



**March 06**

**Volume XXXVI, Issue 3**

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***Anne Verticchio Shines at Custer Mid-Winter Concert***



Image, courtesy Tom Madigan

Anne Verticchio, daughter of Custer Board members Alarico and Anna Verticchio, beams after performing brilliantly as the principal Violinist in Custer's Mid-Winter Concert on the evening of February 18<sup>th</sup>. Please see inside for further details and a synopsis of the evening's program.

**Highlights for March 06**

- March 11<sup>th</sup>, 8:00 PM; Constellations Tonight: A Starlab Planetarium Show and Book-signing Event featuring Steve Tomecek, world renowned, 20-time author, science consultant and founder of Science Plus;
- March 18<sup>th</sup>, 8:00 PM; Annual St. Patrick's Day dinner-party and concert;

For additional details on these exciting events, please see inside.

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## Editor's Column

### Tom Madigan, Editor

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Cutoff for submissions is the 15<sup>th</sup> 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

Custer Institute  
P.O. Box 1204  
Main Bayview Road  
Southold, NY 11971  
631-765-2626

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

*Sarah Williams*

Please excuse the lateness of this month's Custer Comment. I apologize for any inconvenience this may have caused. Please make note of the following:

- The Custer Comment Archive is now located at <http://www.tommadigan.net/custer>;
- I have an additional email address: [tom@tommadigan.net](mailto:tom@tommadigan.net);
- The first movement of Beethoven's Concerto for Violin and Orchestra in D Major, as performed by Anne Verticchio on the evening of February 18<sup>th</sup>, is available as a video clip at <http://www.tommadigan.net/custer/AnneVerticchioClip.wmv>. The total length of the clip is approximately 24 minutes.

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*

## ***Announcements & General Interest***

### **Nominating Committee Appointed**

The following Custer members have been appointed as this year's nominating committee:

- Ruth Makofske, ***Chairperson***;
- Anna Verticchio, ***Committee Member***;

Any Custer Members interested in being considered as a candidate for a position on the Board of Directors should contact Ruth ([goya@optonline.net](mailto:goya@optonline.net)) by March 15.

### **Auditor Needed**

The position of 'Auditor' has been created. Any Custer members interested in being considered for this position or for further details, please contact Ruth Makofske or Anna Verticchio.

### **Video Clip of Anne Verticchio In Concert**

The first movement of Beethoven's Concerto for Violin and Orchestra in D Major, as performed by Anne Verticchio on the evening of February 18<sup>th</sup>, is available as a video clip at <http://www.tommadigan.net/custer/AnneVerticchioClip.wmv> . The clip is in Windows Media Format with a total runtime of approximately 24 minutes.

***Editor:*** This clip represents approximately one third of Anne's entire performance. Due to space and time constraints in producing this video, I've limited the clip to the first third of the concert (Allegro ma non troppo). Anyone interested in the remaining 2 segments (Larghetto and Rondo), a DVD and / or VHS video cassette will be produced in the near future.

## A Brilliant Performance

By Tom Madigan



Anne Verticchio, center-left, performs during Custer's mid-Winter concert on the evening of February 18<sup>th</sup>.

Sometimes events are remembered because of a brilliant performance; sometimes they're remembered for the lasting impression they've made; sometimes they're remembered for all the hard work that went into producing the finished product; but sometimes an event is remembered because of the rare confluence of all these things. One such occasion was Custer's mid-Winter concert, featuring Anne Verticchio as the principal Violinist. Other orchestra members of note were Custer's Colin Van Tuyl, with the trumpet, and Amy Gallagher, with the French Horn. Amy is a high-school senior at Patchogue-Medford High School and fellow musician of this editor's son, Patrick, also a senior at Patchogue-Medford High.

The work, preparation and practice that culminated in such a stellar performance that night are the hallmarks of a true musician and artist. Unbeknownst to most, Anne went to great lengths to pull the orchestra together, including 2 full rehearsals the week before. *Anne is to be congratulated!* Anne's parents, Alarico and Anna Verticchio, aside from providing the moral support for their daughter during those long hours of practice, also provided refreshment for many a weary musician. They are to be commended, as well.

