th event. They will provide meeting rooms and cater the Saturday night dinner meeting. Being downtown, the Saturday find-your-own lunch should be easy for participants.

Dustin Ebert has agreed to let us host one of our Friday night activities at his Salem Glen Winery and observatory where we will have a speaker and possibly do some wine tasting before, and observing after. We will reserve bus transportation to and from the winery, and discourage individuals from driving themselves. I hope the planetarium is still here (!) so we can also have a program there that Friday afternoon or evening. And weather and logistics permitting, Dr. Andy Limper and his rocketry gang will start the ceremonies off mid-Friday afternoon with a nearby big model rocketry shoot-off!

We'll need 6-8 speakers for the meeting, hoping to use mostly local talent with dynamic topics. It would be nice to throw in a couple quick-to-the-point 20 minute talks with the typical 45-60 minutes presentations. Right now the Executive Board and a few others are reviewing a list and sending me recommendations for a few people to call. I plan on having a couple backup speakers (local) on call

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in case of a late cancellation/ illness.

Most importantly, we need club members to help! People to greet, people to help direct participants to events and meeting rooms, acquiring signage and door prizes, running errands, set-ups and takedowns, etc. A few of us have been to several NCRAL meetings now and we got a pretty good idea of what works and what doesn't. I think the RAC has the kind of people who will really put on a great show!

I will post updated information as we roll along through this planning process. Can't wait until 2013!

The Gray Cubicle You Want to Work In

by Dr. Tony Philips

It's another day at the office. You're sitting in a gray cubicle, tap-tap-taping away on your keyboard, when suddenly your neighbor lets out a whoop of delight. Over the top of the carpeted divider you see a star exploding on the computer screen. An unauthorized video game? No, this explosion is real. A massive star just went supernova in the Whirlpool Galaxy, and the first images from Hubble are popping up on your office-mate's screen.

It's another day at the office ... *at NASA*.

Just down the hall, another office-mate is analyzing global temperature trends. On the floor below, a team of engineers gathers to decode signals from a spaceship that entered "safe mode" when it was hit by a solar flare. And three floors above, a financial analyst snaps her pencil-tip as she tries to figure out how to afford *just one more* sensor for a new robotic spacecraft.

These are just a few of the things going on every day at NASA headquarters in Washington DC and more than a dozen other NASA centers scattered around the country. The variety of NASA

research and, moreover, the variety of NASA people required to carry it out often comes as a surprise. Consider the following: NASA's Science Mission Directorate (SMD) supports research in four main areas: Earth Science, Heliophysics, Astrophysics, and Planetary Science. Read that list one more time. It includes everything in the cosmos from the ground beneath our feet to the Sun in the sky to the most distant galaxies at the edge of the Universe. Walking among the cubicles in NASA's science offices, you are likely to meet people working on climate change, extraterrestrial life, Earth-threatening asteroids, black holes or a hundred other things guaranteed to give a curious-minded person goose bumps. Truly, no other government agency has a bigger job description.

And it's not just scientists doing the work. NASA needs engineers to design its observatories and build its spacecraft, mathematicians to analyze orbits and decipher signals, and financial wizards to manage the accounts and figure out how to pay for everything NASA dreamers

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want to do. Even writers and artists have a place in the NASA scheme of things. Someone has to explain it all to the general public.

Clearly, some cubicles are more interesting than others. For more information about the Science Mission Directorate, visit science.nasa.gov. And for another way to reach the Space Place, go to http://science.nasa.gov/kids.

Jumpin' Jupiter Batman!

by Jeff Newland

One of the things I like to do with the RAC is to participate in the various outreach events we hold. It's always a great time and everyone loves it. You never grow tired of hearing people say, Wow! Neat! That's cool! And of course, Thank you!

There's one easy outreach you can do by yourself. I've done it for the last two years. It's at a time that I think goes well with astronomy. When is that you say? Well, Jumpin' Jupiter Batman! It's Halloween!

In 2009, I decided if it was clear, I was going to put the scope out and and give the trick-or-treaters an extra treat, the Moon and/or Jupiter.

