



# Rochester Skies

Scout-Reach



Flatin Hayfield



NCRAL



NASA Space Place

Rochester Astronomy Club Newsletter

www.rochesterskies.org

Issue #10 Q2 '08

## C A M A R A D E R I E I N A S T R O N O M Y

A L E T T E R F R O M T H E E D I T O R

It has been a busy year regardless of the lack of sky opportunities early on. Astronomy moves forward, even at ground level. The RAC attained 501(c)3 status, had a record number of members at NCRAL, committed to hosting NCRAL in 2013, started a monthly lunch meeting, hosted several successful outreaches including a newsworthy lunar eclipse and an outstanding astronomy, purchased a new PA system, started a mutually beneficial relationship with Gamehaven Scout Reservation, acquired an observatory class scope as a donation, has several club members awaiting certificates from the Astronomical League, had an observing session at Eagle Bluff where SEVEN of Saturn's moons were seen through Randy Hemann's scope, our #1 observer Dean Johnson racked up sufficient scope time to to surpass his previous record (an amazing feat in itself) and as for myself, I've nearly finished my observatory. As I write this, RAC is starting an annual StarBQ (which could grow into a very large event over the next decade). All of this is happening on top of ongoing scout-reach, community education, educational meetings at RCTC and the Eagle Bluff relation RAC members have known and loved for years. It doesn't get better than this!



*Where the newsletter takes form.*

Or does it? There is no better problem than outgrowing a meeting room and it's really nice to have a full slate of meetings lined up while club events happen in rapid frequency. The club is still young by most standards and there will be growing pains. Things will change as the club grows. Things aren't like they used to be and they aren't likely to stay as they are now. I've always enjoyed the club, from the first time I attended a meeting. And I'm eagerly looking to the future, but I have to say that I am enjoying what is going on now with patient pleasure. The RAC moves forward.

This is a club that lives, breaths and moves forward on member power. I urge anybody who hasn't spent an evening at Eagle Bluff to get there. Take some time to journalize your observations and get a certificate. Give a talk about your favorite aspect of astronomy at a monthly meeting. Put your passion to print and get it in these pages. If you want to farther yourself and need assistance, get in touch with one of our officers. If you want to share your knowledge and enthusiasm with others, let an officer know that too. I iterate, it really doesn't get better than this and there is no better time than the present.



*Come Experience  
the Universe*

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# Music to our Eyes

*By Randy Hemann*

After enduring a cold, wet, and windy spring, it had been refreshing to get out at night and experience a more comfortable climate. With warm, calm evenings, and not too many bugs (yet), it's just nice to be out with a light coat and start looking around at the sky, in the still of the night. In the Still of the Night. A couple months ago, when I was out stargazing alone, that song's melody got stuck in my head. It was a song originally published by Cole Porter in the 1930's, but the more familiar version was popularized in the late 50's by the Five Satins.

*"In the still of the night/ I held you/ Held you tight/  
'Cause I love/ Love you so/ Promise I'll never/ Let you go/  
In the still of the night// I remember That night in May/  
The stars were bright above/ I'll hope and I'll pray/  
To keep your precious love/ Well before the light/  
Hold me again/ With all of your might/ In the still of the night/  
In the still of the night..."*

Isn't that a sweet song?

At times I have referenced other songs as they relate to astronomy, so I got to thinking: how often is the word "night" used in popular songs? I discovered a website that would do word searches within songs lyrics and entered in "night". It returned 23,596 hits, or songs that contained the word night. I searched other words I thought would be popular in songs but could only find a couple dozen (non-article) words that are used more than the word night. More obvious examples were such words as me (83,931), just (51,512), we (45,936), and love (37,833).

In fact "Night" appears to be in the top 30 most common words that occur in song lyrics. It shows up more often than girl (12844) or boy (7724), and more than heart (20855) and soul (11654). It makes sense that night nearly is equal to day (24,385) but it handily beats today (6185), yesterday (1975), and tomorrow (3566). Incidentally, I also found that Mars (306) outdid Venus (225), and the sun (10,048) outshone the moon (4520)!

