

The President's Report:

Review of 2014

by Charlie Nielsen

First of all, the world did not end on Dec 21, 2012, so we did have a 2013 year for me to write this riveting (or not) article about. The year started out with a talk by this author at Leslie Science and Nature Center. The date was January 12 and the subject was how to deal with your new telescope. We had planned to do an observation session after the talk, but it was January, so you can guess how that went. But we did help introduce our hobby to 12 guests. We also had a club meeting in January and our speaker was Megan Donahue, one of several speakers that VP Belinda Lee "The Princess of All Possible Realities" recruited from Michigan State University. Megan spoke to 30 of us about the universe's youngest galaxies.

February featured an appearance in the parking lot of Yankee Air Museum. The date was Feb. 9 and we were there to augment a NASA exhibit that the YAM was hosting. We had only a small space to work with and had lights in our way. It was pretty cold (but not compared to this year) but the sky cooperated with us. We had a huge turnout and we were visited for a while by famous Astronaut Jack Lousma. Our meeting speaker that month was our very own Brian Ottum. One of the things Brian does is work at a National Park as a night sky guide and educator. He spoke to 20 of us about that experience and had lots of really nice pictures to show us.

The month of March brought the return of our open house schedule and it was a rude introduction since weather claimed both of them. We also had an event scheduled at the Hands On Museum, but they developed an issue and had to cancel. As usual, we held our monthly meeting and it featured another MSU speaker, Mark Voit. As perhaps a compliment to Megan's talk, Mark brought us up to speed on the universe's largest galaxies. We had 26 in attendance.

April started with another telescope modification session for the Ann Arbor District Library. Several club members showed up on April 6 to modify 10 more loaner telescopes for their incredibly successful program. You would think that this month would have allowed us to run an open house, but it did not. Both attempts were stepped on by Mother Nature. April 20 found a crew of three of us at the U of M Museum of Natural History to show 105 middle school students and families from the Detroit area, how telescopes work. We opened many eyes and had a great time doing it.

The April meeting was our officer elections and equipment swap meet. There was not much equipment there to change hands. Dave Snyder stepped down as Web Master, which he has held down since we had a Web Master. To "reward" him we made him a VP and elected Krishna Rao as Web Master. We also elected a new VP, David Jorgensen.

May was a busy month for us and it started early with an appearance at Westland Library on May 4. Four Lowbrows ran our fifth grade school program for a group of 30 adults, teens and children. Close on the heels of that event was an open house that evening, and finally the weather cooperated with us. In fact, we were able to conduct both of our May open houses. That put the score at 2 out of six for the year so far, but at least we were trending in the right direction. May 14 found a team of Lowbrows at Camp Hazelwoods to run our annual program for Hazel Park Schools. Our club meeting was through a Skype connection to Dark Sky Ranger, Kevin Poe. Kevin spoke to 25 of us about the battle against light pollution.



Photo: Jason Maguran

This young astronomer got an eye full of Jupiter outside the Yankee Air Museum last February.

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Lowbrow at twilight: Ready to gaze into the cosmos at an open house last May

June started out with an open house on the 8th and the weather trend continued as we were able to entertain and teach the public about the night sky and what we do. Our run of good luck expired on the next Saturday night however. Our club meeting featured another prominent club member, Mark Deprest, who had a great talk that was named "The Most Fun You Will Ever Have NOT Looking Through An Eyepiece." The 22 of us that attended know what this was about, but I am not going to reveal the mystery since maybe we can get him to do it again, and the suspense will bring you there. The day after Mark's talk I led a team of Lowbrows that went to Leslie Science Center to teach a group of 16 visitors how to make and use star wheels. We hoped to actually use them under the stars after the presentation, but the weather had other plans.

This takes us to the halfway point in my report. If I was Chris Sarnecki I would have an intermission to do a custom beer report/review. But I am not Chris...sorry.

