

The Custer Comment

★ For The Curious ★

June 2006

Volume XXXVI, Issue 6

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Family Astronomy Day, a Memorable Event for Custer!

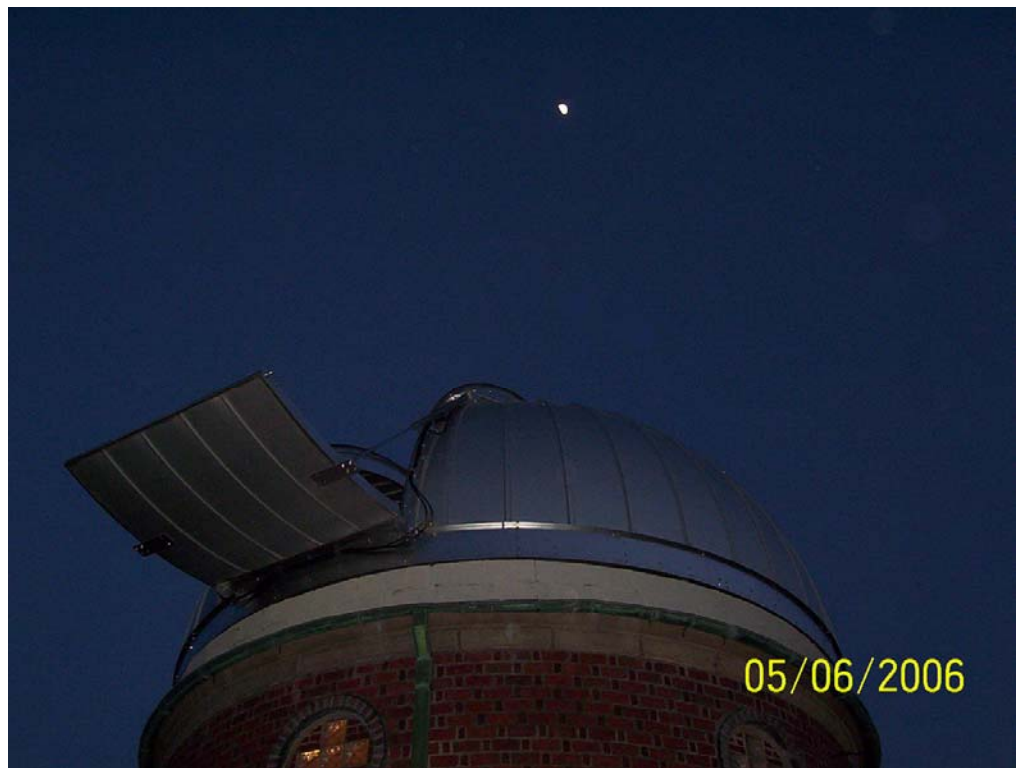


Image courtesy, Tom Madigan

As the evening session of Family Astronomy Day, 2006, begins in earnest, a waxing gibbous moon, as a stately galleon charting a course overhead, shines down over the new Crown Jewel of Long Island's North Fork, Custer's brand, new dome!

Highlights for June, 2006

- June 10th, Annual membership meeting and Barbeque;
4:00 PM; Annual membership meeting. Election of Board Members will occur, so please plan on attending;
6:00 PM; Barbeque;
8:00 PM; Concert featuring the music of Charlie Ward and *Dreamer*.
 - June 24, Steve Lee in Concert
- Please see inside for the proposed election slate and additional details for both events.

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Editor's Column

Tom Madigan, Editor

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Cutoff for submissions is the 15th of the month preceding publication

Visit the new Custer Website at
<http://www.custerobservatory.org>
Custer Comment Archive:
<http://www.tommadigan.net/custer>

The Custer Comment is published monthly by

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"I have loved the stars too fondly to be fearful of the night."

Sarah Williams

There is much material in this month's issue. On each page a new topic is discussed and in some instances, multiple topics are introduced or discussed on each page. The Custer Comment is no longer merely a 'newsletter', as some would refer to it as. It has become the de facto monthly 'journal' or 'magazine' of Custer Institute. In addition, since we are no longer bound by restraints related to printing, we are free to explore all the advantages of full electronic publication and delivery. We will continue to leverage those advantages in the months ahead.

We live during exiting times. With advances in computer technology increasing almost asymptotically and the concurrent application of those technologies to all areas of inquiry with some of the most visible being in astronomy, physics and the space sciences, it is well nigh impossible for me to keep abreast of all the new and exciting discoveries and developments in these areas and others. I need you, my dear readers, to help me stay abreast of current events. If you come across a story you would like to share with Custer's membership or are so inclined to share an original piece of your own, please feel free to contact me. Thanks!

Best,
Tom
Tom Madigan, Editor

"To the youngsters of today, *I say believe in the future*, the world is getting better; there still is plenty of opportunity. Why, would you believe it, when I was a kid I thought it was already too late for me to make good at anything."

Walt Disney

Letters To The Editor

Every now and again, the number of comments and letters arriving in my inbox is large enough with enough diversity to warrant publication. As such, the following represent comments, notes and messages from Custer members concerning last month's issue accompanied with my reply as sent at the time it was received.