All right then, how often will the word "astronomy" show up in a lyric? The answer – there are at least 13 songs with our favorite noun buried somewhere in its jingle. Even more intriguing is that it is found in songs from Mettalica, Bob Dylan, Busta Rhymes, and Jethro Tull! Wow. Read through the following poetic lyrics from Jethro Tull's song Astronomy:

*The middle lane has trapped my car  
in red-light claustrophobia.  
I slip the shackles, cut the rope  
stand naked with a telescope  
as the cat walks alone  
under a big sky.  
Against the dark so thin and white  
gonna be a big sky night.*

*Miss Galileo, come with me  
and view the new Astronomy.  
Black hole dressing on salad plate  
quasar at the kissing gate.  
Now the cat, he walks alone  
under a big sky.  
Umbrella dome pin-pricked in lights  
gonna be a big sky night.*

*My spectacles, my white lab coat  
my coffee, thermos and my notes.  
I pat my pockets. I got the keys  
to the secrets of the observatory.  
And closing the door,  
I feel a new dawn  
as the darker slides align  
you to yours and me to mine.*

*And now you stand, assisting me  
I can touch what I can see, see, see.  
I look in wonder; I feel no shame  
see the consequences of the game.  
Expand the universe.  
Head for the Big Bang.  
Reach for my switch and shout  
gonna turn the big sky out.*

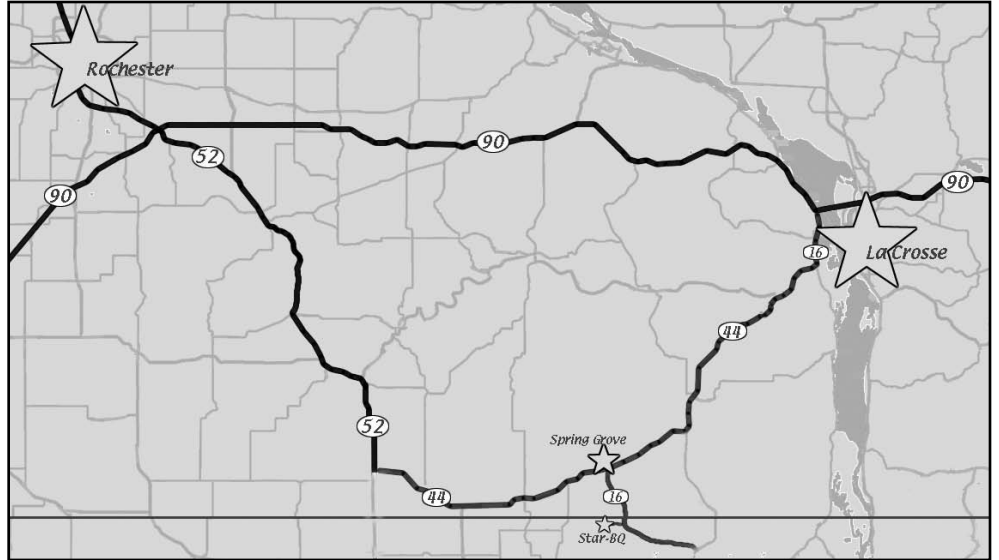
*There's got to be astronomy.  
Astronomy.*

Gosh, that makes your average observatory scientist appear downright romantic! Well, sort of. Still, despite the fact there is no sound in the vacuum of space, we amateur astronomers know how to extract its tune. Astronomy is music to our eyes. In the night, as we peer through its darkness, we see this music. We see the resonance, the rhythm, and the harmony of celestial bodies as they parade slowly across the night sky. It's a subtle melody, and one has to be patient to appreciate it. I'll be looking forward to quiet evenings with all of you, under the stars, in the still of the night.

# STAR BQ 08



There's one thing you need to know to be an amateur astronomer, never give up! That's how we're handling this StarBQ. Last year it didn't fly and this year our first attempt didn't fly either. Now we are set for August 1st and 2nd. That's right, a two day starBQ. Show up either day or both days. If the weather doesn't let us get this off on August 1st and 2nd, we're going to try and try again for August 29th and 30th. We are going to get this done!