We batted .500 on open houses in July, being able to run the second, but not the first one. Our July meeting found us at our annual retreat to Sherzer Observatory at Eastern Michigan University. As usual we pigged out on pizza, cookies and pop and were entertained by Norb Vance in the EMU Planetarium. We also had a short presentation by Matt Linke, Planetarium Director at the U of M Museum of Natural History. Thirty people were jammed into the dome and had a great time. Many of us retreated back to Sherzer to observe with the fine equipment housed there. The month concluded for us on the 25th with VP Jack Brisbin making a trip to the Ford Amateur Astronomy Club to talk about telescopes. He had an audience of 35.

August was a busy month for us. Due to a fluke in the lunar calendar we had 3 open houses booked for the month. We scored the first two but weather beat us on the third attempt. On August 9th four of us invaded Brighton Star Recreation Area for a star party. Seems like I remember the weather being a little weird, but we did display a number of objects to the delight of the 25 guests that made the trip. On August 14 I did a presentation on stellar evolution for a group called LIFT. The group is sponsored by a local funeral home for people that have recently (or not so recently) lost their spouse. The underlying theme of the talk was about how the death of some stars is necessary for the lives of future stars and eventually, life itself. It was an audience of 18 (and only a couple started to nod off). Our August meeting featured Wayne State University Professor, David Cinabro who spoke to us about the state of modern cosmology. Twenty of us were there to enjoy it. On the evening of August 22 we attempted to do a star party at Leslie Science Center, but again the weather thwarted us at this venue. The 3 Lowbrows that made the trip anyway did answer questions for the 19 attendees, mostly children. The main discussion was about when, how, and why we got into our hobby.

We only had one open house scheduled for September, and that was taken from us by the weather. We only had one scheduled because our annual multi-club event, Astronomy At The Beach, was held on the nights of September 27 and 28. It was yet another highly successful event with thousands showing up for the festivities. The weather was mixed but we made the most of it. Our speaker for our monthly meeting was Jeff Hinline of Great Red Spot Astronomy. Jeff did a presentation for 20 of us on the types and uses of astronomical filters.

The following night, September 21 brought a team of Lowbrows to a site outside of Saline for a star party for a group called "Ann Arbor Area Families With Children From China". This has become an annual event. This is a Moon Festival, but it did not look like we would see any Moon that night. However, the skies cleared just exactly in time and clouded up again immediately after the crowd of 50 left our area. Great timing!

October had open houses scheduled for early and late in the month. We had to cancel both of them. But as an answer to that terrible blow, we conducted an excellent star party at Emerson School on October 25. It was cold and windy (maybe a sign of times to come?) but the weather had mercy on us in a similar way as our Moon Festival event. The forecast was not good, but the skies cleared completely just in time for a group of 100 students, parents and teachers. We were also fed extremely well. I even discovered pecan pie! Of course I did...a large one too! This was a very successful event and the crowd was very pleased. But it was really cold. Our monthly meeting speaker was another MSU Professor, Jay Strader. He did a very good presentation on the presence of black holes in globular clusters. Twenty seven of us attended, but globular star clusters have a lot more at their little meetings.

November's open houses got killed too, leaving us with a rather dismal success rate for the year. The weather did not take away our club meeting though, and we were entertained by Ed Cackett from Wayne State University. Ed gave us a very interesting and detailed presentation on Neutron Stars and just how evil they are. The meeting had 28 attendees.

December is usually the last month of the year, and it was this time too. We had no open houses scheduled, which is one way not to cancel them. To further not be denied, we had a huge turnout (about 450) at a Comet Ison celebration at the U of M Museum of Natural History on December 7. Four Lowbrows showed the visitors how telescopes work by using lens, lasers, and real telescopes. The only thing not successful and delightful about the event was the comet itself. As you recall it got destroyed by the Sun on Thanksgiving Day. Gee, thanks Mr. Sol!

I guess we really can't blame the Sun, but Ison for taking too close a look at it. Our December meeting speaker was our own Fred Schebor, and that usually means our Artsy-Meaningless Slide Show. Fred has to put a lot of hours into this to make it come out as excellent as it does, so we only get this treat every few years. What a treat it is and was again. I could not think of a much better way to wind up the Lowbrow year and I am sure that the 30 people that witnessed it would agree.