Custer Comment received on May 4th

Tom Madigan,

Can you see to it I that my son, Neil, who is also a member, receive the monthly email's. He is currently away in Grad School, studying AstroPhysics at Columbia and would enjoy receiving the newsletter.

Thanks

Tom Zimmerrman
Great Neck, NY

Editor's Reply

Sure, with pleasure!

Regards,
Tom

Custer Comment received on May 4th

Thank you

I really enjoyed this month's newsletter.

I have been telling some young parents to take their kids to this Saturday's family day. It is a great event.

Tom Zimmerrman
Great Neck, NY

Editor's Reply

Thank you for the feedback, Tom; it makes it all worthwhile! Thanks, also, for the publicity. Please feel free to forward the newsletter to others who might be interested.

Best regards,
Tom Madigan

Custer Comment received on May 5th

Thank you for doing this, Tom.

Energy waste is, in my book, one of the big components of light pollution. Although it is not always true that a shielded fixture will require lower wattage than an unshielded one (some lumens get trapped up in the head of the fixture), there are certainly many opportunities to save energy by turning off lights that aren't being used, reducing excessive wattage, etc.

I know a number of Custer people are paying attention to the light pollution issue, but your great coverage in the newsletter is an important step in getting even more members involved.

Many thanks!
Gail

Gail Clyma is a member of the New York State affiliate of the International Dark-Sky Association (<http://www.darksky.org>), SELENE-NY (<http://www.selene-ny.org>). She's been featured in many publications of note, not the least of which has been the New York Times (<http://topics.nytimes.com/top/news/science/topics/lighting/index.html?query=CLYMA,%20GAIL&field=per&match=exact>) and Newsday (<http://www.newsday.com/other/special/naturalworld/ny-nw12light083655826feb08,0,2457127.story?coll=ny-nw-nav-promo>). She's been recognized for her tireless efforts several years running by the International Dark Sky Association and is regarded as an expert in the field. Her letter was in reference to my essay in last month's issue entitled '*Too HOT not to Handle*'.

Editor's Reply

Thanks for the feedback, Gail! And you're welcome. I hope it all does some good.

Best Regards,
Tom

Custer Comment received on May 6th

Hi Tom,

Thanks for the impressive Custer Comment's you've been sending; they must certainly take a great deal of time to create!

Ed Pascuzzi
Greenlawn, NY

Editor's Reply

You're welcome, Ed and thanks for the affirmation! It makes it all worthwhile.

Tom

Custer Comment received on May 6th

Tom,

Once again you have used your position as Editor of the Custer Comment to voice your political views about something that does not belong in our newsletter. Your remarks are clearly intended to push your own political leanings. This constitutes a serious misuse of our newsletter. You may share this message with the Executive Board and any other members.

Carroll White
Southold, NY

Editor's Reply

Carol,

Thank you for sharing your thoughts. I trust your comments concern my piece entitled 'Too Hot NOT to Handle'. I'm curious, what part of conserving energy, preserving our environment, reducing light pollution and developing alternative energy sources did you find so offensive? These topics may have a political component but need to be discussed in the public square; as such, my piece was as apolitical as could possibly be, having undergone several rewrites. In addition, these topics affect us all, with light pollution being the most 'visible' for those of us astronomers who would once again like to see the night sky in all it's beauty. I would also like to know what specific **political leanings** you are referring to?

Concerning your assertion that editorial content does not belong in the 'newsletter', I respectfully disagree. It is your right to disagree with anything that is published, as it is your opinion that the 'newsletter' (journal or magazine, really) should not contain any editorial content and I trust that you object to **any** political content, not just a specific point of view. As such, you have the right to express your disagreement, as you have done. I've received a number **written** responses to date concerning the May issue, with yours being the most recent and the only negative one. As well, I have received many vocal accolades, full of praise, a number of them from board members....

Best regards,
Tom

Editor: The comments submitted by Custer members and this editor's replies to those comments are published at the sole discretion of the editor and may be edited in whole or in part as is necessary to preserve and maintain a member's privacy and integrity.

New Membership Committee

On May 13, 2006, the Chairman of the Membership Committee, Bob Vanson, passed the torch to Donna McCormick and Ann Verticchio.

Custer's Board of Directors would like to express their deep appreciation to Bob for all his years of fine service as Membership Chair.

Donna and Ann are currently working to make a few changes to the system and they hope you'll be pleased with the results. As always, Members are asked to try to pay their dues on time; if there is any problem doing so, please don't hesitate to contact Donna or Ann and they will try to work something out with you. Anyone with questions may contact Donna at CusterDonna@yahoo.com or (631) 696-3333.

