

REFLECTIONS / REFRACTIONS

University Lowbrow  
Astronomers

REFLECTIONS \ REFRACTIONS

APRIL 2016

VOLUME 40, ISSUE 4

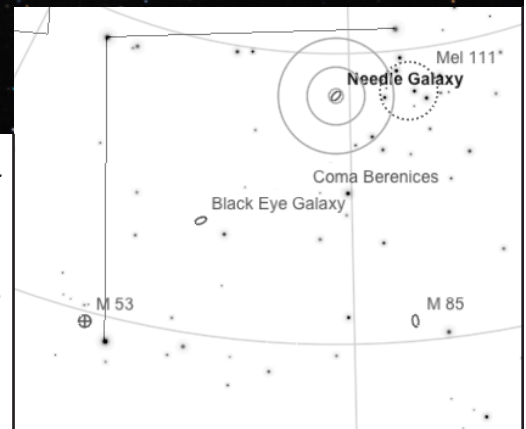
## NGC 4565

# A Prime Spring Target

By Brian Ottum



**Brian Ottum** sent his photo of the Needle Galaxy, NGC 4565, taken from his remotely controlled observatory in New Mexico. NGC 4565A is to the upper left and NGC 4565B and C are to the lower left toward the bottom of the image. The Sky Safari chart shows location of NGC 4565 as it nears transit, about 00:30 in early April and 22:30 in early May at an altitude of 68 degrees 32 minutes. The other objects plotted in the chart are all easily seen in a 4 inch or larger telescope. The 2 degree wide Melotte 111, though, will best be seen at low power with a short focal length refractor or binoculars.



Treasurer Doug: On The Job

# 2015-2016 Financial Report

By Doug Scobel, Treasurer

Here's the balance sheet for fiscal year April 1, 2015 to March 31, 2016. As you can see we have a healthy bottom line. Here are the highlights:

Dues payments made this year break down along membership types as follows: 42 family memberships, 69 senior memberships, 4 students, and perhaps surprisingly 12 out-of-state memberships. The ratio of senior to family memberships has been increasing in recent years, and I expect that trend to continue. For example, last year the breakdown was 41 family memberships to 56 senior, and 45-46 in 2013-14. We are definitely "graying".

We currently have 129 memberships, eight of which being honorary or lifetime. If you are paying attention then you see that the numbers I quote in the previous paragraph add up to more than 121. That's because some folks renew for multiple years.

We are just breaking even with a little to spare on hardcopy versions of the newsletter. Meaning the fee we charge for that seems to be just about right.

Magazine subscriptions break even exactly. The dollar amount seems high; that's due to the annual group Astronomy magazine order taken every summer. There's a scattering of Sky and Telescope subscriptions in that number also.

The bulk of the donations we receive are from Hazel Park Schools for the Camp Hazelwoods event we hold for them every year, plus a large \$150.00 donation from a member (that member is now considered a lifetime member). The rest is composed of smallish donations from various members that include them with their dues payments. Those donations are greatly appreciated!

Our donations going out are our annual donation to GLAAC for Astronomy at the Beach, and annual donations to the International Dark Sky association and to sponsor the Peach Mountain Clear Sky Chart.

Our shirt/cap sales are largely from the sale of caps, but there were a fair number of shirt sales too. As you can see we make a modest "profit" on our purchase and sale of RASC calendars and handbooks late in the calendar year.

The majority of our McMath expenses went to our recent upgrades of new digital setting circles and associated electronics and hardware. We also made some repairs to the building.

About half of the "Miscellaneous" expenses went to purchase our cap inventory, with the rest consisting of the cost of food and drink at the July meeting at EMU, and the annual fee for our post office box.

If you have questions or would like further detail then simply contact me. Also, I always bring the ledger with me to our monthly meetings should you wish to take a look.