### Program

**Conductor:** Jeffrey Forden;  
**Principal Violinist:** Anne Verticchio;  
**Selection:** Beethoven's Concerto for Violin and Orchestra in D Major, Op. 61 (video clip available at <http://www.tommadigan.net/custer/AnneVerticchioClip.wmv>)

- I. Allegro ma non troppo;
- II. Larghetto;
- III. Rondo;

### Orchestra

#### Violin

Linda Sinanian, Concertmaster;  
Lisa Casal; Ryan Foley; Anne Mandaro;  
Shaul Yahil;

#### Viola

Daniel Gladstone; Patricia Schubert;

#### Cello

Jason Dobranski; Jiliane Russo;

#### Flute

Allison Bourquin

#### Oboe

Daniel Polla

#### Clarinet

John Eyre; Frank Derasmo

#### Bassoon

Anna Maria Holland; Cindy Sciacca

#### Trumpet

Colin Van Tuyl; Henry Gudino

#### French Horn

Amy Gallagher; Edward Albinski;

#### Timpani

Elliot Peper

### Many Thanks To

- The Custer Institute for providing the performance space;
- Linda Sinanian and Jeffrey Forden for all their hard work and dedication;
- The East End Arts Council for loan of the timpani;
- Alarico and Anna Verticchio for all their help in making the rehearsals run smoothly;
- Lois Pike for the program; Lois Pike Graphics of Riverhead, NY (631)727-6538;
- All the members of the orchestra for their time and energy, without whom this performance would not have been possible.

## 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?**

### **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: \$15 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 \$18.75 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](mailto: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, March 2006

“Alcyone shines there, and Merope,  
Electra, Maia and Taygeta,  
Celaeno and the twinned Asterope,  
Each reigning like a queen,  
On high, afar.”

- Charles Nevers Holmes

During the first few days of March Mercury's fine February evening appearance quickly ends. Don't count on finding it in the bright dawn sky late in March. You'll have no trouble finding VENUS there, the resplendent "morning star" lying low in the east-southeast by daybreak. During March MARS crosses through Taurus, well up in the west-southwest after dark. At midmonth it sets before 1 AM. Now in Libra, JUPITER rises in the southeast by 10 PM at midmonth and is due south around 3:30 AM. SATURN tarries near the Beehive Cluster all

month, well up in the south at 9 PM and setting around 4 AM. During the spring you'll enjoy seeing Mars and Saturn closing ranks in the western sky after nightfall. They'll meet in mid-June.

- 1 The Soviet Venera 3 became the first probe to impact Venus on March 1, 1966, 40 years ago.
  - 4 Retrograde (apparent westward movement among the stars) begins for Jupiter tonight, just to the left (east) of the broad double star Zubenelgenubi,  $\alpha$  Librae.
  - 6 Mars leads the first quarter Moon down in the west this evening.
  - 10 The bright waxing gibbous Moon and Saturn flank M44, the Beehive Cluster in Cancer.
  - 13 On March 13, 1986, 20 years ago today, the European Space Agency's Giotto spacecraft passed through the head of Comet Halley and transmitted images of its active nucleus.
  - 14 Full Worm Moon this evening. It will be in penumbral eclipse as it rises - moonrise is at sunset - so it might have a "tarnished" look for awhile, especially the lower portion of its disk. The eclipse will end at 9:13 PM.
  - 16 On March 16, 1926, 80 years ago today, Robert H. Goddard launched the first liquid-fueled rocket from his Aunt Effie's farm in Auburn, Massachusetts. The flight lasted about 3 seconds. Future flights were met with opposition by their neighbors.
  - 16 Algol,  $\beta$  Persei, is in mid-eclipse at 7:36 PM.
  - 19 Jupiter rises above the waning gibbous Moon in the early morning hours.
  - 20 Spring begins at 1:26 PM today.
  - 20 The waning gibbous Moon rises just behind the red star Antares,  $\alpha$  Scorpii, before midnight. The 1.1 magnitude Antares had just been occulted, visible from parts of South America and Africa.. It will be occulted on nearly every lunar visit until sometime in 2010, but few will be visible this far north.
  - 25 Venus is at greatest elongation west of the Sun this morning. It rises around 4 AM, and would show a "quarter-moon" phase through telescopes. The waning crescent Moon is off to the right of Venus.
  - 29 New Moon this morning. A total eclipse lasting as long as 4.1 minutes can be seen along a track extending from the eastern tip of Brazil eastward through northern Africa, Turkey, and ending in Mongolia and Russia near Lake Baikal.
- Apr. 1 Be on hand, telescope at the ready right after sunset, for a lunar tour through M45, the Pleiades Cluster. The crescent Moon, not yet 4-days-old, will occult some of its major stars as well as many of its dimmer ones. The Pleiades will appear just to the upper-left of the dark (but earthlit) edge of the Moon. One by one, stars will reach that earthlit edge and wink out. Disappearances behind a waxing Moon are easier to watch, because you can watch each star edge closer to the Moon's dark edge until it's suddenly gone.
- Here's what you should see, and approximately when:
- 6:42 PM: 3.8 magnitude Electra (17 Tauri) will disappear. (You'll have to fight a bright evening sky).
  - 7:10: 5.5 magnitude Celaeno (16 Tauri) will just squeeze by the top edge of the Moon - a near-miss event we call an appulse.
  - 7:27: 4.3 magnitude Merope (23 Tauri) will disappear.
  - 7:45: 4.0 magnitude Maia (20 Tauri) will miss the top edge of the Moon.
  - 7:54: 3.0 magnitude Alcyone (Eta Tauri, the brightest Pleiad) will disappear.
  - 8:39: 3.8 magnitude Atlas (27 Tauri) will disappear.
  - 8:54: Alcyone reappears along the bright right limb of the Moon.
- Reminder: After you return home, be sure you've turned all your clocks and watches ahead one hour, in deference to the folly of Daylight Saving Time.