Annual Membership Meeting, Barbeque and Concert

June 10th, 2006



Thanks to our indefatigable Donna McCormick and her tireless efforts to improve Custer and the experience of all who visit, whether they are a member or guest, this year's annual membership meeting will include a Barbeque *and* concert featuring the music of Charlie Ward and *Dreamer*, a diverse band that specializes in oldies, original music and contemporary soft rock. Please plan on attending this annual event where we choose those who will represent us and who oversee all the exciting projects, programs and events that make Custer such a unique place. A full evening of food, music, merriment *and* observing will follow the Annual Meeting. In addition to all the traditional favorites that will be available at the barbeque, prepared by Custer's President and resident chef, Chuck Cardona, homemade entrees and deserts are welcome too! In addition, a special treat and delicacy will be provided by Custer Board member, Observatory technician and resident duck farmer, Kurt Massey: **Duck!**

Annual Meeting, 4:00 PM;

All are invited to attend with the voting restricted to members in good standing;

Barbeque, 6:00 PM;

All are invited. To cover basic expenses, the following nominal charges will apply:

Custer members: no charge; Non-members: \$10, adults, \$5, children under 13;

Concert, 8:00 PM;

All are invited.

Custer members: \$5; Non-members: \$8;

The following has been culled from Custer's current Constitution and Bylaws:

ARTICLE V: ELECTION OF OFFICERS AND DIRECTORS

- A. *The Nominating Committee shall present a recommended slate of officers to the General Membership at the Annual Meeting in June. This slate is to have been given to the Editor of the Custer Comment in a timely manner to allow prior publication to the Annual meeting.*
- B. *An additional slate or slates may be presented by means of petition signed by one third of the Regular Members in good standing. Any Regular Member in good standing may nominate any other Regular Member in good standing from the floor of the meeting for any open elected position in the Institute. Written consent of an absent nominee must be presented at the time of nomination and all nominations must be seconded.*
- C. *Only Regular Members of the Institute in good standing are eligible for election.*
- D. *The Membership shall elect the Directors at the Annual Meeting in June. Elections may be by written ballot, roll call or show of hands at the discretion of the Chair. Proxies are permitted provided that they are signed by the Member in good standing and are in the hands of the secretary three days before the meeting.*

If you'd like to read the full Constitution and Bylaws, you may do so online at <http://www.CusterObservatory.org> or contact Donna McCormick, the Secretary, at (631) 696-3333 or mccormick@scientific-consultants.com.

2006 Slate of Candidates

President	Charles Cardona, III;
Vice President	Kurt Massey;
Treasurer	Barbara Lebkuecher;
Secretary	Donna L. McCormick
Finance Chair	Bill Bogardus
Directors-At-Large	Rich Huber, Brian Andrews, Esq.

The remaining two positions for Directors-At-Large are currently being held by Alarico Verticchio and Jeffrey Owen Katz, PhD, whose terms expire in 2007.

Gift Corner & Classifieds

We Have Meteorites!

Great sets mounted in beautiful display cases. Perfect for gifts.

Custer coffee mugs, only \$4.
Do you have yours yet?

Custer Dome Assembly and Raising DVD \$15.00

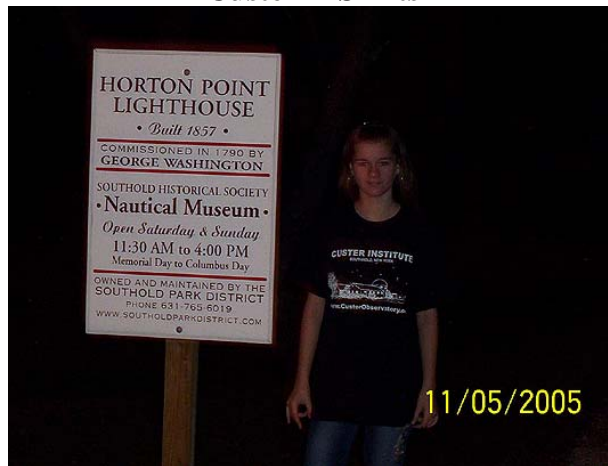
2 Payment Options:
1) Mail a check or money order, payable to Custer Institute, to this editor's address with a note indicating how many copies you would like; 2) Paypal to CusterPaypal@yahoo.com followed by an email to this editor indicating the number of copies ordered and shipment instructions. Before shipment, I will confirm with Barbara that payment has been made. All my contact info is always published on page 3.

An Evening With John Dobson

VHS or DVD format, \$15.00, \$3.75 S & H

On September 17, 2005, noted sidewalk astronomer and cosmologist, John Dobson, visited Custer. He presented his classic cosmic slide show, packed with information and delivered with inimitable wit; he shared stories about his life as a monk, secretly grinding mirrors, making telescopes and introducing the public to the wonders of the night sky. Board member, Rich Huber, filmed this memorable event and has made copies on VHS and DVD. Running time is approx. 90 minutes. The cost: \$10 with 25% of the proceeds going to John Dobson's San Francisco Sidewalk Astronomers Association and a nominal \$3.75 for shipping and handling. You can pay for your tape using Paypal by sending \$13.75 to CusterPaypal@yahoo.com or by sending a check or money order (made payable to **Custer Institute**) to: Dobson at Custer, P.O. Box 1204, Southold, New York 11971. Please specify whether you would like VHS or DVD. If you have any questions, please contact Donna McCormick at mccormick@scientific-consultants.com.

