

SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

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Volume 33

May 2004

Number 5

From the Director's Report

AAAP Regular Meeting May 11 (8:00 PM). Our next regular meeting will feature Ernst de Haas of Princeton University, who will provide an interesting, novel departure from recent presentations and discuss "How a Little Math Helped the Apollo Astronauts Survive". Ernst is a AAAP member, an engineer, and an associate of the astrophysics community and the SDSS project. This also will be the AAAP Annual Meeting (as set forth by the AAAP Constitution and By-Laws), during which we will hold the election of officers for the next year. As Nominations Chair Don Monticello reported at the April meeting, the current Board members have put their names up for re-election. However, we will welcome nominations from the floor at the time of the election.

Spring Season Observing. Is

there a better place to be than the Garden State at springtime? As the realm of biology lays open its spring color and splendor, the realm of astronomy reveals the basis for the seasons. With earth now past equinox, the crescent Venus blazes in the west at twilight, having passed earth's orbit in its race around the sun. Jupiter high above reigns serenely over no less than five planets which can be readily seen now with a small telescope. The constellations well-positioned now for observing include two which are chock-full of galaxies: Leo and Virgo. Late spring in Jersey is also globular cluster season! One of the most beautiful can be found now lying between Coma Berenices and Bootes near the great red giant Arcturus, where the small but fascinating constellation Canes Venatici holds the magnificent globular cluster **M3**.

M3 (NGC5272) has a total visual magnitude of 6.4, and is often used as a telescope vision test, since the range of magnitudes of stars at the periphery of the cluster span 10-16 (on the edge of the telescopic visual limit here in our area). I took the color CCD image of M3 below on May 1 from my backyard near Washington Crossing Park using an ST-10XME and C-11 at f/6.3. The total

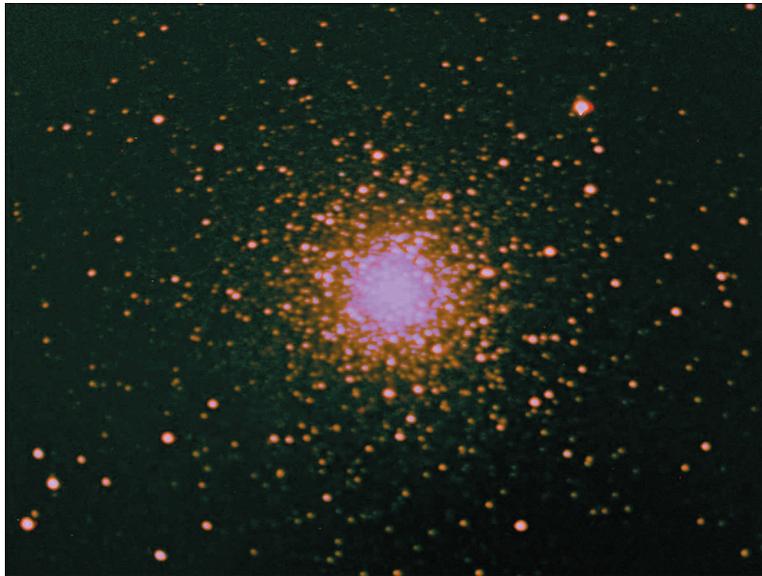


Image by RAP, ST-10XME with C-11 at f/6.3

M3 (NGC5272) Globular Cluster in Canes Venatici

exposure time was 40 min (10 min each in L,R,G, B). M3 comprises perhaps 500,000 stars and has an apparent diameter of 19 arc-min with a distance of 32,000 light years. As Stephen James O'meara points out in his book "The Messier Objects", color in globulars is a matter of debate, yet many people do report subtle color, mostly shades of yellow and blue. This image undeniably reveals a blue-white inner core of very high density with individual stars resolved, surrounded by a shell of soft peach-yellow as the stars decrease in density heading outward.

The magnitudes in the image can be gauged by noting the brightest star at the upper right at around 2:00, which is magnitude 9.9, with the triplet immediately below this star at magnitudes 15.7, 15.2, and 13.9 respectively. The sensitivity and robustness of CCD cameras never ceases to amaze and thrill me. Here an amateur telescope and camera are able to clearly resolve clearly stars many magnitudes below 16 despite the light pollution in central NJ, and the glare of a waxing gibbous moon only ~35 degrees away when this image was taken! How many of these stars can you see visually with your scope. Or with the club's C14 at the AAAP Observatory?