There is one more thing and a really big thing. Seventeen and a half inches of glass big! This was the year that we finally approved and got started on the club's telescope project. We ordered a Telekit and will use the primary mirror from a 17.5 inch Coulter Dobsonian that was donated to the club many years ago. A crew of Lowbrows refigured and tested the mirror and deemed it worthy of building a club telescope around. The kit arrived in late summer and a team of club members started meeting at Dave Jorgensen's home to build it. As of this writing the scope is mostly in the finishing stages and we should be sending the mirror out for coating soon. Sometime this spring or early summer we should be able to proudly display and use our new toy.

The winter of 2013/14 started early and has been brutal. I am hard-pressed to remember a worse winter overall, ever. Record snows and low temperatures have prevailed and as I write this article on February 27 it is predicted to get down to nearly 15 below zero...actual temperature! Again! March and April are forecast to be below normal in temperature. But warm weather will eventually arrive and we will go back to what we do and love once again, and with a brand new, big telescope. Sounds good doesn't it?



Photo: Dave Jorgensen

Three of the usual suspects at the March 1 build session: (r-l) Doug Nelle, Jack Brisbin and your editor. Here we are applying the initial 50/50 varnish/mineral spirits seal coat to the various assemblies.

My First 'Shot' at Astrophotography

by Aseem Deodhar

I've always wanted to click beautiful pictures of the night sky just like those in the astronomy magazines and websites. But lacking any sort of measurable amount of experience in astronomy and photography haven't taken me very far, (in fact, anywhere at all) towards doing that. But all was about to change, when a friend and I decided to take a trip to South Dakota (wait...what??) to see the Mount Rushmore National Monument (Oh, that's why). I had a fair idea that the monument was sort of away from any big cities, so there was a chance of being under slightly darker skies than what I'm used to seeing in the Detroit Metropolitan area. I took a quick look at Dark Sky Finder (DSF) map (the website I'd bookmarked who knows when!) to find that the monument was a little closer to Rapid City than I had expected. But nearby there was the Badlands National Park (cool name, if you ask me) to the east and the Devil's Tower National Monument (cooler still...) not far off in the north west of the Mount Rushmore Monument. And those were quite literally in the middle of nowhere, and the DSF map had them shaded grey! That is almost as dark as it gets! That got me super excited and the first thing that came to my mind was this is my chance to have a go at astrophotography.

The idea of capturing stunning photographs of the night sky was cool and exciting, but I needed to get my hands on a key piece of equipment - The Camera! That brought me right down on the ground again. The thought of spending \$500 on a decent digital SLR camera just for one trip, without knowing anything about basic photography, wasn't something I was willing to entertain. But, all hope was not lost as I turned to man's best friend - the internet! A quick search pointed me to a local camera shop which rented out digital SLR cameras and lenses for a decent charge. Voila! Within my meagre budget I got my hands on a Canon EOS Rebel T3 and a 18-200 mm lens to go with it. And while I was thinking getting a camera was tough, learning how to use it in a day was a totally different ball game. I had never used anything beyond a basic point and shoot before this (I'm not much of a photographer). But I soon found out that the internet (again to the rescue) was rife with little tutorials on some of the basics of digital SLR photography which were enough to get me started. About a week before, I was at the club meeting at the end of which, Brian Ottum showed us a couple of stunning pictures of the Milky Way he took with a digital SLR camera at a National Park in Utah. So, I thought it would be best to ask him for some tips on how to use a camera under dark skies. He was extremely prompt, very helpful and knew exactly what I was trying to do. After a quick phone conversation with him I felt quite confident about shooting some stars!