Custer T-Shirts



Image, courtesy Tom Madigan

The editor's daughter, Kaitlin, sporting a Custer T-Shirt at Horton Point Lighthouse on Jamboree '05 night! The shirts are 100% heavy-weight cotton, machine-washable, and are available in adult sizes S-M-L-XL-XXL. The cost is \$15 plus \$3.75 S & H and the shirts are available only while supplies last. Custer would also like to **thank the East End Shirt Company** in Port Jefferson for their generosity and for having done an excellent job in producing such fine quality shirts on such short notice.

We have Susan Harder's patented & dark sky friendly **PARSHIELD®**

Outdoor Floodlight Shields

for PAR 38 type bulbs. Controls glare, reduces light trespass & allows you to direct the light where you need it.

Two shields per box in your choice of Off White or Bronze finish. \$20.00, tax incl.

ASTRONOMY FOR ALL AGES

By *Phil Harrington & Ed Pascuzzi*

The Gift Shop still has a number of copies of this latest volume by Phil Harrington with co-author Ed Pascuzzi. Get your copy while supplies last. At just \$20, this is a real bargain! As an added bonus, copies are signed by Ed.

PARALLAX

By *Alan W. Hirshfeld*

We also have a limited number of copies of this excellent volume by 2003-Jamboree guest speaker Alan Hirshfeld. Quantities are limited so hurry and add this well-written and informative volume to your collection while supplies last.

Heavenly Events To Watch For – June 2006

SONNET XIV

Not from the stars do I my judgment pluck;
And yet methinks I have astronomy,
But not to tell of good or evil luck,
Of plagues, of dearths, or season's quality:
Nor can I fortune to brief minutes tell,
Pointing to each his thunder, rain, and wind,
Or say with princes if it shall go well,
By oft predict that I in heaven find:
But from thine eyes my knowledge I derive,
And (constant stars) in them I read such art,
As truth and beauty shall together thrive,
If from thyself to stone thou wouldst convert:
Or else of thee this I prognosticate,
Thy end is truth's and beauty's doom and date.

- William Shakespeare

All during June MERCURY can be found low over the west-northwest horizon an hour after sunset, but binoculars and a clear horizon will be needed for the search early and late in the month. VENUS continues to rise along the east-northeast horizon shortly after daybreak. - around 4 AM. MARS catches up with SATURN this month very near M44, the Beehive Cluster in Cancer, well down in the west-northwest. They're in conjunction on the 17th. By midmonth, JUPITER, in Libra, is due south around 10 PM, at end of twilight; and it sets in the west-southwest around 3:15 AM.

1 Saturn and Mars are about 8° apart this evening.
2 Surveyor 1 made a soft-landing on the Moon 40 years ago today and returned the first color images of the surface.

5 Saturn is less than 1° south of the central stars of the Beehive Cluster. Mars is 6° to the west.

- 8 The bright waxing gibbous Moon is beneath Jupiter this evening.
- 11 Full Strawberry Moon sets before sunrise & rises after sunset.
- 14 Around 3:29 AM this morning the 4.8 magnitude star ω (Omega) Sagittarii will suddenly reappear along the dark lower-right limb of the waning gibbous Moon. The earliest sunrise of the year occurs around this date, at about 5:20 AM.
- 15 This evening Mars is found within the V-shaped grouping of 6th and 7th magnitude stars in the heart of the Beehive Cluster. If you ever wondered what Mars would look like with a swarm of "satellites" around it, this is the evening to find out. Saturn is 1.2° to the left of Mars, with real satellites to enjoy.
- 16 Pluto is at opposition today, just inside the southern border of Serpens Cauda. The 14th magnitude (call it what you will) is about 2.8 billion miles out beyond our Earth.
- 17 Mars and Saturn are in conjunction, only 0.6° apart this evening. Low-power or widefield eyepieces can put them in the same field of view. The Beehive Cluster is just off to their right.
- 20 Mercury is at greatest elongation east of the Sun. Find it well down to the lower right of Mars and Saturn before it gets too dark.
- 21 Summer begins at 8:26 AM today as the Sun shines directly down on the Tropic of Cancer, 23° 27' north of the equator.
- 23 The thin waning crescent Moon rises to the left of Venus after daybreak. The horns of the Moon point up directly toward the Pleiades.
- 27 The latest sunset is around this date, at about 8:30 PM. Within an hour afterwards, you can find the thin waxing crescent Moon joining Saturn and Mars, with Mercury about to set beneath the Moon. Tomorrow evening the Moon will be up just above Mars.

Prepared by Robert Chapin

Highlights for June, 2006

Annual Membership Meeting, Barbeque and Concert, June 10th

Please refer to the complete agenda and schedule for this annual event, including the 2006 slate of candidates, on page 7.

Steve Lee in Concert, June 24th

Come one, come all to a benefit concert by acoustic guitarist, singer and song writer, *Steve Lee*. Please visit Steve's website at <http://www.acousticintensity.com> for a short history, bio and the worthy causes that motivates him to do what he does and to write the music he writes. We are honored to host Steve at Custer.