**University Lowbrow Astronomers Balance Sheet 01 April 2015 - 31 March 2016**

<u>Income</u>		<u>Expenses</u>	
Dues	\$2,780.00	Phone (AT&T Messaging)	\$190.20
Extra for mailed newsletter	\$126.00	Newsletter printing/ mailing	\$116.44
Magazine subscriptions	\$693.80	Magazine subscriptions	\$693.80
Donations/Gifts	\$420.00	Donations	\$455.00
Shirt/Cap sales	\$372.00	Guest speaker expenses	\$12.33
Shipping charges	\$20.75	Shipping/ mailing	\$44.22
RASC publication sales	\$738.00	RASC publications	\$688.30
Miscellaneous	\$8.63	McMath maintenance	\$734.42
		Miscellaneous	\$644.68
<b><u>Total Income</u></b>	<b>\$5,159.18</b>	<b><u>Total Expenses</u></b>	<b>\$3,579.39</b>
<b><u>Balance 01 April 2015</u></b>	<b>\$4,771.78</b>	<b>Shirt Inventory</b>	<b>57</b>
<b><u>Plus Income</u></b>	<b>\$5,159.18</b>	<b>Cap Inventory</b>	<b>22</b>
<b><u>Minus Expenses</u></b>	<b>\$3,579.39</b>		
<b><u>Balance 31 March 2016</u></b>	<b>\$6,351.57</b>		

**LETS**

# Join the Astronomical League!

By Doug Scoble, Treasurer

At the April 15 meeting I will be proposing that the Lowbrows become a member society of the Astronomical League. I'm sure many of you are asking "What is the Astronomical League?", so here goes.

The Astronomical League is a non-profit organization whose mission is to promote the science of astronomy, focusing on pursuit of astronomy by amateurs. In their words, the Astronomical League's mission is "To promote the Science of Astronomy; To foster observational and computational work, and craftsmanship opportunities in the various fields of Astronomy; To provide a medium for correlating amateur activities and professional research; To encourage and coordinate activities of amateur Astronomical Societies".

If the Lowbrows were to become a member society then you probably have two questions: "How much will it cost?" and "What's in it for me?".

As far as cost to the club, the annual fee is only ten dollars. Plus someone needs to serve as the so-called "ALCor", the correspondent between the Lowbrows and the Astronomical League. That duty will most likely fall on the Treasurer, as it involves providing the Astronomical League with information on and payment for club members who wish to join. The only other stipulation to joining the Astronomical League as a member society is that at least five club members join the Astronomical League.

Individual Lowbrow members will be free to join the Astronomical League or not to. The cost to members who do join will be \$7.50 annually. It could be only \$5.00 per year if at least 95% of the Lowbrow membership joins the Astronomical League, but I don't expect that to happen. So what does that \$7.50 buy you? Besides a subscription to the quarterly journal *The Reflector*, a major benefit is eligibility to participate in any or all of the Astronomical League's observing programs. Again, in the Astronomical League's words these programs "are designed to provide a direction for your observations and to provide a goal. The programs have awards and pins to recognize the observers' accomplishments and for demonstrating their observing skills with a variety of instruments and objects." The Astronomical League also provides tools to aid you in your observations. They have observing awards for all observational skill levels. They are a great way to provide you more of a reason to go out observing, while improving your observing skills at the same time.

Besides those tangible benefits, Astronomical League members have voting privileges, and may attend conventions and join in other Astronomical League activities. When you consider that the cost to join the Astronomical League as a member-at-large starts at \$40.00, joining for only \$7.50 as part of a member society is quite a bargain!

If the Lowbrows join the Astronomical League as a member society, then we will be listed on their web site as such. That will provide significant additional exposure of our club locally, nationally, and internationally.

It seems to me that joining the Astronomical League as a member society is a no-brainer. The monetary cost is minimal, and the benefits to the Lowbrows and our members who join are astronomical! We will be voting on it at the April meeting, and I urge a "yes" vote.

[For more information on the Astronomical League, go to <https://www.astroleague.org/>. I'm seeing a lot of bad links on that page, so you may wish to try <https://store.astroleague.org/> instead.]