- *If you're camping over, you'll need everything required to sleep outdoors.*
- *You'll need to bring you own meat for barbecuing.*
- *Bring your own beverage of choice.*
- *You may want insect repellent.*
- *If you'd like to sit, a chair is a good idea.*
- *Have a scope? Great, bring it! If not, look through ours.*
- *A red flashlight is real handy under a dark sky.*
- *Dress warm, it gets cold at night. A blanket isn't a bad idea either.*
- *Sunscreen for daytime.*

From Rochester, head south of 52 until to reach Harmony. 52 joins 44 heading east. Follow 44 until you reach Spring Grove. In spring grove, turn south on 16. Drive 5 miles, just across the Iowa border, turn right into the gravel drive (look for the StarBQ sign). It's just that easy!

**don't miss it**

About 25 years ago, in late October or early November, Ed was picking corn down there at roughly 2:30 in the morning. Audreyjean was running corn wagons to him with the



pickup and had just turned into the Flatin Farm hayfield (it was corn back then). About 90 yards into the acreage she saw a very bright light straight ahead of her to the west and she stopped.

"All of a sudden, it was right there. It came right up to me and stopped." There about 75 feet in front of her (I stepped it off and measured all the distances they indicated) was a brilliantly white UFO that hovered about 20 to 25 feet off the ground. "It looked like a ladies hat, wide brimmed and circular with a little dome on top. It was a disc." It made no sound, and had no discernible features other than the little dome. No windows, nothing. "It was just a brilliant white, the most brilliant white you ever saw, with a bluish tinge to it."

The craft, or whatever it was, was big. The driveway through the field is just barely big enough to pass two vehicles past each other, and this thing, if it had landed, would have stuck out on either side of the road. I paced that off and it must have measured roughly 35 feet in diameter. From AJ's description of it, it was roughly six to ten feet tall.

"I was excited and a little scared." She had heard stories about people being abducted. "I didn't know what

to do, so I ended up not doing anything." AJ sat there for what seemed like two to three minutes and the UFO took off. "It went right over the pickup, and I remember hearing a "Swiiissh!!" It went straight off to the east behind me and was gone just like that."

Ed saw it too. He was down on one of the terrace strips about 120 to 150 yards away. Looking up at where Audrejean was, you can't see the road itself, but you could certainly see the pickup, especially sitting up in a tractor like he was. He saw it only for a few seconds, but his description matches AJ's in size and color, and its speed when it took off. "Man, that thing was really moving!"

Neither of them mentioned the incident for years. "We didn't talk about it because we didn't want anyone to think we were crazy people." Believe me, they are anything but 'crazy people'. They are the most normal folks I know. They farm, and AJ is a very successful insurance agent for Farm Bureau. They don't drink alcohol, they go to church and have raised seven wonderful normal children. If you get Ed going on genealogy, (his favorite subject) he'll talk, all right. Once when traveling out west, his son in law Jerry asked

him how someone was related to them. Ed started in on that and Jerry said he finished the story 76 miles later.

If any of you come on down to my favorite astronomy spot for the recon mission or the South of the Border Star B-Q, I'll show you the exact place where this all happened. You'll probably get to meet Ed and Audreyjean as well.

What do I think happened? I don't know for sure. I do know that I believe Ed and AJ. They definitely saw something very strange. If interstellar space travel is possible and beings from other solar systems can travel here, they darn sure know more about physics than we do. As for me, I'll just keep going down to my favorite spot and keep my eyes open.

But now with the march of time and all the programs on UFO's on TV, Audrejean wanted me to record what happened to them so many years ago. When we stood on the driveway where it happened, she looked at the spot where she saw something unexplainable so many years ago. She looked at the spot with a faraway look in her eyes and said, "I can see it just like it was yesterday."