Where: Custer Institute, Main Bayview Road, Southold;

When: 8:00 PM

Suggested donation:

Custer members: \$10;

Non-members:\$13

Dome Workers Needed

Although the new dome is up, there is still more to do, including carpentry, painting and other miscellaneous small jobs. The work can be done during evening hours and on weekends. If you would like to lend a hand, please contact Donna McCormick at (631) 696-3333 or CusterDonna@yahoo.com.

Driveway Thanks

For years, we have all been dreaming about a driveway and parking lot along the North side of our building. Thanks to the efforts of a Custer Member (and the manager of the town's arboretum, which is adjacent to our observatory), Dan Catulo, M.D., that dream became a reality in early May. Dan worked with Jim McMahon, Southold's Parks Department Manager, who donated the materials and labor. This is another example of how it takes a little help from everyone to keep our observatory vital and flourishing. Therefore, a big THANKS to Dan, Jim and all the members of his crew for doing such a fine job! And just one quick reminder to those using the new facilities: in consideration of those who may be observing, please use only your parking lights when you are entering or leaving the area.

Upcoming Events

Kayak U, With Pam and Stu: Summer Skies and Summer Seas, July 15th

Come tour the Universe with us by kayaking the waters at Orient State Park, followed by a tour of the night sky presented by Custer Institute Staff. We'll meet at Orient State Park at 12:30 PM. Custer Members, Pam and Stu Selkin, certified kayaking instructors and Board Members of the North Atlantic Canoe and Kayak club (<http://www.getthenack.org>), will provide a comprehensive, hands-on course that emphasizes water safety, kayaking fundamentals and fun. Then, under their watchful eye, we'll paddle along some of the most exquisitely beautiful

shoreline that Long Island has to offer. Plan on getting wet, so wear a bathing suit, bring a towel and a change of cloths. Following our Kayaking adventure, all are welcome to visit Custer, enjoy a BBQ and learn about the night sky from Custer Staff.

When: 12:30 PM, sharp;

Where: Orient Point State Park;

Cost:

- Kayak U: \$70 for Custer Members, \$85 for Non-Members. This includes a \$20 equipment rental fee, paid to The Eagle's Neck Paddling Company, for everything that you'll need:
 - Kayak;
 - Spray skirt;
 - Flotation vest and paddle;

The remaining proceeds are for the exclusive benefit of Custer Institute;

- BBQ: \$12 extra;
- Per-car fee to park at Orient State Park: \$8 (we'll help arrange car-pooling);

Rain date: July 16th;

For more information or to pre-register, call (631) 692-7362 and ask for Pam or email Stu at skydoc@prodigy.net. Pre-registration by July 8th is a must.

New York State's Marine Life, July 22nd

Learn about New York State's marine mammals and sea turtles from the Director of the only rescue program in New York State. Robert DiGiovanni is a Custer Member and the Director and Senior Biologist of The Riverhead Foundation for Marine Research and Preservation.

When: 7:30 – 9:00 PM;

Suggested donation: \$10, Custer members; \$13, non-members. Half of the proceeds will go directly to The Riverhead Foundation.

The Moon: A New Look at an Old Friend, July 29th

Dr. Mike Inglis will present a fresh look at the lesser orb of our skies, often the subject of myth and lore, by discussing its ancient and violent past, the present and what eventualities may befall it in the distant future;

When: 6:00 – 7:30 PM;

Live concert to follow at 8:00 PM. Details to be arranged.

Custer's 28th Annual Astronomy Jamboree, October 13th and 14th

The Jamboree begins on Friday night with an evening of food, poetry and live music followed on Saturday with a full day of special lectures and programs. Further details will be forthcoming as the date approaches.

Nominee Received for Custer Good Neighbor Outdoor Lighting Award

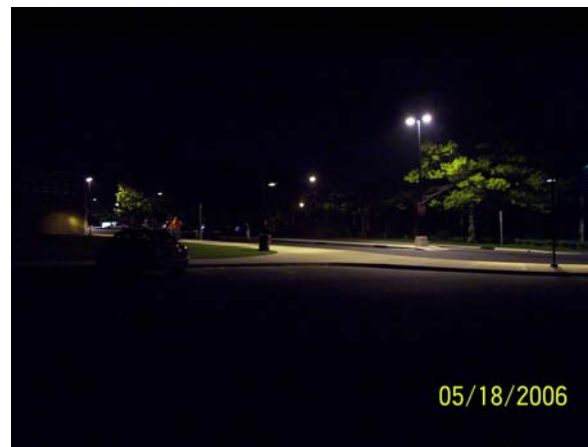
Patchogue-Medford High School Named as First Nominee

Nominations are being accepted for Custer's Good Neighbor Outdoor Lighting Award, the concept of which was first introduced in last month's issue by Phil Harrington, engineer at Brookhaven National Laboratory, professor of Astronomy at Dowling College and 9-time author. If you're aware of an establishment who is either in compliance with local regulations regarding outdoor lighting or appears to have appointed their establishment with fixtures that are 'dark sky friendly', please submit their name, address and a brief description of why you believe they should receive the award. When submitting your nomination, please include photos to support your claim. Two sets of photos are preferable: one set taken during daylight hours and one set taken at night to illustrate what kind of lighting fixtures are in use and how the light is distributed. Please see last month's issue for further details.