It looked a little iffy during the day, I think the CSC may have indicated a few clear hours in the evening before clouding up again later. When I arrived home from work, I put my scope out to cool down and hoped for it to clear. Just like clockwork, it cleared by 6:00PM. The Moon was just above the garage across the street and Jupiter was to the south, it looked like a good night for viewing.

Finally, time for trick or treat. Batman, ghosts, goblins, and witches started to show up. "What's that?" "A telescope, do you want to see the Moon?" "Sure!" Hard to tell who gets more excited, the kids or the adults. Gerarda, my wife, handled giving out the candy and I manned the scope.

Most everyone saw either the Moon or Jupiter, many saw both. One conversation, "Wow, the moon sure is neat." "Do you want another look?" "No, that's OK." "Well then, how about Jupiter?" "Yeah, sure!"

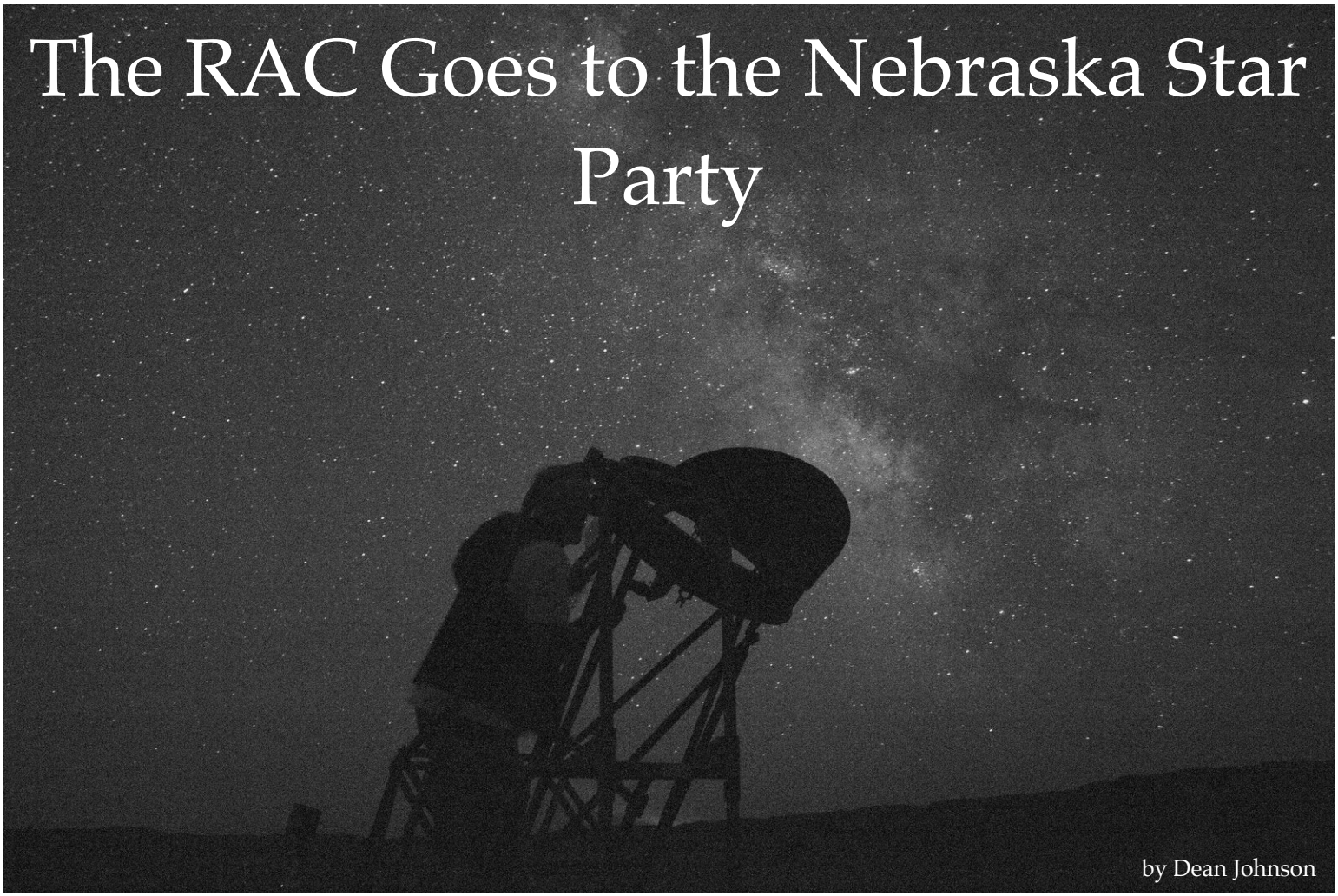
A lot of the adults probably saw more than the kids. The kids would hit our house and the next door houses while the parents looked through the scope a little longer. Yes, a lot of Wow! Neat! Cool! Thank you! Things wound down by 8:00PM. We had between 50-75 people come through. There was also a little post-trick-or-treat observing with a couple of the neighbors. But that didn't last long. The clouds started to come back, clouding up around 8:30PM. Perfect timing for the evening. In the words of Dean, a glorious night for astronomy!