RAC



# — Unexpected — **Astronomy by the Lake** NCRAL 2008 —

*By Dean Johnson*

Sometimes the coolest things in life come at you when you least expect it. Friday night at the NCRAL convention in Port Washington was just such a time. Duane picked me up Friday morning in the “Starship” (my nickname for the big conversion van), and we stopped in LaCrosse to get Phil Yehle from the LaCrosse Area Astronomical Society. It was raining hard in Spring Grove, and simply poured rain going across central Wisconsin.

There was a trip to the Northern Cross Science Foundation’s observatory scheduled for Friday night, but it literally looked like it was going to be a “wash”.

But in central Wisconsin the rain started to let up and by the time we hit Port Washington, it had stopped completely. We checked into the hotel and were delighted to find the Rochester Astronomy Club well represented. All told we had ten members there, about 9% of the total

of 108 attendees.

After a terrific supper at a trendy Mexican restaurant in downtown Port Washington, we got back to the hotel to find out “Hey! It’s time to go out to the observatory!” I looked up into the sky, and lo and behold, there was the bright Full Moon, beckoning to us from a gap in the sky. I made a mad dash to the room to grab my astronomical journal and away we went into the night.

Five of us jumped into the Starship, Randy, Duane, Rebecca or “Barbie” as I like to call her, Phil and myself. I drove and kept my attention on the road as animated conversations swirled around the van. Randy and Duane called out directions from time to time and we hit the correct exit off the freeway to the little town of Belgium near Harrington State Park where the observatory is.

Then things got interesting. We missed the state park sign and

continued east into utter darkness.

The bright lights of Port Washington were long gone, and the little pool of light pollution from the tiny hamlet of Belgium, WI, was dimly receding into the rear view mirror. Only the bright Moon lit the way on a two lane blacktop.

All of a sudden we rolled into a parking lot right at the edge of Lake Michigan. The van, which had been very quiet as we looked for the observatory erupted with excited shouts.

“Wow!” “Cool!” “Look at that!” “Let’s get out!”

And so we did, spreading out along the windy, wave splashed, moonlit sandy shore of mighty Lake Michigan. It was tremendously beautiful. By now the Moon had risen a full forty degrees into the night sky and it’s light played across the windswept waves as they traveled in to gently crash into the Wisconsin shore.



*Jim and Gwen Plunkett Observatory*

*Rebecca Bomgaars looks through the 20" scope*



Randy and Duane busied themselves with taking lots of great pictures while Rebecca found a large piece of driftwood to sit on. Phil and I wandered along the lake shore, but I couldn't get close enough on the left side of a little stream that left us pinned against private property. I found a spot to jump across the wa-

ter and walked up to the big lake and let the waves lap at my shoes while I gazed out at the Moon shining down on everything. I took a few minutes to drink it all in, just enthralled with the unexpected gift from nature.

However, we didn't come all the way across Packerland to hang out by the Lake, no matter how beautiful

it was. "Let's go find the observatory!" So back into the van, careful not to leave Rebecca behind as she reluctantly left her post to be the last one in. After a couple of gravel roads to the wrong spot and backtracking, we found the sign to the Park and navigated our way to the Jim and Gwen Plunkett Observatory.





*Moon over Lake Michigan*

A delightful scene greeted our eyes. As we turned off the headlights to park, we could see the Observatory nicely lit by red lights and attended by a pretty good size group of people. As we got out and made our way over, I could see that the Observatory roof had been rolled back over a group that was watching a video of the facility's history on a big screen on the side of the building. The screen was so lit up that it reminded me of a concession stand at an outdoor campground.

But observational astronomy is what drives me uttermost in the pursuit of our beloved hobby. I wanted to see the telescope. So I walked around to the door to the telescope room and what I saw didn't disappoint me. There it was, a 20" fork mounted Newtonian, sticking its big aperture above the edge of the

wall at the night sky. When I say "fork mounted" I mean a BIG fork. It was easily waist high and massive. It looked like a very powerful blue magnet.

After some brief, friendly introductions and inquisitive comments and questions, I got my turn to look through this fine instrument. The sky was relatively clear, with some clouds being blown across from time to time, but the wind that made the waves dance across the Lake Michigan shore was making its presence felt on the telescope. As big as it was, it could still

shake the image of the planet Saturn.