The editor nominates *Patchogue-Medford High School* as the first nominee for this year's award. The sprawling High School complex has been completely fitted with full cutoff lighting fixtures, examples of which can be seen below. Being located in a residential area and by fitting the entire High School campus with full cutoff fixtures, the school administration has demonstrated their sensitivity to the privacy of the local residents and their awareness of and sensitivity to the effects of excessive and indiscriminate lighting. Moreover, as an educational institution, they have demonstrated a high degree of integrity and professionalism, putting into practice what is taught to the juniors and seniors in their charge during science and civics classes. Also, as an educational institution, it is incumbent upon them to maintain a high standard of academic excellence in the conduct of their educators, the performance of their students and how they present themselves to the public at large. With the apparent planning, attention to detail and environmental awareness evidenced by the installed lighting system, they have demonstrated that they take this responsibility seriously. For this reason, I nominate *Patchogue-Medford High School* as recipient of this year's Good Neighbor Outdoor Lighting Award.



Image, courtesy Tom Madigan
Illustrated here are examples of the full cutoff lighting fixtures installed at Patchogue-Medford High School. A full-height fixture of the kind installed at the main and auxiliary parking fields, pictured left of center, is installed at the main exit with a walkway-height lighting fixture on the walkway leading to the school's main entrance. For comparison, notice the unshielded cobra head affixed to a utility pole in the background.



Image, courtesy Tom Madigan
The same area photographed at night from a different location. Notice the complete lack of stray light from the walkway fixture, located slightly to the left of center; all that's visible is the illuminated walkway. Also, notice the fully directed 'down-light' from the full-height fixture. One could have easily conducted an observing session at this location with minimal to no adverse effects from these fixtures.

Healthy, Safe, and Energy Efficient Outdoor Lighting Act Released By Environmental Conservation Committee To Full Senate Floor

As an update to my e-alert of last week, the Environmental Conservation Committee of the New York State Senate has released the subject bill for a full vote on the NY State Senate floor. Now is the time to act by contacting your New York State Senator, urging them to support A7404 / S4474. If we want our night skies back, now is the time to speak up! Rather than fight many local battles with local officials, the passage of a comprehensive state-wide bill would encompass all the local jurisdictions and would have immediate, very positive and far-reaching effects while setting a great example to other states to enact similar legislation. There is a sample letter at the foot of this message. Please use the following link to identify your state senator and send your letter out today! Remember, if your Senator has an email address, you can send your message immediately via email with a hard copy to follow.

<http://nymap.elections.state.ny.us/nysboe/search.asp>

Custer is on record as endorsing the 2003 / 2004 bill and is on record as endorsing this bill (<http://www.tommadigan.net/custer/CusterEndorsement2005.pdf>), as well. For timely updates on the progress of this bill, please visit the SELENE-NY website at <http://www.selene-ny.org>.

Best regards,
Tom Madigan
Editor

Sample Letter

(your name)
(your return address)
(your city, NY, zip code)

The Honorable Assemblyman/Assemblywoman/Senator _____

Legislative Office Building
New York State Assembly
Albany, New York 12248 (for Assembly) 12247 (for Senate)

Dear Assemblyman/Assemblywoman/Senator _____:

I ask you to support the *Healthy, Safe, and Energy Efficient Outdoor Lighting Act*, introduced by Assemblyman Alexander "Pete" Grannis and Senator Carl Marcellino. Bill A7404 in the Assembly and S4474 in the Senate will reduce the adverse effects of poorly designed and implemented nighttime lighting.

In addition to the obvious waste of energy, resources, and dollars, a host of other problems are caused when we don't light correctly. Glare from poorly shielded lights hampers visibility. Light trespass infringes on the property rights of neighbors. The flora and fauna of our state are harmed by nighttime lighting that shines indiscriminately across their habitats. Light sent unnecessarily upwards causes sky glow, which deprives everyone the inspiration of the beautiful star-studded nighttime sky. Furthermore, wasted electricity from poor lighting leads to unnecessary air, water, and ground pollution.

This legislation will benefit not just this generation. It is a commitment to future generations to preserve and protect the beauty and inspiration of the dark night sky and to protect the health and safety of our children, the flora, and fauna of our great state.

I urge you to support A7404/S4474.
Sincerely,
(your name)

A1842/S756, Companion Bill To A7404/S4474, Released to NYS Senate

There are four companion bills to A7404/S4474, the *Healthy, Safe, and Energy Efficient Outdoor Lighting Act*. These bills have no economic provisions and are designed to accord official recognition to Light Pollution as an environmental issue. A1842/S756 permits (but does not compel) the state to fund research into the health impacts of artificial nighttime lighting. There is concern that this bill will be allowed to languish in committee and ultimately die before reaching the full senate floor for a vote. The bill's principal sponsor and chairman of the Senate Health Committee is Senator Kemp Hannon (6th district - <http://www.senatorhannon.com>). In order for this bill to get some traction, residents of the 6th district (Garden City and central Nassau) should contact Senator Hannon's office and express their support. In addition, and 'going above and beyond the call of duty', a call to his legislative aide in Albany (518 455-2200), inquiring as to the bill's likelihood of success with an offer to send additional information, would be of great value.