Last year in 2010, it was a little different. Clear through the day and into the evening. Yep, no doubt a good observing night, albeit cool. How cool? The previous year Gerarda handed out the candy standing outside. In 2010, she stayed inside while I stood outside with the scopes. Also, one small problem, no Moon, but we did have good old Jupiter! Jupiter was toward the southwest this time. Another change, I had two scopes, my old 8 inch dob and a Meade 10 inch. A little extra work trying to get the Meade aligned while also showing Jupiter through the dob to the early trick or treaters. It was nice to have the extra scope to help handle the crowd. Another 50-75 people this year. Jupiter was a hit with Batman and all of the ghosts and goblins!

If you're looking for something different to do this Halloween, set out the scope and show the kids part of the solar system. Maybe you will even see a witch on her broom fly across the Moon! This year Jupiter should be rising early in the evening and the Moon will be setting in the west. Take your pick and have some fun. I think it is best to keep the observing list short. There is not much time when all those treats are calling. Don't fear though, everyone will really enjoy it. Listen to all of the Wow! Neat! Cool! and Thank you! But, be warned. You may be raising people's expectations. One women last year said, "I was here last year and I was hoping you'd be doing it again this year!"

Happy Halloween and clear skies!

The RAC Goes to the Nebraska Star Party



by Dean Johnson

This summer, eight of us from the Rochester Astronomy Club got to attend the Nebraska Star Party. This is one of the top star parties in the United States, and while we've been kicking around the idea of going out there for a few years now, this year we finally did it. It all started when Darksky Jim posted to the RAC forum that we should go and spurred on by curiosity about what the NSP would be like and the fact that that the next total solar eclipse for the continental United States would be in 2017, made the difference in our finally deciding to go.

We weren't disappointed. I joined our President, Randy Hemann for the trip out there and we were followed closely by Jerome Taubel, his son Jed, daughter Jillissa, and Luka Bazjer. RAC Vice President "Capt. Kirk" Severson and his very nice girlfriend Shawna joined us later after traveling all the way from the Glacier National Park Star Party in Montana.

The trip out to Nebraska was memorable to say the least. When I mentioned that Jerome and company followed us closely, I wasn't kidding. They covered Randy's "back door" (that's trucker lingo for following behind) all the way to Valentine, Nebraska where they had a motel room rented. We had walkie-talkie radios to communicate with for the trip, and we were just shooting the breeze over the airwaves near Mitchell, South Dakota when all of a sudden the com just exploded. "WOW!! Randy! You just lost something off your trailer!"

It happened that the wind had lifted Randy's antenna off his trailer, the support that it was on exploded into pieces, and the disc shaped dish of the antenna went whizzing off into the ditch never to be seen again. Randy, the rental car between him and Jerome, and Jerome pulled over at the Mitchell, S.D. exit. We all got out to inspect our vehicles, and luckily except for the antenna being Gone With The Wind, no other damage was done. From the description that Jerome and Luka described, we had visions of the Mitchell newspaper having a story in it with the headline reading

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'UFO LANDING IN SOUTH DAKOTA'.