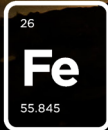
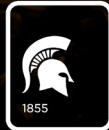
*(NOTE: The League also makes liability insurance available to member clubs for its public outreach events, ed.)*

# Statewide Astronomy Night

## Friday, April 15, 2016

- **Lighting Up Dark Matter**
  - Eric Bell, Angell Hall Auditorium C, 7:30 PM
  - Presented by the University Lowbrow Astronomers
- **Detroit Observatory in Ann Arbor - Open House**
  - Walk up planetarium & building tours 8 – 10 pm, Telescope Viewing (weather permitting) 9 – 10:30
  - Presented by the UM Museum of Natural History, Bentley Historical Library, and Department of Astronomy
- **Angell Hall Astronomy Open House**
  - Planetarium, room 3118
  - Roof & Observatory open (weather permitting)
  - Student presentations room 5190
  - Demonstrations and Hands on Activities room 5180B
  - Presented by the Student Astronomical Society and University Lowbrow Astronomers

MICHIGAN STATE UNIVERSITY  
**SCIENCE FESTIVAL**



This is an official event of the MSU Science Festival <http://sciencefestival.msu.edu/>

## How To Drown in the A\$tronomical Ocean

By Brian Ottum

PROGRESSION THROUGH THE ASTRONOMY HOBBY	Stage 1 "Hey, I have this thing. What can I do if I point it toward the sky?"	Stage 2 "I want to be able to do what I've heard others can do"	Stage 3 "It's been great, but I want to do lots more"	Stage 4 "I'm going all in with this hobby!"
<b>Visual ---&gt;</b>	Got some binoculars or a cheap beginner telescope. First attempt at visual astronomy. Cool views of moon, planets and a star. Encouraged, so investigating a better telescope. \$60	Do some Googling, go to star parties, buy a used small refractor or small dob. Really start seeing those star clusters, nebulae and galaxies. Fun! \$500	Need better eyepieces, better scope, better mount, aperture fever! Filters. \$2,000	Want to see globulars in Andromeda, track down all the Arp's, the entire Herschel, more aperture fever, computers and tracking. \$10,000
<b>Photography ---&gt;</b>	Got a DSLR. Point it toward the sky and get a decent picture. Even capture Milky Way in a 30 fuzzy second exposure. Wow. \$600	Do some Googling, talk to others, trial and error, buy a nice scope, mount, autoguider, lots of software, get some great shots. \$5,000	Need better camera, better scope, better mount, focal length fever! Filters. \$20,000	It's just too cloudy and light polluted around here. Remote control Ritchey-Cretien, massive mount, filters, rotator, adaptive optics, big CCD chip, roll-off observatory, hunt for near-earth objects, supernovae, help professional astronomers \$100,000

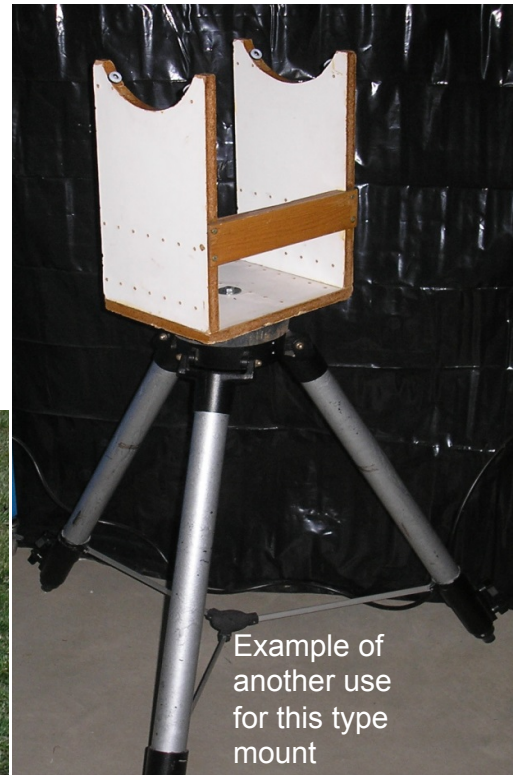
**Photography Stage 1.5 "I want to do some imaging but keep the cost reasonable"** Get a \$800 tracking mount, nice 200mm lens, 12V power supply, light pollution filter, get great shots of Milky Way, Andromeda, Orion Nebula, Lunar Eclipse, Comets \$2,000