Alright, so, I had my camera, I had learnt how to use it (umm, sort of...) and was ready to drive a 1000 plus miles to put all of it to use under some sublime skies. Easy peasy, right? Ha ha, not so much! "Did you check the weather, Mr. Photographer?", the little voice in my head blurted out. Darn you little voice in my head! So back on the internet with weather.com, Weather Underground, AccuWeather, NOAA... ABC... XYZ and all came back with the same answer - Perfect Weather Conditions. Woo Hoo! With all the elements coming together including perfect weather, even God couldn't have written a better script. So now I was, finally, all set to embark upon my little trip.

A day and a half and exactly 1200 miles later, I was at my hotel in Rapid City, South Dakota. On my way, while my friend was driving at night, about 50 odd miles from our hotel, I peeked out of the window toward the sky and it was filled with stars. I got a taste of what was to come the following nights under the sky. So, in the hotel room, at the planning table, the itinerary for the next day was decided - Mount Rushmore in the morning, surrounding scenic areas in the afternoon, the Devil's Tower in the evening and night sky photography there until we could barely stay awake to drive back.

The plan went pretty well, we were at the right place at the right times of the day to enjoy the monuments and the natural beauty around. Finally, reached the Devil's tower just in time before the visitor center was about to close. There was some time before the sun would go down and we took the opportunity to walk around the tower and see it from all sides. It is a truly remarkable geological formation towering some 800 feet in the middle of nowhere. The different hues of yellow and orange that the tower donned because of the sunlight was an absolutely spectacular sight to behold. As the setting sun somehow made the scene even more beautiful than it already was, we decided to get dinner and find a place to set up the camera.

Just after dinner we were treated to the sight of Saturn, shining like a diamond and setting in the western sky. That was my first chance to capture an astro-photo. After several attempts I couldn't get the right settings on the camera to capture any meaningful photographs of the ringed planet. Bummer! That didn't help my confidence. In fact, I became more skeptical of my limited ability to take photos of the night sky.

We went back to the location we picked to set up the camera. The sun had fully set by then and the sky was full of stars. The Milky Way was shining majestically. The amount of detail visible, the gas and the dust lanes, was simply phenomenal. Only if I could capture all this beauty on the sensor of the camera! I tried several more times to get a decent picture of our gorgeous galaxy, but not one photograph was worth keeping. Too little exposure time...out of focus... too much aperture...high ISO...low ISO... I was getting frustrated. My friend, who is not at all an astronomy enthusiast, had gone past frustration long before and was begging me to pack up and head back. So, I thought, one last chance and I could take a long exposure shot for star trails with the Devil's Tower in the foreground. I could picture it in my mind and seemed like a brilliant idea. With everything I could remember about capturing star trails, I set it up, plugged the remote shutter in and one..two...three...CLICK! After about 25 more minutes of continuous CLICK, I decided to see the



ALL PHOTOS BY THE AUTHOR

results. Finally, nice star trails with the big tower in the center of the frame! There was some 'noise' in the image, but at that time I didn't really care. I had my first picture which I could put in an article and write about it!

Day two was fully dedicated to visiting the Badlands National Park. Another day in the midst of nature's breathtaking ability to carve out a landscape out of sedimentary deposits and a whole lot of wind. After spending the entire day wandering around the entire park, the time of the sunset brought out some familiar members in the sky. From hundreds of millions of miles away, Saturn was shining brightly again in the western sky. And this time I HAD to capture it in my camera. Once again I fiddled with the settings on the camera and gave it another shot. Ah Ha!