Register Now for Jersey StarQuest. We would like to see a great turnout of AAAP members at StarQuest, June 18-20. This is a perfect opportunity for newer members to observe through

Simpson Observatory (609) 737-2575

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dozens of different telescopes. Families are welcome, and the kids will have a great time with hiking, swimming, fishing, canoeing and basketball available among many other daytime pursuits. The AAAP website has the registration form.

Opportunities for AAAP Members. The AAAP has a three-fold mission of supporting hands-on astronomical observing and imaging by members, cutting-edge lectures by professional astronomers and physicists, and public outreach and education in astronomy. To reach our potential requires energy, effort, and commitment of the membership. We have evolved a structure to develop and coordinate the activities in the club, and are seeking input and participation in all facets of the club's activities. Please think about how you can "give back" to the AAAP, your peers, and to amateur astronomy by contacting me or other Board members or committee chairs to help build on our foundation.

Dark Skies! -- Rex

Astronomers Needed For Project Astro Nova Meet The Best Audience You Have Ever Had: Our Children!

This is what astronomers have said about Project ASTRO NOVA: *"The kids quickly warmed up to me, I settled right in" "They were great, well behaved and so full of eager questions", "The questions never stopped, the thinking never stopped, and of course, the learning never stopped", "I learned just as much as the kids", "Thank you for giving me the opportunity to share my fascination of this subject with some very wonderful children", "Participating in Project ASTRO NOVA has been a real life-changing event", "A truly stellar experience".*

If you live or work in New Jersey and like to share your enthusiasm and interest in astronomy with our youth, Project ASTRO NOVA is for you!

Each school year Project ASTRO NOVA pairs 2nd to 12th grade teachers and youth leaders with volunteer astronomers. In the current school year we have 52 astronomers who are partnered with 83 enthusiastic and committed teachers. Some astronomers are paired with two teachers at the same school.

Project ASTRO NOVA prepares and helps its astronomers from start to finish. Astronomers first meet their partner teacher at the training workshop where they are engaged in effective classroom-tested hands-on astronomy activities that meet the NJ State Science Standards. During the workshop partners develop a strategy for working together, in and out of the classroom, and start planning the astronomer's visits. This year we have scheduled our workshop on Friday-Saturday, October 1-2 at Raritan Valley Community College.

Each partnership will receive a wide variety of materials and resources for use in their visits, including: The Astronomical Society of the Pacific's *"The Universe at Your Fingertips"* activity and resource notebook, articles about recent astronomical developments, resource lists, access to audio-visual materials, tips on working with schools/groups and students, tips on addressing and working with preconceptions and learning styles, and more.

Class visits usually start in the fall and continue through the

school year. Astronomers commit to making at least four visits to the same one or two classrooms or youth group. A class visit usually is 60-90 minutes. During these visits astronomers answer students' questions and lead or assist the teacher with astronomy activities. Examples of activities include: Making a Telescope, Stargazing, Exploring the Constellations, the Reason for Seasons, Modeling the Phases of the Moon, Making a Scale Model of our Solar System, Observing the Moons of Jupiter, Making a Comet, Life Cycles of Stars and the Origin of the Universe. Many of our astronomers are finding participating in Project ASTRO NOVA so rewarding and enjoyable that they make several additional visits.

Astronomers who are interested in participating in Project ASTRO NOVA should request and fill out an *Astronomer Volunteer Form*. On this form, astronomers will be asked for areas of astronomy that are of special interest to them and which grades/ages they prefer to work with. Based on this information, astronomers will be matched with compatible teachers or youth leaders near their home or work.

Astronomer Volunteer Forms and more information can be obtained from our website at <http://www.raritanval.edu/planetarium/astronova/> or from Project ASTRO NOVA, Raritan Valley Community College, P.O. Box 3300, Somerville, NJ 08876, (908) 231-8805, fax (908) 526-7938, or email Amie Gallagher at agallagh@raritanval.edu.