*Brian sent this spread sheet about 20 months ago. I'm sure by now he has discovered more ways to spend all you've ever earned (and then some) on being an amateur astronomer.--ed.*

## For sale; 10" Schmidt-Cassegrain Mount and Wedge and 4" Coulter secondary mirror

This mount was originally used on the club's 10" Meade Schmidt-Cassegrain telescope. The club purchased a new Celestron GEM GOTO mount with hand controller. This mount has not been used for many years and it was decided to sell the mount. This is the stronger mount with 2 1/2" diameter legs. The 8" mounts are only 2" diameter legs.. The sale price is \$150.00 for mount and wedge or **best offer?**

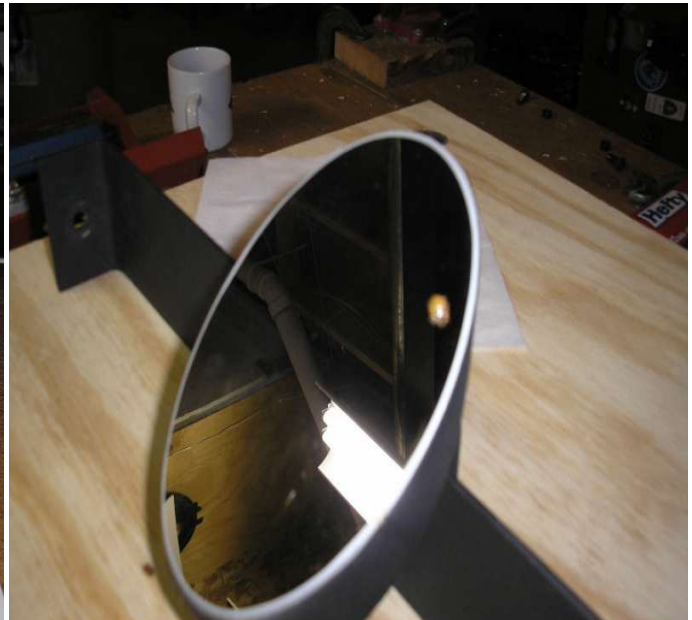
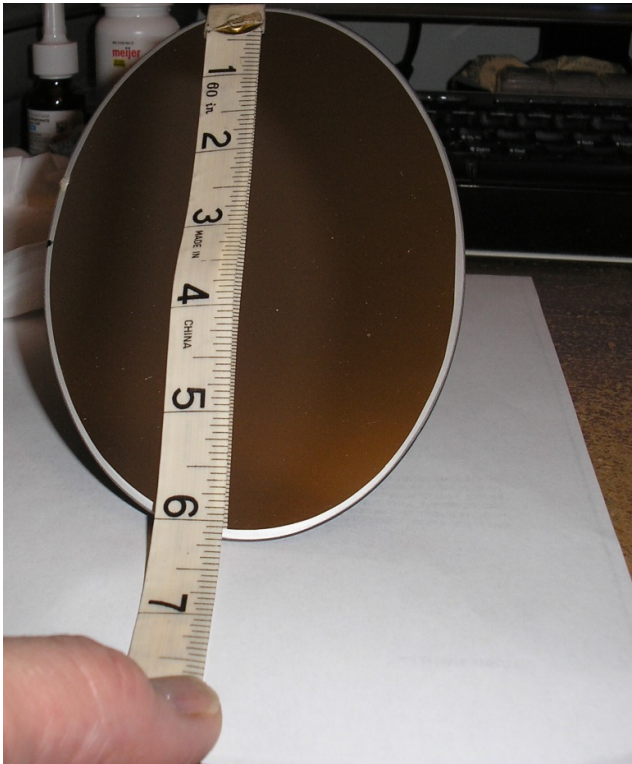
Many telescope users have used these tripods for other types of telescopes such as building a dobsonian style mount on the tripod and not using the wedge. The picture on the right is an example of a dobsonian style conversion. Other telescope enthusiasts have bought a German Equatorial Mount and attached it to a tripod mount base. Need a heavier mount, this tripod can be modified for photography