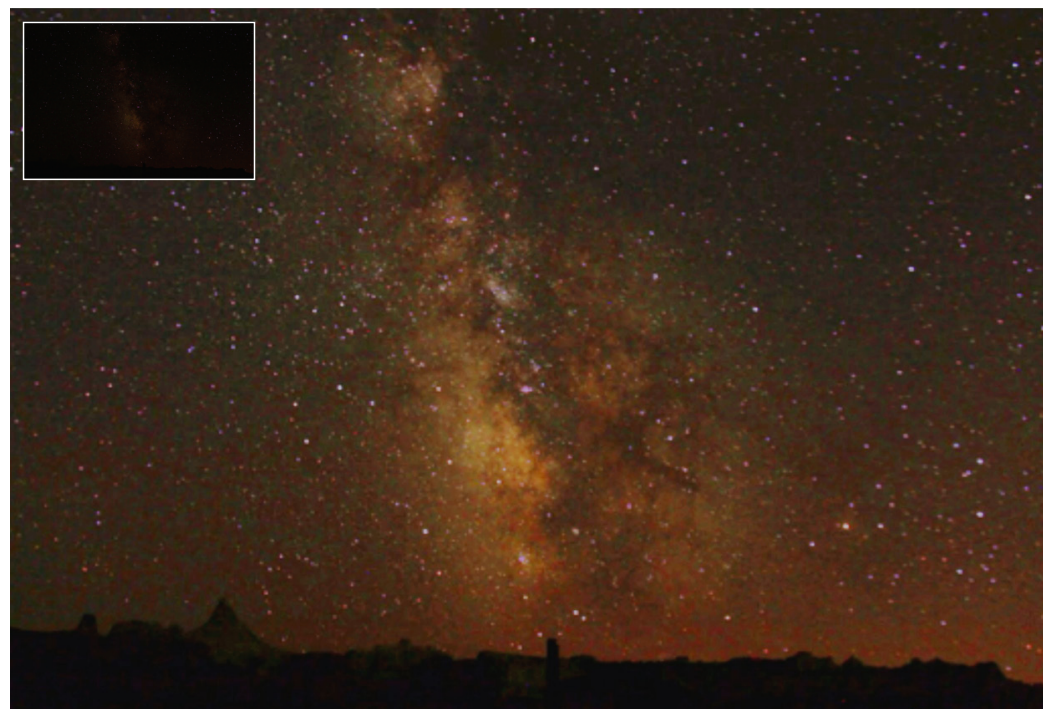


Saturn looks like a little white dot above and to the right of the mountain peak in the center.

Gotcha Saturn!

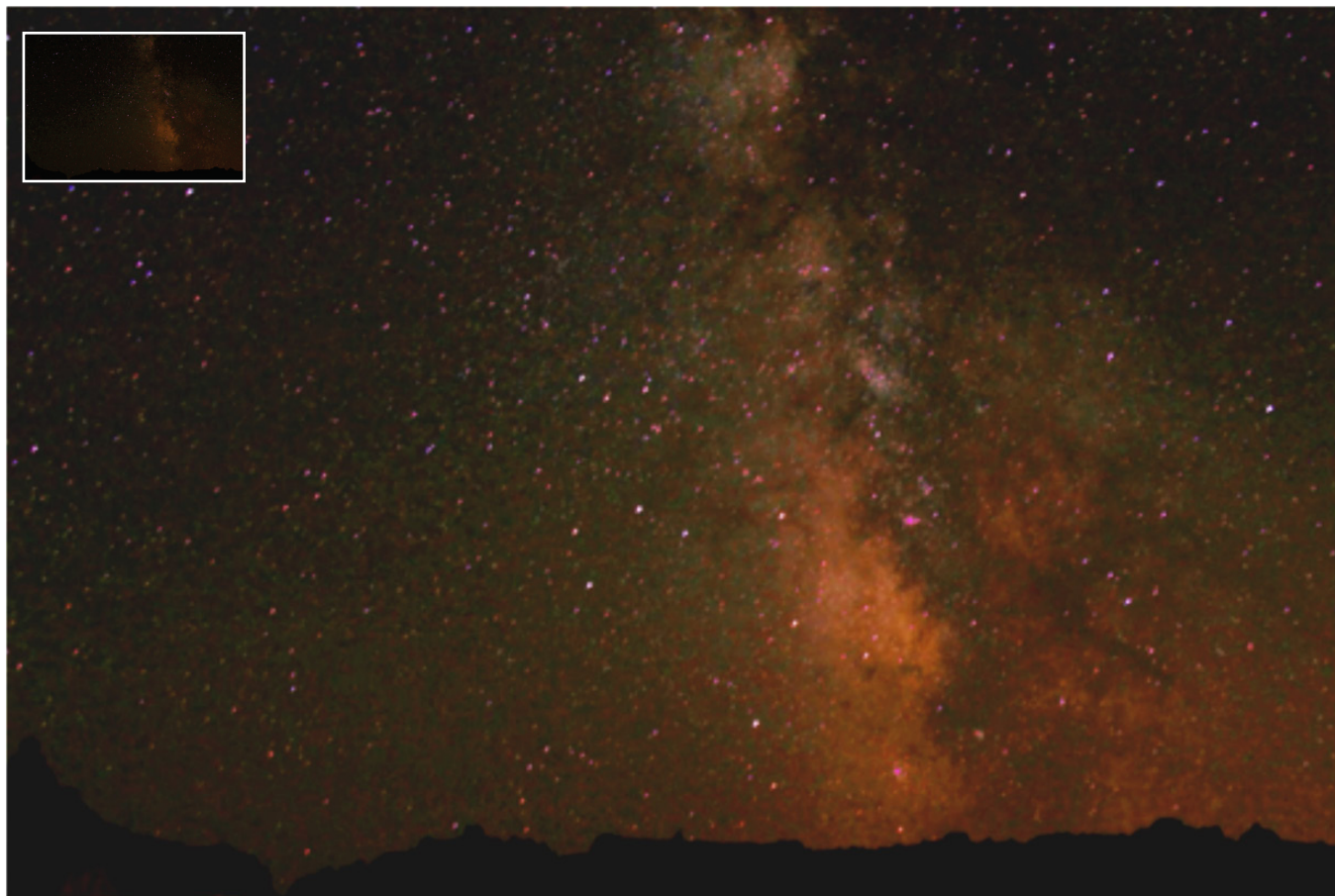
The feeling of being able to see and photograph a distant world, even if its just a point of light in the vast black-blue sky, is something truly amazing.