As I looked through the 18mm Radian eyepiece that gave the group 80X, I could see a wonderful group of three "amateur moons" (Tethys, Dione, and Rhea) tightly arrayed in a gentle arc on the left side of the planet. Mighty Titan stood just above Saturn's north pole. I could not pick out anything else for sure, but Duane caught a slight glimpse of a possible moon to the right of Saturn, which sure enough turned out to be Enceladus.

Like a proud papa, Kevin Bert explained details of the Observatory, and kindly agreed to point the big scope at the Moon, even though it was in its full phase. I had an underlying motive for this request. I had my list of Lunar 100 objects with me and was hoping to get one of them from this location.

As I looked at the Moon, the image was upside down as Newtonian's are wont to do.

There was mighty crater Tycho at the top center of the field of view with its rays blazing dynamically across the lunar surface. To the right of it was a large, smooth floored oblong crater that I assumed to be Gassendi. It wasn't, it was the crater Schickard. But I drew it, made the observation and once I consulted my lunar atlas back at the hotel, a few strokes of the eraser and pencil corrected that and I had Crater Schickard, number 74 of my quest for the Lunar 100.

I got down to give the other folks a look and thanked Kevin for his gracious use of the telescope. Then I went to the other side where "Barbie" and I watched the video of the observatory's history. Telescope and facility were 18 years in the making! Amazing.

By this time we'd all had a good look at the observatory and some of us were getting thirsty, so back into the van, and back to the hotel.

What a wonderful night! I did indeed get to do some "Astronomy by the Lake" and I got to do it in a first class facility with a group of people I'm very fond of and proud to be associated with. It was a gloriously unexpected night for astronomy.

RAC





# SIRIUS SCOUTS



*by Rick Murray*

It took three weeks for the skies to clear enough to enjoy a star party with the Girl Scouts of Pine Island, Mn. Even though it was only a three week wait it pushed back the start of viewing almost a half hour. We set up my 12" Dobsonian as a primary scope, and my 4.5" reflector as a secondary targeted only at the Moon. By 8:30 we had visited the Moon and Saturn and started our tour of the night sky with the double open star cluster in Perseus (NGC884 & 869). Moving next to the Pleiades (M45) in Taurus, Rebecca Bomgaars had the girls try to pick out the Seven Sisters with the un-aided eye before viewing with binoculars, and finally through a 2" low power lens in the big scope. In Auriga we found two open star clusters, M36 and M37. On to M35 open star cluster in Gemini which also has the hidden surprise cluster NGC2158 that was nearly washed out by moonlight. Over-powering moonlight would prove to be the fait

of some other deep sky objects we searched for. Mars was near the feet of the twins and became our next target. The atmosphere was generous and we got a good viewing of Mars even as it grows more distant. What would the winter sky be with-

***We were able  
to see five  
moons clearly...***

out Orion? The Great Orion Nebula gave me the chance to try out my new OIII nebula filter. Though M42 is very visible without a filter, the OIII did give better character and definition to the object. But when we turned our sights to the Crab Nebula (M1), in Taurus, the moonlight proved to be too dominant to use the filter. At best it was just a faint dusty spot. We moved on to the Dippers. The Whirlpool Galaxy (M51) is actually in Canes Venatici, but is very

close to Eta Ursae Majoris, the end star in the handle of the Big Dipper (Ursa Major). Both cores and very faint spirals of the object were visible, in spite of the Moon. Next was the Owl Nebula (M97) and its same field of view companion M107, an edge on galaxy. Before leaving the Ursa Major constellation we took a look at a double star, Mizar and Alcor.