The 4 companion bills to A7404/S4474 are as follows with their respective provisions:

[A1840](#) Amends the Environmental Conservation law to add "the nighttime sky" to the list of issues with which the State, as a matter of policy, should be concerned;

[A1842](#) Amends the Public Health law to add "health effects of artificial night light" as a matter on which the State can conduct or support research;

[A1846](#) Amends the Energy law by adding elimination of "wasteful artificial night lighting" as a matter to be included in lighting efficiency standards to conserve energy;

[A1847](#) Amends the Public Authorities law by adding to NYSEERDA's (New York State Energy Research and Development Authority - <http://www.nyserda.org>) responsibilities the gathering of information on "the availability and use of the most energy efficient and environmentally sensitive outdoor lighting available for public and private uses."

Patchogue Village to Change Over to Full Cutoff Lighting Along Main Street

To the delight of this Patchogue Village resident, the Patchogue Village Board of Trustees has voted to allocate a portion of the 'Downtown Revitalization' money received through the program of the same name, administered by Suffolk County, to fund the replacement of what some refer to as 'period lights' along select sections of Main Street with modern, full-cutoff and dark-sky friendly lighting fixtures.



A view looking east along Main Street, Patchogue with examples of the so-called 'period lights' prominently illustrated, both as the first fixture on the extreme right and diagonally across the street. These fixtures and others like them that line Main Street will soon be replaced with new, modern, dark-sky friendly fixtures.

Image, courtesy Tom Madigan

Custer Institute's Endorsement of A7404 / S4474, The Healthy, Safe, and Energy Efficient Outdoor Lighting Act (2005)

May, 2006

Custer Institute declares our strong and unwavering support for the passage of the subject legislation, currently under consideration by the New York State Legislature. The nature and intent of this legislation is to reduce light pollution and its adverse affects on the night sky, the natural environment, the habitats of indigenous wildlife, the growth and maturation patterns of plant life, the migratory patterns of certain species of birds and wildlife, the physical wellbeing and safety of whole segments of the population who may be at a higher risk of contracting certain types of cancer, the safety of motorists who become temporarily blinded by glare or whose vision and natural acuity is impaired by excessive and unnecessary lighting. Further, we laud the immediate and positive economic effect this legislation will have on local municipalities, the decreased demand on power generating facilities with the commensurate improvement in air quality directly arising from this reduction and finally, the aesthetic improvement of certain communities whose intrinsic character has been tarnished by the introduction of poorly designed lighting systems and / or fixtures.

Custer Institute is a not-for-profit education and research center whose primary fields of inquiry are astronomy, physics and the space sciences. Other disciplines include geology, paleontology, archaeology, music, politics and sociology. We have a diverse membership whose members claim residence throughout New York State, the continental United States and several Latin American and Eastern European countries.

Custer Institute was founded in 1927 by Charles W. Elmer, co-founder of the Perkin-Elmer Corp. Our facilities include: a modern, 22-foot Ash Dome observatory, equipped with a fully automated and computerized 16-inch Schmidt-Cassegrain reflector with plans to install a hybrid 25-inch Newtonian-Cassegrain currently in the preliminary fabrication phase, three additional covered observatories with telescopes ranging in size from 10 to 14-inches, a library, a radio astronomy facility, a 100-seat multimedia lecture hall, a darkroom, an optical shop and kitchen. We offer lectures, programs and workshops in a variety of subjects and our observatories are open to the public for observing every Saturday after sunset, weather permitting.

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Editor: This endorsement is posted on the website of the New York State affiliate of the International Dark Sky Association, IDA (<http://www.darksky.org>), SELENE-NY (<http://www.selene-ny.org>) as well as Custer's official website (<http://www.custerobservatory.org>). All due credit is accorded to Gail Clyma of SELENE-NY for facilitating the timely posting of this endorsement and for her guidance and expertise, to Gary Citro, also of SELENE-NY and to Susan Harder, President and Founder of The Dark Sky Society (<http://www.darkskysociety.org>) of East Hampton, for her expertise and guidance.

Custer Takes Delivery of New CGE 1400 Mount

On May 12th, Custer took delivery of a brand-new mount to replace the existing mount for the CGE 1400, Custer's primary observing platform. The original mount had been plagued with problems and rather than continuing to repair, troubleshoot or refurbish the existing mount, the decision had been made to return the mount to Celestron with an eye towards replacement.

Thanks to Custer's Kurt Massey and Jeff Katz, the new mount was installed with the CGE 1400 operational within one week.

Stunning Images Obtained using CGE 1400 and Celestron-8

Thanks to Custer's Steve Orlando and his dogged determination, the following images were obtained using his Celestron-8 and Custer's primary telescope, the CGE 1400 (Celestron-14).



Saturn, as imaged by Steve Orlando on February 17th, 2006, with his Celestron-8. This image is of exceptional quality as evidenced by the clear visibility of the Enke division, a feature notorious for evading observation or imaging. It is clearly visible between the Cassini division and the outer edge of the ring system (the "F" ring).