The sun had barely set and the big dipper was high up in the sky in all its glory. As if the stunning natural beauty on earth wasn't enough, the heavens had put on quite a show after nightfall. The Milky Way seemed even brighter than



last night and I had thought last night's was the brightest I had ever seen. So while I was engrossed and breathless just looking at the sky, my friend reminded me, "Hey, you could try taking a picture of the Milky Way again". So I turned my camera to the south pointing it towards the center of our galaxy and started taking 30 second exposure pictures adjusting the aperture and ISO each time and after a few shots I could finally see the magnificence in the sky come onto the camera display.

Milky Way images were imported from Microsoft Word and adjusted in Photoshop by the editor. A thumbnail PDF of the photo as it appeared in the original Word document is at upper left of each image.



It kept getting better and better and I was absolutely ecstatic! Don't they say failures are the stepping stones to success? They're probably right!

I left the Badlands National Park that night feeling extremely happy and satisfied. The images would definitely need some (actually, quite a bit of) processing in photoshop...which I don't know how to...yet. That's the next step in my learning process. But at the moment, I would say not too bad for a first try - not just with astrophotography, but with a digital SLR itself! Sure these aren't the best photographs ever taken, but for me it's the process, the learning involved and the joy of all of it that counts. At this point, Saturn might look like a dot in my pictures or Andromeda is just a faint smudge, but it's about appreciating that I am able to capture the light which has traveled millions and millions of miles. In this small trip I witnessed some of the darkest skies in the US and could finally comprehend how much the heavens has to offer even for a naked eye observer. Will I be taking another 'shot' at astrophotography? Absolutely!

March Lowbrow Calendar

Saturday, March 15--9:00 AM - 3:00 PM--**11th Annual Astronomy Show and Swap Meet**--Holy Cross Church Gymnasium, 30650 Six Mile, Livonia, Michigan 48152. Hosted by the Ford Amateur Astronomy Club (FAAC) Astronomy Presentations and Planetarium Lectures. Earn Cash By Selling Your Extra: Telescopes, Eyepieces, Cameras, Binoculars, Mounts, Tripods, Software, Publications, Accessories, etc. Or, locate that special bargain you might not otherwise find! Admission: \$5.00 (children 15 and younger - Free / must be accompanied by an adult). Sales Table: \$20 at the door as available, (one admission ticket included).