Rebecca helped identify the constellations and major stars and made sure the Girl Scouts knew Sirius, the night's brightest star. By this time it was starting to get chilly with the constant breeze, and being a Monday school night we decided to take a final look at Saturn. WOW!! It was spectacular! We were able to see five moons clearly: Titan, Rhea, Tethys, Dione, and Iapetus. It was the hit of the party. One last look at the Moon and it was almost 10:00PM

After the group left, I picked out one last target. Hercules had just risen enough to get a look at M13, the great globular cluster beholding the constellation's name. We then called it a night. A good time was had by all. Rebecca spent a good deal of time with the group of about 12 people learning constellations and star names. Many thanks to her for her help and assistance. In all we took in 23 objects including planets, moons, nebulas, galaxies, open and globular star clusters, and double stars. The three-week-wait was well worth it.

**RAC**  
**SCOUT-REACH**

RAC

# Star Hoppin' from the Flatlin Farm

By Dean Johnson



One of the skills you are going to pick up if you are into observational astronomy is the ability to *star-hop*, especially if you want to pick up some of the more obscure Messier objects, the fainter NGC numbers and certainly not well known double stars.

To star-hop, a person must start with a well known object, consult your star

atlas, and make your way by using its help to pick out identifiable stars or asterisms in the sky to arrive at your intended observational goal.

It may seem hard at first, but the more often you do it, the easier it gets and the ability to star hop becomes very fun.

One of the best star hops I've done recently was to find an edge on spiral galaxy in Lynx, NGC 2683 just across the border from Cancer.

I looked at the Sky Atlas 2000 edition that I use and saw that I could approach it from Pollux in Gemini, but

to hop from there to the galaxy meant going through some pretty obscure territory. A better way was to go from M44 the Beehive Cluster in Cancer. That is a very famous object and a great place to start.

After taking a nice long look at M44, I needed to go north to Iota Cancr, a beautiful double star with a nice color contrast that is on the Astronomical League's Double Star List. Iota Cancr is a nice wide double that has also been called "the Spring Alberio" because of its lovely blue and gold contrast.

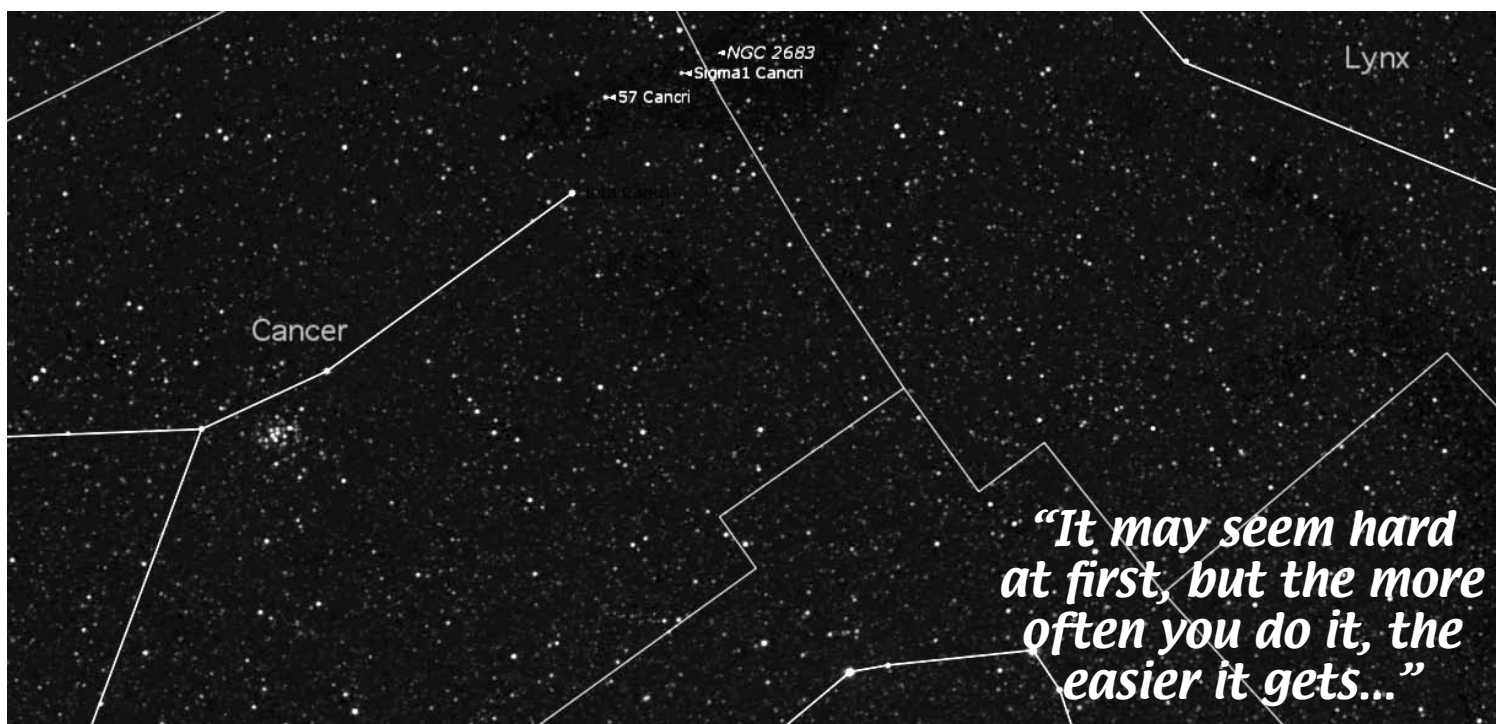
From there, make your way to a little known double star called 57 Cancr, NE of Iota.