## BUT WAIT THERES MORE!

The 4.25" minor axis secondary mirror is also for sale. **The asking price is \$125.00.** This is the secondary mirror for the 17.5 Coulter telescope that was rebuilt into the clubs 17.5 Dobsonian telescope. We refigured the 17.5 mirror and bought a new smaller 3.1" diagonal. The secondary mirror was manufactured by Coulter Optics and is advertised to be  $\frac{1}{4}$  wave.

Want to know more about the secondary mirror then read the April 2008 newsletter article "The odyssey 2 continues; Return of the Secondary Mirror."



Interested in buying either item  
then Contact:

lowbrow-officers@umich.edu

# University Lowbrow Astronomers

## *3/18/2016 Meeting Minutes*

The meeting began at approximately 7:35 PM in G115 Angell Hall and was attended by approximately 25 members and guests.

The guest speaker was Vivienne Baldassare, a graduate student at the University of Michigan Department of Astronomy. The title of her presentation was "Big Black Holes in Small Galaxies".

She explained how black holes are studied using many resources starting by analyzing the spectrum of galaxies obtained from Sloan Digital Sky Survey. Candidate galaxies are then studied further using images obtained from other telescopes including the Hubble Space Telescope. The presence and size of Black Holes are inferred by the shape and movement of stars or a dense group of stars that reside at the center of galaxies. She explained that most nearby galaxies are dwarf galaxies and her studies should determine the prevalence and size distribution of their black holes. Members were surprised to learn that not all galaxies have black holes, that the effect of even a large black hole influences less than one percent of the area of a galaxy, and that M33 for her studies is considered a dwarf galaxy and does not have a detectable black hole. Her presentation lasted about 45 minutes followed by answering questions from members.

### Officer Reports:

**President Charlie Nielsen** presented "Lowbrow Outreach Awards" which were Night Sky Network pins to:

- 1) Larry Halbert noting his participation in many club outreach events and efforts at the Hands on Museum.
- 2) Krishna Rao for his work integrating Facebook and other social media into the Lowbrow internet presence.
- 3) Dave Snyder for his continued work on the Lowbrow web site and blog.

He also reported that Angie McCalla, a Cub Scout Den Leader, was interested in having the Lowbrow's come to Chelsea to teach the boys about astronomy. She had list of items that appeared to be geared toward a merit badge. Charlie suggested that activities could best be accomplished by bringing the cub scout pack to the next Peach Mt. Open House. He suggested the she should let us know when they were coming and we could assign someone at the Open House to instruct the boys. Dave Jorgensen had agreed to follow up with Angie.

Charlie also reported that he had a similar request from a scout group near Pickney. John Wallbank agreed to follow up on the request. Charlie also thanked Jim Forrester for arranging Jodi and Roy McCullough to make a presentation at the June meeting of their eclipse viewing trip to Indonesia. He also reported that Dave Snyder would not be a VP next year and nominated Chris Sarnecki for VP (see below).

**V.-P. Dave Snyder** reported that GLAAC has engaged Fred Espenak as the keynote speaker for the Astronomy at the Beach event Sept 9th and 10th. Fred is best known for his work on Eclipse predictions. Fred has asked for \$2000 to cover his speaking fee and travel expenses.