Friday, March 21--7:30 PM--**Lowbrow Monthly Meeting**--Adam Sypniewski (PhD, Physics, University of Michigan). "In Pursuit of Dark Energy."

Saturday, March 22 and Saturday, March 29--Beginning at sunset--**Open Houses at Peach Mountain**--May be cancelled if cloudy or too cold. Currently, while the road is clear, the snow pack is too deep for a public event. Significant melting will have to occur in the next two weeks to make these events possible. Final notifications will be emailed.

Secret of the Big Bang

by Jack Brisbin

During the last couple of months there have been many interesting lectures discussing various issues about cosmology, the universe, star formation, and galaxy formation. They all have one common start point: "The Big Bang". Some of the lecturers have expressed their concerns during the lecture or question & answer session, that the big bang terminology is not the best way to describe the beginning on the Universe. This is not new. Over the many years of listening to astronomy related lectures, other speakers have made similar remarks. So who coined the term "The Big Bang"?

First I thought about contacting Mister Peabody and Sherman and ask them to crank up the Wayback Machine. This didn't work because they are making another movie. My alternative is to do what everyone else doe's.....Google it.

I know the first thing everyone will tell me to do, is google the TV comedy "The Big Bang Theory" and talk to the Chief Bazinga! named Sheldon. That's not going to happen! I was looking for an answer that is Astronomy related with some academic credibility.



The picture to the left is Fred Hoyle, famous astronomer and scientist. It was Fred Hoyle who coined the term "Big Bang Theory" during a 1949 British Broadcast Corporation (BBC) radio debate when he stated; ***"These theories were based on the hypothesis that all the matter in the universe was created in one big bang at a particular time in the remote past."***



The secret is; Fred Hoyle did not believe in the "Big Bang Theory". Ironically he originated the term, but Hoyle spent most of his academic career developing an alternate mathematical model of the universe called the "Steady State Theory". A basic explanation is; "Matter is continuously created at a rate that keeps the average density of the Universe the same as it expands". Today that idea has been discredited.

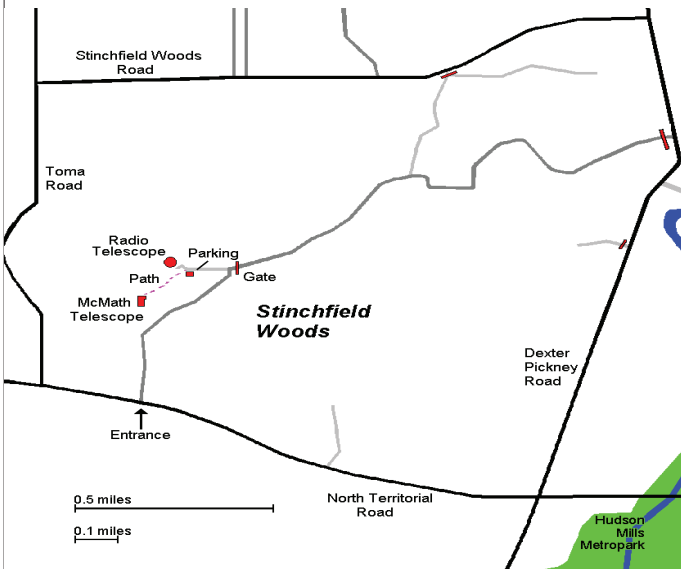
What Fred Hoyle did, was force supporters of the Big Bang Theory to prove their theory with hard evidence. Crude analysis of this would be similar to playing a poker game. You bet your money, you are all in. It is time to "Put Up or Shut up"! That's what Fred Hoyle made them do.

