



# ASTRAL PROJECTIONS

January 2014  
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**DECEMBER MEETING:** Club officers were elected for 2014:

President: Rich Brady  
Vice President-Secretary: Sarah Waters  
Treasurer: Ro Spedaliere

John Gianforte, a co-chair of the Planetarium Steering Committee, was introduced and said a few words about the Planetarium and his research on extrasolar planets.

**JANUARY MEETING:** Telescope Workshop: This meeting is an annual event dedicated to helping guests who recently acquired a telescope during the holiday season. We should try to remember the first time we got a telescope and needed help to figure out how to use it.

## Announcements

**ASTRA DUES ARE DUE:** Membership application form is attached. Form is also available online.

**MEMBERSHIP IN THE ASTRONOMICAL LEAGUE** is separate and requires an additional dues payment of **\$7.50**. The Astronomical League Membership Form is attached and available online

**CLEAN UP:** Some popcorn was found on the classroom floor after our last meeting. Please make sure that we leave the classroom clean when we depart.

## What's up This Month

**JAKE'S BRANCH COUNTY PARK:** Come join us under star filled skies to observe the Universe. Saturday, January 11, 2014, 6:00 PM - 8:00 PM. Location: Jakes Branch County Park, Double Trouble Rd, Beachwood, NJ 08722

Check the online message board on the date of the star party for up to date information on these events.



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## The Big Picture: GOES-R and the Advanced Baseline Imager

By Kieran Mulvaney

The ability to watch the development of storm systems – ideally in real time, or as close as possible – has been an invaluable benefit of the Geostationary Operational Environmental Satellites (GOES) system, now entering its fortieth year in service. But it has sometimes come with a trade-off: when the equipment on the satellite is focused on such storms, it isn't always able to monitor weather elsewhere.

“Right now, we have this kind of conflict,” explains Tim Schmit of NOAA’s National Environmental Satellite, Data, and Information Service (NESDIS). “Should we look at the broad scale, or look at the storm scale?” That should change with the upcoming launch of the first of the latest generation of GOES satellites, dubbed the GOES-R series, which will carry aloft a piece of equipment called the Advanced Baseline Imager (ABI).

According to Schmit, who has been working on its development since 1999, the ABI will provide images more frequently, at greater resolution and across more spectral bands (16, compared to five on existing GOES satellites). Perhaps most excitingly, it will also allow simultaneous scanning of both the broader view and not one but two concurrent storm systems or other small-scale patterns, such as wildfires, over areas of 1000km x 1000km.

Although the *spatial* resolution will not be any greater in the smaller areas than in the wider field of view, the significantly greater *temporal* resolution on the smaller scale (providing one image a minute) will allow meteorologists to see weather events unfold almost as if they were watching a movie.

So, for example, the ABI could be pointed at an area of Oklahoma where conditions seem primed for the formation of tornadoes. “And now you start getting one-minute data, so you can see small-scale clouds form, the convergence and growth,” says Schmit.

In August, Schmit and colleagues enjoyed a brief taste of how that might look when they turned on the GOES-14 satellite, which serves as an orbiting backup for the existing generation of satellites.

“We were allowed to do some experimental imaging with this one-minute imagery,” Schmit explains. “So we were able to simulate the temporal component of what we will get with ABI when it’s launched.”

The result was some imagery of cloud formation that, while not of the same resolution as the upcoming ABI images, unfolded on the same time scale. You can compare the difference between it and the existing GOES-13 imagery here: [http://cimss.ssec.wisc.edu/goes/blog/wp-content/uploads/2013/08/GOES1314\\_VIS\\_21AUG2013loop.gif](http://cimss.ssec.wisc.edu/goes/blog/wp-content/uploads/2013/08/GOES1314_VIS_21AUG2013loop.gif)



*The Advanced Baseline Imager. Credit: NOAA/NASA.*

Download photo at: <http://www.goes-r.gov/spacesegment/images/ABI-complete.jpg>.

Learn more about the GOES-R series of satellites here: <http://www.goes-r.gov>.

Kids should be sure to check out a new online game that's all about ABI! It's as exciting as it is educational. Check it out at <http://scijinks.gov/abi>





## CELESTIAL EVENTS FOR JANUARY

Mercury is just past superior conjunction and appears in the evening twilight by mid-month. Venus is low in the SW at evening, then is in the Sun's glare. Reappears at dawn by 18 Jan. Mars is in Virgo – rising about midnight. Jupiter is in Gemini – rising around sunset and visible all night. Saturn is visible in the dawn sky in Libra. Highlights for the month:

- 1 New Moon
- 2 Venus 2° S of Moon
- 3 Quadrantid meteors peak
- 8 First Quarter Moon
- 15 Jupiter 5° N of Moon
- 16 Full Moon
- 23 Mars 4° N of Moon  
Spica 1.3° S of Moon
- 24 Last Quarter Moon
- 25 Saturn 0.6° N of Moon
- 28 Mars 5° N of Spica
- 29 Venus 2° N of Moon
- 30 New Moon

Credit: Observer's handbook



## CLUB TELESCOPES: A.S.T.R.A. owns seven small telescopes:

- 6-inch Dobsonian (in need of repairs)
- 8-inch Dobsonian
- 80mm Celestron Refractor
- 120mm EQ AstroView Refractor.
- Lunt 35mm H-Alpha solar scope
- 8-inch Celestron NexStar 8i SE
- 60mm Meade EQ refractor

These telescopes are available for club members to borrow and use for a month or two at a time.