The deadline for submission of Astronomer Volunteer Forms is June 1, 2004.

From the Treasurer:

The treasury balance is \$XXXX. There are 122 paid members.

Note: Please do not contact Sky and Telescope for a club discount subscription. This arrangement will start in August 2004. If you want a subscription now please contact me. I have been contacted by Sky and Tel on several occasions about members calling for club discounted subscriptions now. Sky and Tel cannot verify your membership without a current membership roster, which we will be doing in August. Sky and Tel has extended the courtesy of letting us renew our subscriptions at club rates without going through the club. Let us not abuse this. Also found out from a call that Anthony Sosso made to Astronomy that they will now honor a club discount rate when called. Just state that you are a member of the AAAP.

Bryan Hubbard, our publisher, will continue putting the dues renewal date on the upper right corner of each Sidereal Times address label. This is the date that your renewal membership is due with the AAAP. This will cease when the club goes to the once a year membership.

I am not going to send out renewal notices to members who get magazines; they get enough notices from their respective publishers. If I don't receive your renewal on the date indicated on your address label you will be dropped from the roster. If you are a keyholder, the respective observatory chairman will be notified and you will be asked to return the key.

Note! Starting in April, dues will be \$20 until June. The dues

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structure is as follows:

- \$20 basic membership.
- \$50 for membership and subscription to Astronomy magazine.
- *\$53 for membership and subscription to Sky and Telescope magazine.
- \$83 if both magazines are desired with membership.
- *Recent increase of Sky and Telescope magazine.

If you have a Sky and Tel subscription please send the subscription notice and the postage paid envelope when renewing your membership. This service will be provided until August.

Ron Mittelstaedt

From the Webmaster

Take a peek at the sensational image of NGC 4565, taken by AAAP member Brian Van Liew, on the AAAP homepage. Wow! Brian created this using our Celestron 14 at the Washington Crossing observatory. He worked with a Starlight Express MX716 camera, configured with a 3.3 focal reducer. The exposure equaled 30 minutes total (30 x 1 minute), unguided. The image was processed with AstroArt 3.0. This edge-on SAb type galaxy in Coma Berenices is about mag 9.6v and about 14' across. It lies about 31 million light-years distant.

Captions for any photo can be seen by mousing over the image.

Also found on the front page is a photo of some AAAP members who attended the Northeast Astronomy Forum last weekend in Suffern, NY. Sponsored by the Rockland (NY) Astronomy Club and Sky Publishing Corp., this has become the largest amateur astronomy vendor event in the country. Click on that photo, and you'll be transferred to a gallery with many more pix of the event.

Speaking of events, astro-activities start to warm up with the weather. Although many of us wish the weather would dry up as well. April 30 is the date of the next AAAP open house at the Washington Crossing observatory. Details are on the web site. The FitzRandolph Observatory, housing a 36" Cassegrain, on the Princeton University campus, is also holding an open house on April 30th. Fill the car with expensive gas, and make the night a double header!

And, of course, Jersey StarQuest, our annual star party, begins Friday, June 18. Don't wait to send in your registration! You'll find all the details on the website including directions and registration form. This year's keynote speaker is Michael Shara, astronomer at The American Museum of Natural History. Two regional Truss Dob manufacturers will be on hand with their big guns. You'll enjoy lots of astronomy talk, a forest of scopes, fully catered meals, jugglers and great raffle prizes. Well...all right. No jugglers.