Titled Sir Fred Hoyle, he was born in England, 24 June 1915 and died 20 August 2001 at the age of 86. Notable Awards; Mayhew Prize 1936, Smith Prize 1938, RAS Gold Medal 1968, Bruce Medal 1970, Royal Medal 1974, Klumpke-Roberts Award 1977, and the Crafoord Prize 1997. In his latter years he was Director of the Institute of Astronomy at Cambridge, England.

Places & Times

Dennison Hall, also known as The University of Michigan's Physics & Astronomy building, is the site of the monthly meeting of the University Lowbrow Astronomers. Dennison Hall can be found on Church Street about one block north of South University Avenue in Ann Arbor, MI. The meetings are usually held in room 130, and on the 3rd Friday of each month at 7:30 pm. During the summer months and when weather permits, a club observing session at the Peach Mountain Observatory will follow the meeting.

Peach Mountain Observatory is the home of the University of Michigan's 25 meter radio telescope as well as the University's McMath 24" telescope which is maintained and operated by the Lowbrows. The observatory is located northwest of Dexter, MI; the entrance is on North Territorial Rd. 1.1 miles west of Dexter-Pinckney Rd. A small maize & blue sign on the north side of the road marks the gate. Follow the gravel road to the top of the hill and a parking area near the radio telescopes, then walk along the path between the two fenced in areas (about 300 feet) to reach the McMath telescope building.



Public Open House / Star Parties

Public Open Houses / Star Parties are generally held on the Saturdays before and after the New Moon at the Peach Mountain observatory, but are usually cancelled if the sky is cloudy at sunset or the temperature is below 10 degrees F. For the most up to date info on the Open House / Star Party status call: (734)332-9132. Many members bring their telescope to share with the public and visitors are welcome to do the same. Peach Mountain is home to millions of hungry mosquitoes, so apply bug repellent, and it can get rather cold at night, please dress accordingly.

Membership

Membership dues in the University Lowbrow Astronomers are \$20 per year for individuals or families, \$12 per year for students and seniors (age 55+) and \$5 if you live outside of the Lower Peninsula of Michigan.

This entitles you to the access to our monthly Newsletters on-line at our website and use of the 24" McMath telescope (after some training).

A hard copy of the Newsletter can be obtained with an additional \$18 annual fee to cover printing and postage. Dues can be paid at the monthly meetings or by check made out to University Lowbrow Astronomers and mailed to:

The University Lowbrow Astronomers

P.O. 131446

Ann Arbor, MI 48113

Membership in the Lowbrows can also get you a discount on these magazine subscriptions:

Sky & Telescope - \$32.95 / year \$62.95/2 years

Astronomy - \$34.00 / year or \$60.00 for 2 years

For more information contact the club Treasurer at:

lowbrowdoug@gmail.com

Newsletter Contributions

Members and (non-members) are encouraged to write about any astronomy related topic of interest.

Call or Email the Newsletter Editor: **Jim Forrester (734) 663-1638 or jim_forrester@hotmail.com** to discuss length and format. Announcements, articles and images are due by the 1st day of the month as publication is the 7th.

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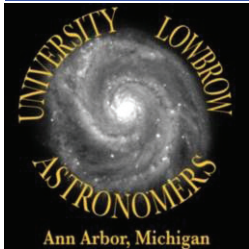


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Reflections & Refractions

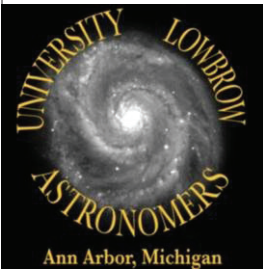


Comet C/2013 R1 (Lovejoy) in the morning twilight of 12/30/13.
Takahashi 106 mm Apochromat,
f/5, 5 minute exposure.

John Manney wrote up his experiences with the internet telescope service iTelescope in last month's Reflections. Above is His image of Comet C/2013 R1 (Lovejoy), a fine novice effort. Your editor will happily put the pressure on John for future astrophotos!

Website

www.umich.edu/~lowbrows/



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