Continuing on, I realized that no one in the group had ever made the I-90 crossing of the Missouri River at Chamberlain, South Dakota. It is nothing short of spectacular, so I encouraged the group to stop at the rest area on the east side of the Missouri to take pictures and see the museum dedicated to the Lewis and Clark expedition that explored the Louisiana Purchase which our country acquired from France in 1803.

It was very interesting, well worth seeing, but delayed our trip by close to two hours. By this time, both Randy and I were getting weary because neither one of us had slept much the night before being so keyed up to go to the NSP. At this point I drove to Murdo, South Dakota and we turned south on U.S. Highway 83. Randy woke up as we turned south, took a look and said quietly, "It looks like we're heading into nowhere."

He was right. We could see for fifty miles at least and there was nothing but a two lane road, prairie and a few sparse copses of trees. It was downright spooky. Continuing into Nebraska, I was surprised at how green everything was. Apparently, they had gotten sufficient rainfall and Nebraska was really very pretty. Valentine, the last town before the NSP is a neat, prosperous little town of 2500 people. Jerome and company stopped here to check into their motel and Randy and I continued on to the Merrit Island Reservoir (M.I.R.) on the Niobrara River. We made registration for the first night with 25 minutes to spare.

The Observing Field overlooking the M.I.R. was really cool. The field it self is a series of tiny hillocks with very small gravel roads going through it, all prairie except for the campsites along the reservoir which are adorned with cottonwoods and silver maples. Across the river is a high ridge that dominates the south shore that we were on and to the SE of the observing field were some distant high prairie covered hills. You could have easily pictured what it would have been like for this terrain to be covered with thousands of buffalo.We checked out the opportunities to set up and settled on a spot along the south edge of the field about 100 yards or so from the registration tent to the NW and "Dob Row" to the NE.

We registered with the NSP people and then ate supper, which was great. The NSP folks give you the option of buying your evening meal for every night that you are there except one. The food is catered and the chow is excellent. I would highly recommend this to every future attendee. Besides a great meal, you get to socialize with astronomers from all over the United States. We met a young lady named Megan and her mother and I was shocked to learn that Megan is going to be a freshman in college this fall at the University of Hawaii with a double major in astronomy and astrophysics. She didn't look old enough to be a freshman in high school! Lucky girl, she might be working at the Keck Observatory sometime soon.

As night fell, the insistent breeze that had been blowing all day did not let up. We were set up by 8:30 that night, and while the breeze didn't affect me much, Randy had to forgo the shroud which he normally uses to cover the frame of his massive 30" EVO.

It turned out that he didn't need it. As night came on, the sky that makes the Nebraska Star Party so famous began to show itself to us. I know this might sound funny, but the sky is SO dark it is light.

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There was one tiny little red light on a communications tower quite a ways away, but otherwise the nearest lights were 41 miles away in Valentine. The brightest things in the night sky were the star clouds of the Milky Way galaxy. Since the elevation is about 3000 ft. and the north-central Nebraska area has much drier skies than SE Minnesota does, there is a dramatic difference in the clarity of the skies. It was as if God Himself was holding a soft fluorescent wand over our heads. Once our eyes dark adapted, it was no problem walking around in the dark. You didn't even need to use a red light except for when you were checking a star chart. It was amazing. Capt. Kirk showed up in the dark about 11 p.m. after a 20 hour drive from Glacier Park in Montana and had absolutely no trouble finding us.

Randy had thought that there would have been bigger scopes at the NSP than his, but nobody even came close to the EVO. As a result, we had LOTS of visitors to our spot where we set up. It turned out that it had been several years since a scope that size had made the NSP, and it seemed that everyone wanted a look. He was kept very busy and rewarded our neighbors by showing them M11, "The Wild Duck" cluster, M17 the Swan Nebula (just fabulous using an OIII filter, more detail than I had ever seen in that object before) M16 the Eagle Nebula (the Pillars of Creation were visible), M15 a fine globular in Pegasus along with Comet Garradd.