Image specifics:

Aperture: 8"; effective focal ratio: 20 (f/20 using a 2", 2x Barlow); Camera: Phillips Toucam Pro II. This image was produced using a CCD imaging device with 3,000 frames of data and Adobe Photoshop.



Jupiter, as imaged by Steve Orlando on May 27th, 2006, with Custer's Celestron CGE 1400 (Celestron-14). Visible is the Great Red Spot and the shadow of one of the Galilean satellites.

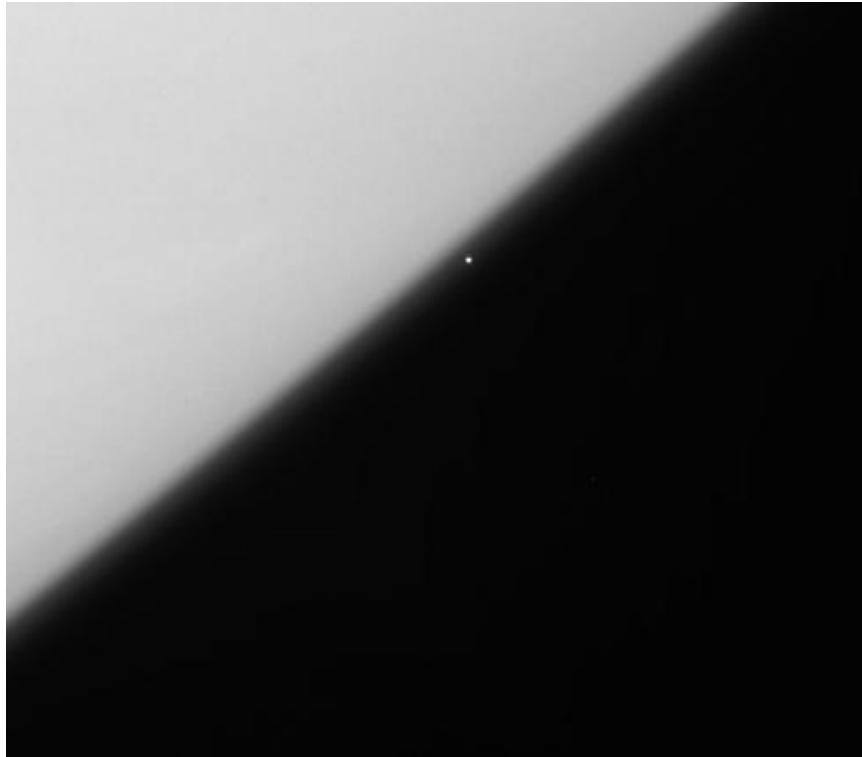
Image specifics:

Aperture: 14"; effective focal ratio: 22 (f/22 using a 2", 2x Barlow); Camera: Phillips Toucam Pro II. This image was produced using a CCD imaging device with 800 frames of data and Adobe Photoshop.

All images on this page, courtesy Steve Orlando

News and Noteworthy

Occultation of Rigel – by Saturn!



Image, courtesy NASA / JPL / CICLOPS / Space Science Institute

The brilliant B8 supergiant star, Rigel, emerges from behind the haze of Saturn's upper atmosphere in this Cassini view.

At 773 light years, Rigel is one of the 10 brightest stars in Earth's sky and forms the left foot (sometimes referred to as the left knee) of the familiar constellation Orion. As seen from a distance of 32 light years (10 Parsecs), Rigel would shine with the light of a first-quarter moon and cast a shadow!

Imaging scientists use views like these to probe the vertical structure of haze in Saturn's upper atmosphere. The dimming of the star at each altitude in the atmosphere yields information on the density of the haze at that location.

The image was taken in visible green light with the Cassini spacecraft narrow-angle camera on April 28, 2006 at a distance of approximately 663,000 kilometers (412,000 miles) from Saturn. Image scale is 4 kilometers (2 miles) per pixel.

For further details and additional images, browse to <http://saturn.jpl.nasa.gov/multimedia/images/image-details.cfm?imageID=2145>. The Cassini-Huygens home page can be found at <http://saturn.jpl.nasa.gov>.

Custer Institute Thanks Congressman Tim Bishop (D-NY; Southampton)

Custer recently experienced some difficulty concerning the late filing of forms with the IRS and sought help from Congressman Tim Bishop's staff. Not only did the Congressman's staff expedite and resolve the matter without consequence, the Congressman called Custer's Secretary, Donna McCormick, personally to inform us of the results. The Board of Directors would like to express their deep and sincere gratitude to Congressman Bishop and his staff for his responsiveness, support and personal attention to the needs of our humble organization.

Custer's Ellen Wiener Launches New Website

Custer's Ellen Wiener, notable Long Island artist, painter and printmaker has launched her new website at <http://www.ellenwiener.com>. Ellen holds degrees from Bennington College and Queens College CUNY, and has taught and lectured widely at the university level since 1985. Her distinguished resume includes appointments at Princeton University, SUNY, Stony Brook and Queens College. Please support Ellen by visiting her website and while you're there, enjoy select works from her diverse and eclectic gallery: <http://www.ellenwiener.com/gallery.htm>.

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