## ASTRA-WEAR – Embroidered and/or Printed items with the ASTRA Logo

You can see some samples at ASTRA meetings. To order by mail: Shelter Cove Embroidery Co. 1333 Bay Ave Toms River, NJ 08753 call 732-506-7700 or E-mail [astra-wear@estitches.com](mailto:astra-wear@estitches.com). Order form is on the ASTRA website.

**ASTRA LIBRARY OF BOOKS AND DVDS:** Many books and DVDs are available for loan from the ASTRA Library for a one month period. A list of these items is available on the ASTRA website. Request for these items must be made prior to our regular meeting and returned by the following meeting. Please e-mail your request for these items to our Librarian Barbara Novick at [Library-Loan@astra-nj.org](mailto:Library-Loan@astra-nj.org) or call her at 732-840-3111.

**ASTRONOMICAL ITEMS FOR SALE, OR HELP WANTED ADVERTISEMENTS:** If you have an item to sell, or need help with an astronomical problem (a question, or telescope setup) contact the President [President@astra-nj.org](mailto:President@astra-nj.org) to announce it at a meeting and send the advertisement to the newsletter (See Newsletter below).

## ASTRONOMICAL LEAGUE MEMBER SOCIETY

Astronomical League National Headquarters, 9201 Ward Parkway; Suite 100, Kansas City, MO 64114, 1-816-333-7759 or [www.astroleague.org](http://www.astroleague.org)

The REFLECTOR is published in March, June, September and December. If you do not receive your copy of the REFLECTOR magazine, contact Astronomical League Coordinator (Alcor) Ro Spedalieri ([Treasurer@astra-nj.org](mailto:Treasurer@astra-nj.org))

**NEWSLETTER:** E-mail material (meeting reports, observing reports, or other items of interest) to [Newsletter@astra-nj.org](mailto:Newsletter@astra-nj.org).

## EXECUTIVE BOARD

- President – Rich Brady [President@astra-nj.org](mailto:President@astra-nj.org)
- Vice President-Secretary – Sarah Waters, [VP@astra-nj.org](mailto:VP@astra-nj.org)
- Treasurer – Ro Spedalieri [Treasurere@astra-nj.org](mailto:Treasurere@astra-nj.org)
- Newsletter Editor – Rich Brady [Newsletter@astra-nj.org](mailto:Newsletter@astra-nj.org)
- Webmaster – Donald Durett [Webmaster@astra-nj.org](mailto:Webmaster@astra-nj.org)

Check us out on Facebook, search groups for (ASTRA Astronomy) and look for our logo.





# ASTRA Membership Application Form

Thank you for your interest in the Astronomical Society of the Toms River Area. Please read carefully and fill in the appropriate information below.

New membership Annual dues are \$ 25.00 (January to December): (\$ \_\_\_\_\_)

Telescope Fund Assessment required for all new members (\$5.00)

“Optional for returning Members”

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Returning members Annual dues are \$ 25.00 from (January to December): (\$ \_\_\_\_\_)

Prorated membership dues are \$ 15.00 from (July to December): (\$ \_\_\_\_\_)

**TOTAL AMOUNT PAID (as determined by the above schedule):** (\$ \_\_\_\_\_)  
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**PLEASE MAKE CHECKS PAYABLE TO ASTRA**

New Members check box

NAME \_\_\_\_\_ PHONE ( ) \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Please provide your E-mail address so you can receive a copy of our “Astral Projections” Newsletter.

**E-MAIL ADDRESS** \_\_\_\_\_

I declare that to the best of my knowledge all particulars supplied by me are correct and complete.

**APPLICANT SIGNATURE** \_\_\_\_\_

Send this application form with your dues payment to:  
**A.S.T.R.A. Robert J. Novins Planetarium**  
**Ocean County College P.O. Box 2001**  
**Toms River NJ 08754-2001**



www.astroleague.org

## ASTRA's Astronomical League Membership Form

What does the Astronomical League offer you, as a Member?

- A subscription to the Reflector, our quarterly, full-color newsletter.
- The Book Service through which you can buy astronomy-related books at a 10% discount. (Does not apply to League Sales merchandise)
- Eligibility for all Astronomical League awards, both national and observing.
- Support an organization that promotes education, observing, research and communications.
- But the most important benefit is that you join a national organization of amateur astronomers. You become part of a group that promotes observing, research, and the love of the sky. You have the opportunity to earn awards for your observing skills and learn more about what other amateurs are doing through our national newsletter.

**ASTRA's Astronomical League Dues are \$7.50 and must be paid to ASTRA**

**"Cash or Check is acceptable"**

Name: \_\_\_\_\_ Phone: (    ) \_\_\_\_\_ - \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

E-mail: \_\_\_\_\_

Send this application form with your dues payment to:

Robert J Novins Planetarium  
ATTN: ASTRA  
Ocean County College  
Toms River NJ 08754-2001