Finally we got to sit down for 15 minutes at 1:45 a.m., had a beer break and then Randy said, "Let's go exploring!" So now we got to see what else the NSP had to offer. First stop was Wayne Boeck and his AstroGazer Observatory. It looks like a real observatory dome, but is totally portable. I think it costs $1600, and has 3 bags of thick vinyl that cover an aluminum tube frame. With help, it can be set up in 1 hour. Like most amateur astronomers, Wayne is a very friendly fellow and we spent about a half hour in the dome, completely out of the wind, which still hadn't let up. It was very snug, an excellent option to observing in windy areas.

Now on to "Dob Row", which should have been renamed "Imagers Row". It was packed with geeky young college lads with more high tech gear than you could shake a Televue eyepiece at. I know that astronomers talk a language all their own at star parties and these guys bring this to a whole new level with their computer screens, imaging equipment and techniques. One guy even had a blue laser pointer that is just a pole of light that outshines everything else. It was very cool and we hooked up with a tall lanky young man named Clark who had a shock of thick dark hair and a scrubby college beard. He had a 5" Apochromatic refractor that is awesome, with tiny pinpoint stars all the way out to the edge of its FOV. Clark graciously unhooked his imager and I whipped out my 13mm Televu Ethos and we looked at the Perseus Double Cluster, NGC 7789 in Casseopia, the Pleadies and the Helix Nebula. We finished with a great look at Jupiter, which by now had climbed very high, and then continued on.

We met a guy named Dave who had a 14" Dobsonian and was one of the NSP organizers. We had looks at M33 in Triangulum, the Andromeda Galaxy and its companions and shared some very interesting conversation with him. Then it was back to our spot for an hour, Randy checked out M93 in Hercules, and then we just sat and had another beer and watched as the sky got lighter in the east. Mars was rising with the Horns of Taurus and Orion was just starting to break the horizon. Both of us had been up for more than 24 hours, but it was amazing how quickly the night had passed.

The next day I woke up about 11 a.m. It was still very hot and windy. Randy and I had a light

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breakfast, then I went for a walking tour around the grounds. The observing field was very quiet. There were a few tenters, but not many. Most of the 180 folks from the night before had gone home, to their motel rooms, or had scattered to the shade of the different campsites that surround the NSP observing field. Merrit Island Reservoir is a good sized body of water and the shady, sandy campsites that line its shore would make an excellent spot for an RV or a pull behind trailer. The Snake Creek campsites that are closest to the observing field are about 200 yards distant, an easy hike. Lights and fires are permitted there, so when you set up on the observing field, make sure that you are line of sight away from these camps.

Randy was busy charging up his batteries and getting his air conditioner going. We watched the DVD on 'Cosmic Collisions' that came with our NSP registration packets, then he needed to take a nap, so I went over to the registration tent so I could get out of the Sun, finish my journal and make a sketch of our part of the observing field. I had it all to myself for over an hour and was just finishing up when a few folks started coming by. Since I had my observing vest on and was busy with my jounal, these astronomers wanted to register and thought I was part of the NSP staff!

I met a young man named Sean and he was a veteran of the last 8 NSP events. He told me the story about the last big Dob that had been there before Randy showed up. Apparently several year ago, an astronomer had a beautiful 26" Dob that had a homemade oak tube that covered the mirror. It had been set up on "Omaha Hill" (the highest knoll on the observing field) and was covered with a shroud. It was yet another windy day, but this was sustained 50 m.p.h. winds with gusts up to 70. One of those gusts caught the shroud just right and tore the tube completely off the mirror. Sean was one of the very few astronomers on the field and he and a couple other lads caught up the

shattered tube and torn shroud about 100 yards downwind. The mirror was undamaged, but the anchor bolts had been bent to a 45 degree angle. That was the end of that astronomers NSP and that was the end of really big Dobs there until Randy showed up. Not good.

The NSP guys showed up and it was time for me to vacate, but I chatted with them for a few minutes and they asked me where I was from. "I'm with the Rochester Astronomy Club, there's eight of us and it's the first time here for all of us." They were impressed that so many of us from the RAC showed up. I said, "There'll be more of us here next year." I would be surprised if that does not come true. All of us just loved the experience, and I know that several others since then would like to go.