**V.-P. Don Fohey** reported on the Brighton Library event to be held on Monday April 11th at 7 PM. Jennifer Osborn of the Library has asked the Lowbrow with help with a presentation based on the Livingston County Reads selection of "The Martian" by Andy Weir. She estimates 20 to 50 attendees. The program will be three presentation followed by telescopes viewing of Jupiter and the moon in the parking lot weather permitting. Don has prepared a short "Mars Mission Overview" presentation and an "Amateur Astronomy Introduction" presentation based on material the Lowbrows have used before. A short "Lowbrow Overview" will be presented by John Wallbank . Don will work with John to develop that presentation. All Lowbrows are welcome, Charlie and Jim will also attend and bring telescopes. Don will send an email announcement to all club members.

**Observatory Director Jack Brisbin** reported that work has continued on the McMath telescope. A mounting board has been constructed to hold the Argo Navis, SkyFI and SkyBT adapters. The board has been attached to the side door of the telescope pier. The 6" F/8 Cave with equatorial mount was picked up by Ken Ruble who will refurbish it. Jack has the 8" F/6 Meade Starliner DOB and is repairing and improving the bearing surfaces. He indicated work needs to be done on the 10" Schmidt-Cassegrain OTA with CGEM Goto Mount. He brought to the meeting the 10" Meade Schmidt-Cassegrain tripod mount with Declination wedge and the Coulter Secondary Mirror. After discussion it decided that they would be offered for sale to club members first with an article in the club newsletter listing the tripod mount for \$150 and the secondary for \$125. Jack picked up 235 books from Harry Juday. He will in a manner catalog them by stacking the books and photographing the book ends. The club can then review and decide on their disposition.

**V.-P. Dave Jorgensen** reported that he is working to contact Angie McCalla at the Chelsea cub pack. He is trying to contact Jamie Cutler as a speaker . He will also finalize the arrangements with Professor Christopher Kelly of WSU for the May meeting presentation.

**Treasurer Doug Scobel** reported a membership of 129 and an approximate balance in the Treasury of \$6350. He has received the order of caps and has a good selection of shirts available. He sent in the club donation to the Clear Sky Chart page for Peach Mt. The next newsletter will include an article proposing membership to the Astronomical League. He suggest that the club should vote on that membership at the April meeting.

**Newaletter Editor Jim Forrester** explained he has material for the April and May newsletter. He pointed out that articles are still needed. Jim spoke of recruiting Jodi and Roy McCullough and to expect a very good eclipse chasing presentation in June. He also explained that he would not be in town for the May 9th Mercury Transit or Astronomy Day activities. Any club observation plan needs to be submitted to the Observer paper by April 10th. Dave Snyder is the contact for the paper.

**Member Chris Sarnecki** reported that he is moving to North Caroline to be close to family. He therefore could not accept the vice presidential nomination. He offered some of his book collection to members present.