At 80× 57 looks elongated, like a "dog bone", but shows no separation. When I increased the magnification to 200X the components separated, to show two tiny gold gems sitting closely side by side in space. I think it looks like a smaller version of Gamma Leonis.

From there just go north a little further to the Sigma Cancr group, a busy little group of 5th magnitude and fainter stars. Two stars in this group point right to NGC 2683. You can't see it in your finder, but I put my scope on the spot where I thought it was and almost hit it dead center in the field of view.

NGC 2683 is a delightful little edge on galaxy that is easy to see and reminds me of NGC 4565 in Coma Berenices. I needed it for my Herschel 400 list, and by finding it I had one of the neatest little star hops I've ever done.

RAC

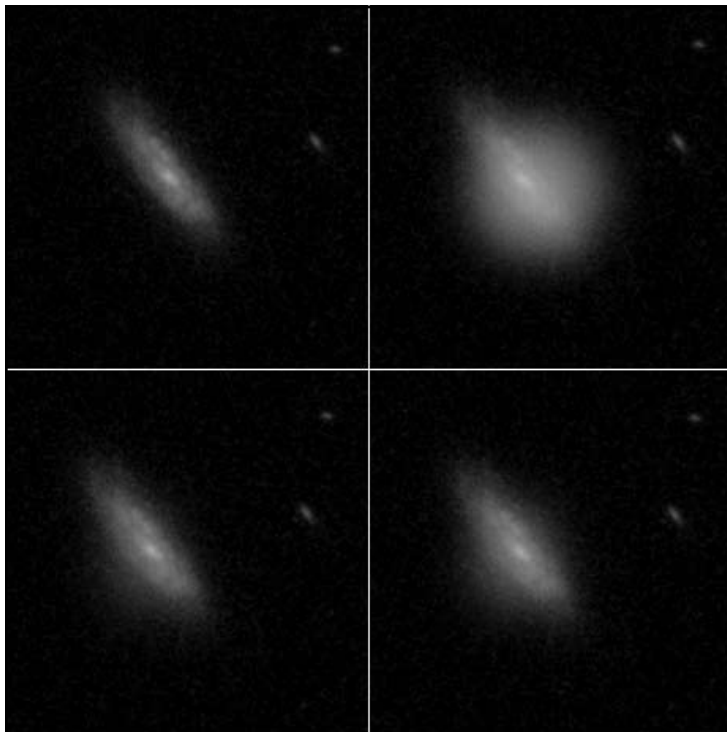




# Death of a Supergiant

By all outward appearances, the red supergiant appeared normal. But below the surface, hidden from probing eyes, its core had already collapsed into an ultra-dense neutron star, sending a shock wave racing outward from the star's center at around 50 million kilometers per hour.