Jerome, Luka and the gang showed up after that we joined Randy in making sure that we were all set up for the night. Then we went back to the registration tent to where Gregg Bragg of Meade Corporation and the NSP organizers were giving away door prizes and they had some doozies. Two real nice telescopes, and even some Ethos eyepieces. Then we had another great meal, went back to our spot and watched with growing concern as these ominous looking thunderclouds were coming our way.

Sure enough, we began to see visible lightning, but could hear no thunder. It looked very close and was spectacular to watch. Randy made the call, "Pack everything up." It was disappointing, but absolutely the correct thing to do. One of the NSP staff came by and told us that there were two fronts coming our way, the one we were watching was 50 miles away with another about a 100 miles behind that.

But there's a silver lining behind every cloud. We went to Jerome's motel where I got a shower, then on to a nice little bar for a few beers. We were just settling in when Gregg Bragg from Meade showed up with a couple buddies. Gregg is Vice President of Sales and we were treated to a tour de force talk on the amateur astronomy telescope world.

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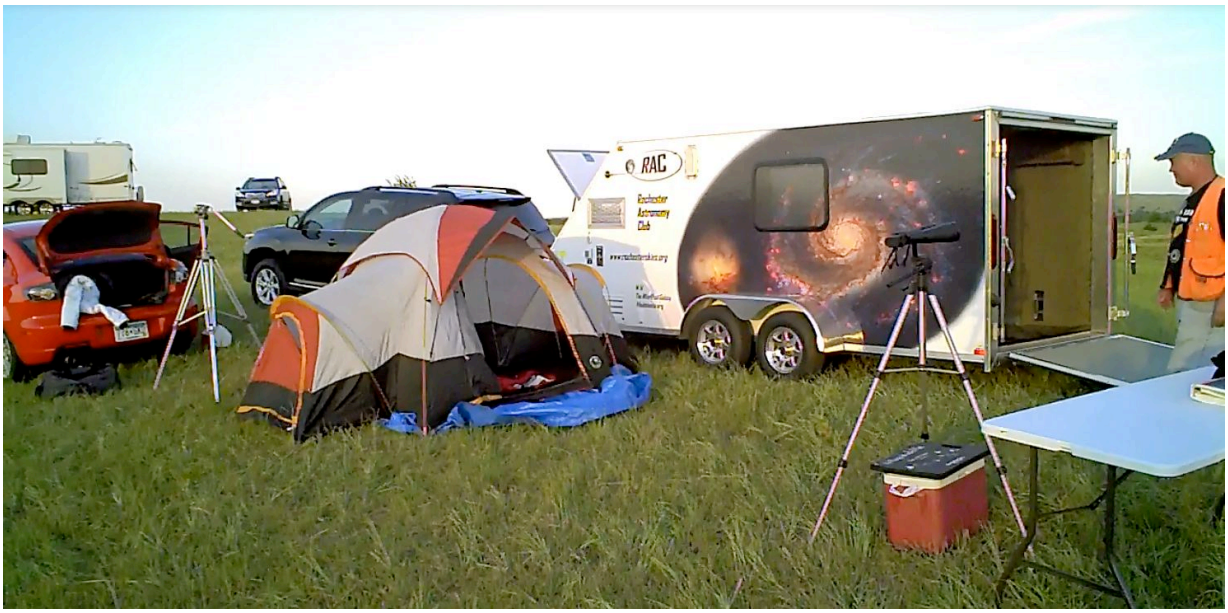
It turns out that world wide, there is only $150 million done in business every year, so it's a pretty small market. Most of the corporate guys are very familiar with each other and Gregg was hired by Meade in the mid-1980's. Orion telescopes doesn't buy anything from Meade except Coronado scopes for solar observing. The Coronado founder died and the inventor and the founders' wife didn't get along, so she sold Coronado to Meade.

He told about how Wal-Mart went from selling starter scopes through their optical department, but then Wal-Mart began to sell them through their sports department, then through toys. Accordingly, sales took a huge dive. Meade has been going through a downturn, but currently have a new CEO that has come up through the ranks and are developing some exciting new products, but said, "I can't tell you what they are because if I did, I'd have to kill you." We all got a good laugh out of that.