The meeting adjourned about 9:40pm

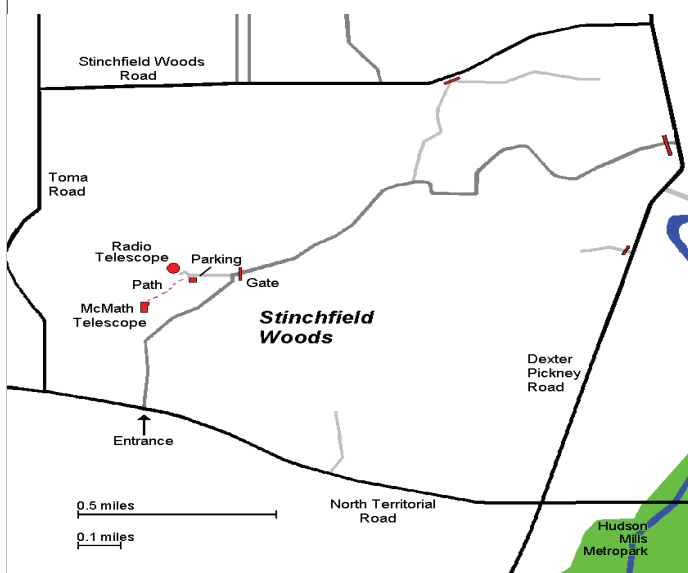
Submitted by,  
Don Fohey



## Places & Times

Monthly meetings of the University Lowbrow Astronomers are held the third Friday of each month at 7:30 PM. The location is usually Angell Hall, ground floor, Room G115. Angell Hall is located on State Street on the University of Michigan Central Campus, between North University and South University Streets. The building entrance nearest Room G115 is the east facing door at the south end of Angell Hall. A club observing session at the Peach Mountain Observatory, weather permitting, often follows 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, maintained and operated by the Lowbrows. Located northwest of Dexter, MI; the entrance is off North Territorial Road, 1.1 miles west of Dexter-Pinckney Rd. A maize and blue sign marks the gate. Follow the gravel road to the top of the hill to a parking area south of the radio telescope, then walk About 100 yards along the path west of the fence to reach the McMath Observatory.



## 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 \$30 per year for individuals or families, \$20 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](mailto:jim_forrester@hotmail.com) to discuss length and format. Announcements, articles and images are due by the 1<sup>st</sup> day of the month as publication is the 7<sup>th</sup>.

## Telephone Numbers

President:	Charlie Nielsen	(734) 747-6585
Vice Presidents:	Dave Snyder	(734) 747-6537
	Dave Jorgenson	
	Don Fohey	
	Ken Ruble	
Treasurer:	Doug Scobel	(734)277-7908
Observatory Director:	Jack Brisbin	
Newsletter Editor:	Jim Forrester	(734) 663-1638
Key-holders:	Jim Forrester	(734) 663-1638
	Jack Brisbin	
	Charlie Nielsen	(734) 747-6585
Webmaster	Krishna Rao	

## Lowbrow's Home Page

<http://www.umich.edu/~lowbrows/>

## Email at:

[Lowbrow-members@umich.edu](mailto:Lowbrow-members@umich.edu)

**A NOTE ON KEYS:** The club currently has one gate key. The officers are negotiating with the University for additional copies. The Observatory Director usually has this key. All three Key-holders have keys to the Observatory.





## University Lowbrow Astronomers

University Lowbrow Astronomers  
P.O. Box 131446  
Ann Arbor, MI 48113

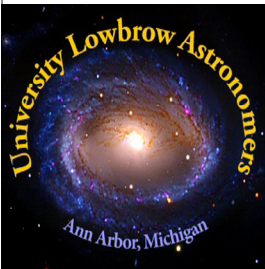
lowbrowdoug@gmail.com

### Reflections & Refractions



### Website

[www.umich.edu/~lowbrows/](http://www.umich.edu/~lowbrows/)



University Lowbrow Astronomers  
P.O. Box 131446  
Ann Arbor, MI 48113

# Lowbrow Calendar

**Friday, April 15--Statewide Astronomy Day/Night--Details Page 4**

**Friday, April 15, 1:30 PM--Brother Guy Consolmagno--Room 411, West Hall.**

**Friday, April 15, 7:30 PM--Lowbrow Monthly Meeting--Eric Bell, (Professor of Astronomy, University of Michigan & Director, Michigan Institute for Research in Astrophysics): "Lighting up Dark Matter." Angell Hall, **Auditorium C** (note room change). Also, **Annual Election of Officers. Remember: Not attending does not mean you won't be elected to an office.****

**Saturday, April 30 and Saturday, May 7, 8:30 - Midnight--Open Houses on Peach Mountain.** (May be cancelled if cloudy.)

**Monday, May 9, Transit of Mercury, starts about 7:12 AM--** Watch your email for announcements of observing sites.

**Saturday, May 28, 9:00 PM - 12:30 AM--Open House on Peach Mountain.** (May be cancelled if cloudy.)