The club website is: www.princetonastronomy.org

Good Surfing, John Miller

Letters to the Editor

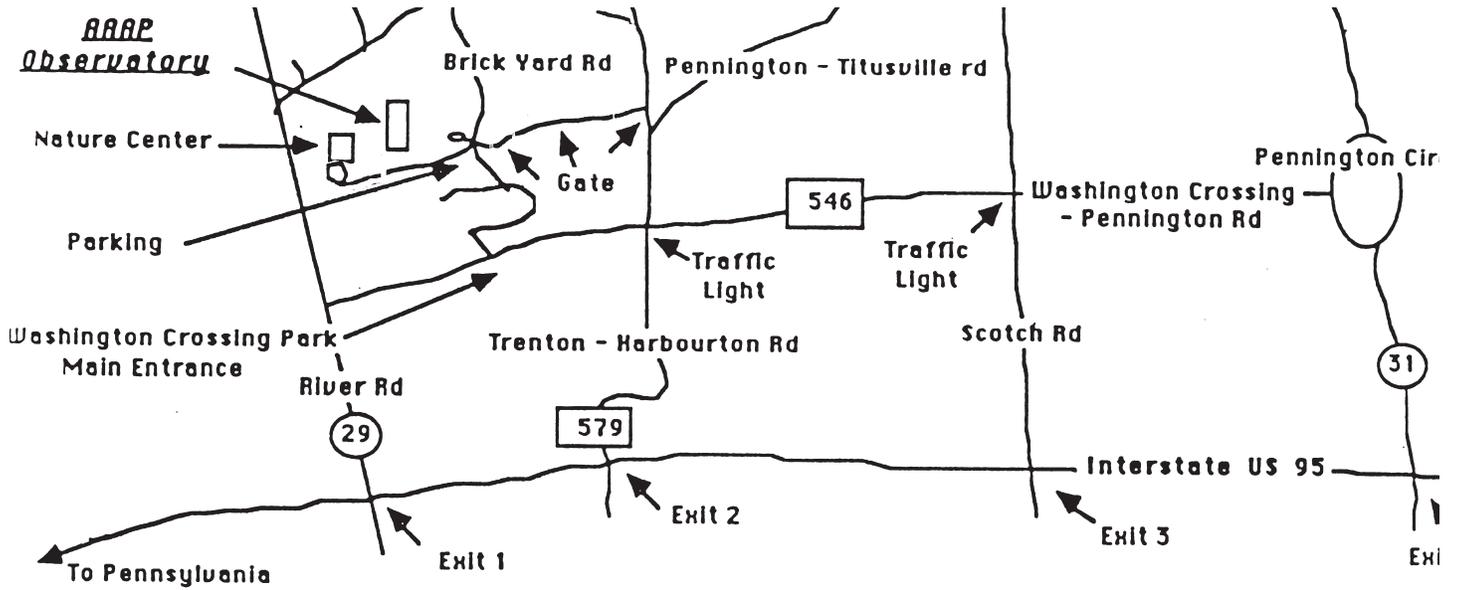
I thought I would drop you a quick note to tell you of my experience with Astronomy Magazine. In the April issue of Sidereal Times it was indicated that Astronomy would not honor the club rate if the renewal did not come directly the club. I called them and explained how we were cutting back on club administration and asked for the club rate. Initially, they refused and quoted a \$39.95, 1-year renew rate. After a brief conversation, Jenny, said she would check with the subscription manager and call back. She promptly called back and offered a \$29.95 1-year rate and a \$55 2-year rate, saying they did not want to lose club subscriptions. Apparently, my subscription was one of the first of the 25 club subscriptions to come up for renewal. She noted in their records that anyone identifying their selves as AAAP members would get these rate options.

I thought you might want to pass this information to other club members

Regards, Tony Sasso

**Deadline for the
June Issue of Sidereal Times
Friday, May 28**

The graphic features a map of the state of New Jersey with several cities marked: Hope, Paterson, Newark, Jersey City, Elizabeth, Plainfield, Princeton, Trenton, Camden, and Atlantic City. A circular inset on the left contains icons for a telescope on a tripod, a pyramid-shaped observatory, a van, and a car. A large white arrow points from the circular inset towards the Hope location on the map. The word "Jersey" is written in a large, bold, black font at the top left. At the bottom, the text "StarQuest '04" and "June 18 - 20" is displayed in a large, bold, black font.



The best way to get to the observatory is to take Interstate 95 South towards Pennsylvania. Then take Scotch road at Exit 3 and proceed north (this amounts to right). Then, at the third traffic light take a left onto the Washington Crossing-Pennington road (County Route 546). Take this road to the first traffic light and take a right onto Trenton-Harbourton road (County Route 579). Take this road to the first driveway on the left, this is the Phillips Farm/Soccer Field entrance to the park. There is a series of three gates with club combination locks. If the gates are not open, you will need the lock combination to open the gate or be accompanied by a Keyholder member.

See us on the Web: www.princetonastronomy.org

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May 2004