Jerome and Luka both had some good suggestions about products to sell, and I told Gregg that I'd like to see Meade sell their 70mm GOTO scopes as binoculars. Their 70mm have 90 degree star diagonals and by pairing them up as binoculars would be a great product. It was a great 90 minute conversation, and then after that it was bar time, so Randy and I went back to camp for some badly needed sleep.

I slept until darn near noon the next day. The temps cooled off to the 70's and the weather was just gorgeous. That night we had another excellent meal and Capt. Kirk won a $300 binocular swivel chair during the door prize giveaways. By Tuesday night, the crowd had increased to over 200 amateur astronomers.

That nights observing was wonderful except for some pesky mosquitos. We had almost no wind and Randy was kept busy all night long with company. I tried to do an observing list of objects in Aquila, but got stuck on planetary nebula 6778 and switched gears to doing other stuff around midnight. Luka was able to complete his Northern Sky Messier Objects list.



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We all got to see a brand new astronomical object that was completely unexpected. Around 10:30 p.m. we had these idiots turn on their headlights and strobe flashlights and shine them into the crowd. We couldn't believe what we were seeing! After a torrent of protests and shouting from the astronomers somebody actually had to go down there and confront them. They promptly left. Steve Klenklen from Kansas City told us later that we had seen 'NCS 86'. For those of you not familiar with the NCS catalog, it stands for "No Common Sense, I'm outta here" NCS 86 is better known as "The Horses Ass Cluster".

Jerome, Luka and I went and visited our next door neighbor Dave and his two sons after that. They have an 11" Celestron HD and I had never seen one before. We spent two hours with them. They are just getting started in astronomy and had a ton of questions for us guys to answer.

We had had quite a few meteors on both nights that we got to observe, but at 2:10 a.m. that last night Jerome caught the brightest one we had seen at NSP. It went from the bottom edge of Capricornus past 24 Cap and finished near Gamma Microscopium. Mag. -3, color green, lasting 3 seconds and ending in a bolide explosion. It was a dandy.

About 4 a.m. I had the best look at the Veil Nebula through Randy's scope that I have ever beheld. The tendrils were super clear and had amazing detail. Some of the lateral tendrils were even visible. It was fabulous.

We finished around 5:30 with Jupiter. Once again the night passed so quickly! We were never tired or yawned a bit either night. We immediately packed up and headed for Minny. We were darn tired on the way home, though. We traded driving duties every time we filled up and one would drive while the other got a little bit of sleep. For the driver to stay awake, we'd listen to Mary Roach's 'Packing For Mars' and listened to the whole thing on the way out and back.

The Nebraska Star Party is just amazing. If the conditions are right, it is something that you would never, ever forget. Every single one of us had a great time. I don't think there is a single one of us that wouldn't go again. I know I will. It was A Glorious Experience For Astronomy!

Adventures in Recoating

by Scott Regener

Old Faithful, that's what I must re-christen my primary telescope, an Orion XTi 10" Dobsonian. Purchased used in 2006 from a kind gentleman from Wisconsin, this telescope has served as my workhorse for the past six years, making trips to Eagle Bluff and Flatin farm, a few kind friends' driveways, and mostly the 20' trip between my garage and deck.

For those who don't know anything about Orion Dobsonians, they are made in China, mass produced in factories by machines. There is nothing about these telescopes that screams "fine workmanship." The motions are stiff, the "wood" is particleboard, the tube is metal, and most of the included components are cheap. The primary objective seems to be to create as much telescope as one can purchase for as little cost.

As such, my telescope has suffered from many clumsy upgrades over the years. The tube is partially flocked (the important parts.) The focuser has been replaced with a Moonlight dual-speed. The straight-through 9x50 finder has been replaced by a 9x50 Right-Angle Correct Image finder, supplemented with a Rigel Quikfinder.

Other than an annual rinse of the primary mirror, however, nothing much had been done with the optics. In my years of observing with it, I never had any specific complaints, but in perusing Internet forums, the odds of a good mirror were poor, and that was just about it. You get what you pay for. A machine cannot produce high-quality optics without handiwork and craftsmanship.