The shock wave superheated the plasma in its path to almost a million degrees Kelvin, causing the star to emit high-energy ultraviolet (UV) radiation. About six hours later, the shock wave reached the star's surface, causing it to explode in a Type IIP supernova named SNLS-04D2dc.



*Sequence of images shows supernova start to finish. The top left image shows the galaxy before the supernova. At top right, the bright UV flash called the shock breakout indicates a red supergiant has collapsed. At bottom left, moments later, the flash is mostly gone. As the debris expands, it heats up again and becomes brighter (bottom right). The supernova became 10 times the size of the original over the following few days, thus becoming visible to supernova hunters.*

Long before the explosion's visible light was detected by telescopes on Earth, NASA's Galaxy Evolution Explorer (GALEX) space telescope captured the earlier pulse of UV light—scientists' first glimpse of a star entering its death throes.

"This UV light has traveled through the star at the moment of its death but before it was blown apart," explains Kevin Schawinski, the University of Oxford astrophysicist who led the observation. "So this light encodes some information about the state of the star the moment it died."

And that's exactly why astronomers are so excited. Observing the beautiful nebula left behind by a supernova doesn't reveal much about what the star was like before it exploded; most of the evidence has been obliterated. Information encoded in these UV "pre-flashes" could offer scientists an unprecedented window into the innards of stars on the verge of exploding.

In this case, Schawinski and his colleagues calculated that just before its death, the star was 500 to 1000 times larger in diameter than our sun, confirming that the star was in fact a red supergiant. "We've been able to tell you the size of a star that died in a galaxy several billion light-years away," Schawinski marvels.

"GALEX has played a very important role in actually seeing this for a few reasons," Schawinski says. First, GALEX is a space telescope, so it can see far-UV light that's blocked by Earth's atmosphere.

Also, GALEX is designed to take a broad view of the sky. Its relatively small 20-inch primary mirror gives it a wide, 1.2-degree field of view, making it more likely to catch the UV flash preceding a supernova.

With these advantages, GALEX is uniquely equipped to catch a supernova before it explodes. "Just when we like to see it," Schawinski says.

For more information, visit [www.galex.caltech.edu](http://www.galex.caltech.edu), "Ultraviolet Gives View Inside Real 'Death Star'." Kids can check out how to make a mobile of glittering galaxies at [spaceplace.nasa.gov/en/kids/galex\\_make1.shtml](http://spaceplace.nasa.gov/en/kids/galex_make1.shtml).

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



# Rochester

# Skies

Newsletter of the  
Rochester Astronomy Club



|                                     |   |                  |
|-------------------------------------|---|------------------|
| <b>1<sup>st</sup> Annual StarBQ</b> | <i>Flatlin Hayfield (see page 3)</i>                                | <b>Aug 1-2 *</b> |
| <b>Club Meeting</b>                 | <i>RCTC Stardust mission and Genesis Mission — Russ Palma Ph.D.</i> | <b>Aug 12</b>    |
| <b>Perseid Meteor Shower</b>        | <i>Gamehaven</i>  | <b>Aug 12 *</b>  |
| <b>Star Party</b>                   | <i>Observing at Eagle Bluff</i>                                     | <b>Aug 29 *</b>  |
| <b>Club Meeting</b>                 | <i>Mayo High School Planetarium</i>                                 | <b>Sept 9</b>    |
| <b>Mayo Planetarium Open House</b>  | <i>Mayo High School</i>   | <b>Sept 20</b>   |
| <b>Star Party</b>                   | <i>Observing at Eagle Bluff</i>                                     | <b>Sept 26 *</b> |
| <b>Club Meeting</b>                 | <i>MINOS Sudan Mine — Nicole Edgar</i>                              | <b>Oct 14</b>    |
| <b>Star Party</b>                   | <i>Observing at Eagle Bluff</i>                                     | <b>Oct 30 *</b>  |
| <b>Club Meeting</b>                 | <i>A Rochester Observatory — Duane Deal</i>                         | <b>Nov 11</b>    |

\*Events subject to change due to weather. Please check up-to-date resources for details.

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