I would also drool as I scanned Astromart classifieds. "1/8th Wave optics" one would boast. "0.950 Strehl" another claimed. Discussions continued about what such optics would give the average, barely "diffraction-limited" 1/4 wave optics. The general consensus was that, for low-contrast detail such as cloud bands on planets, the better the mirror, the better the views. As a primarily urban observer, planets are often my first and last stop of the night, so these premium mirrors were truly tempting.

On my last rinsing attempt, I tested the coatings to see if they were breaking down. The method for this is to shine a bright flashlight from the back of the mirror through the coatings. If there are pinprick holes, the

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coatings are failing. A failing coating means two problems. First, light that falls through the cracks isn't making it to the eyepiece, dimming the views. Second, the holes decrease the smoothness of the mirror, a critical factor in planetary detail.

I resigned myself to recoating the mirror. This, I am told, is not for the faint of heart. Given my handyman skills and low desire to handle hazardous chemicals, I went in search of a vendor to recoat my mirror.

The first choice was OMI, which offered a few significant advantages. They are relatively local, so I could literally drive my mirror down and back. However, a few factors weighed on my choice to reject them. First, some people have claimed that enhanced coatings break down much faster than standard ones, and some people state that their new Obsession OMI mirrors needed recoating in just six months. Second, while OMI will test a mirror for its figure, they do not do this for free and the cost of fixing a bad mirror is rather expensive.

So I resigned myself to shipping my mirror to a recoating service. Optic Wave Labs (OWL) started running an "Economic Recovery" sale, offering half-price coatings until the DJIA hits 1500. They also test mirrors for free, and reviews online indicated quick turnarounds. I contacted Cary at OWL, and he stated that he could handle the mirror immediately.

I researched from various coaters to see how to package a mirror for shipping. The easiest method seemed to involve a 4x8' sheet of foam insulation, available at local hardware stores.

To say I got a few strange looks at the hardware store is not an exaggeration. Especially when I asked them to break it down so it would fit in my vehicle. What good is a 4x8' sheet of insulation you've broken into four pieces before you even take it home?

Then it was on to an office supply shop to purchase a box. It takes at least two inches of padding on each side of the mirror for safe shipment. I ended up with an 18"x18"x12" box.

Cutting the foam was interesting. I tried a few different saws before finding that a jigsaw did the job best. I'm afraid there are some pieces of insulation flying around the city, as the insulation did not hold together in cutting.

I packaged the mirror, took it to the shipping counter, and kissed my mirror goodbye. There was simply no way it would return in one piece.

A week later, my mirror arrived at OWL, and a promised week later, the test results for my mirror came in. My jaw hit the floor at the numbers. 1/7.27 wave. 0.965 Strehl. And he described the mirror as "very smooth." If you know anything about telescope testing numbers, you know those numbers are very good. Not quite as good as the best mirror makers, but I've seen "premium" mirrors with worse Strehl ratios.

A week after that, the mirror was coated and packed and headed back to my house. The good part was that I had more confidence that the mirror would survive the trip. The bad part was that I'd been without my mirror for almost a full month, a month that featured some of the clearest nights and mildest temperatures in recent memory.

Now that I know my mirror is excellent, I view my telescope with a little more respect than before. The good part is knowing that optics are not what causes problems, so when Jupiter looked pretty poor with the freshly recoated mirror, I knew the problem was most likely an unstable atmosphere rather than optics that just wouldn't perform. The bad part is the guilt of leaving that telescope sit when life keeps me from making my appointed observing rounds.

More than ever before, Clear Skies!

RAC
Rochester Astronomy Club

Rochester Skies

Upcoming Events

Nov 17	-	Leonid meteor shower peak
Nov 18/19	-	Dark Sky Weekend at Eagle Bluff*
Nov 25/27	-	Dark Sky Weekend at Eagle Bluff*
Dec 7/8	-	Planetarium Star of Bethlehem - Registration Required
Dec 13	-	Member's Only Annual Holiday Party
Dec 14	-	Geminid meteor shower peak
Dec 14/15	-	Planetarium Star of Bethlehem - Registration Required
Dec 23/24	-	Dark Sky Weekend at Eagle Bluff*
Jan 10, 2012	-	Monthly Meeting @ RCTC

* Events subject to change due to weather. Check Rochesterskies.org for updates

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