*Prepared by Robert Chapin*

## **Highlights for March 2006**

### **Constellations Tonight: A Starlab Planetarium Show and Book-signing Event**

A planetarium show is one of the best ways to become quickly familiar with the night sky. This evening, **Steve Tomecek** (<http://www.dirtmeister.com>) will introduce you to the constellations and other celestial bodies using StarLab (<http://www.starlab.com>), a portable planetarium. As founder of Science Plus, Steve has provided science enrichment programs to schools, museums and libraries around the world. He is also a science consultant for Scholastic Inc. and National Geographic, was Science Program Supervisor for the NY Hall of Science, and has written over 20 books. Steve will also discuss how science can be made fun and easy to learn.

**When:** Saturday, March 11<sup>th</sup>, 2006; 8:00 PM;

**Where:** Custer Institute, Main Bayview Road, Southold

**Suggested donation:** \$5, Custer members, \$7, non-members

As always, refreshments will be served with observing to follow, weather permitting.

### **Annual St. Patrick's Day Dinner Party**



Each year Custer hosts its annual St. Patrick's Day dinner party for the benefit of those who are Irish or of Irish extraction and, in a spirit of camaraderie and friendship, to share that tradition with those members who are not. This year represents a slight departure from Custer St. Patrick's Day celebrations of yesteryear. In addition to the sumptuous meal of corned beef and cabbage prepared by Custer President and resident chef, Chuck Cardona, we will be presenting a live concert, featuring Traditional Irish music, performed by Stephen and Susan Sanfilippo, celebrated musicians and music historians. Stephen and Susan have been performing on Long Island since the 1970s.

**When:** Saturday, March 18<sup>th</sup>, 2006;

Dinner: 6:00 PM;

Concert: 8:00 PM;

**Where:** Custer Institute, Main Bayview Road, Southold

**Suggested donation**

- Dinner: \$10, Custer members, \$12.50, non-members, \$5, children under 12;
- Concert: \$10, Custer members, \$12.50, non-members;

As always, refreshments will be served with observing to follow the concert, weather permitting.

**Editor:** attendees are encouraged to bring homemade entrees and desserts as an added treat. If you have a favorite recipe or dish, why not share your creation with the rest of us? As an historical sidebar, Corned Beef and Cabbage was originally served as a traditional dish for Easter Sunday dinner in rural Ireland.

## Determining Light Pollution of the Global Sky

You can help! By observing and reporting the sky conditions between March 22<sup>nd</sup> and March 29<sup>th</sup> from your home, school, hotel room, work place or Tropical Island, you will be able to participate in a worldwide campaign whose aim is to document the malaise of light pollution on a global scale.

**SELENE-NY** ( <http://www.selene-ny.org> )

Get out and observe the night sky during March 22 -29, 2006!

Students and families are invited to participate in a worldwide campaign to observe and record the magnitude of visible stars as a means of measuring light pollution in a given location.

SELENE encourages New Yorkers to join in this event, sponsored by GLOBE.

Students and families are encouraged to observe and record the magnitude of visible stars as a means of measuring light pollution in a given location. Public contributions to an online database will document the visible nighttime sky during March 22-29, 2006. Students and families can learn how to locate the constellation Orion and that stars have different magnitudes of brightness in the night sky. This activity helps students and families understand how latitude and longitude coordinates provides a location system helping us to map and analyze the observation data submitted from all around the globe.

GLOBE (Global Learning and Observations to Benefit the Environment) is a worldwide hands-on, primary and secondary school-based education and science program. The GLOBE Program is managed by the University Corporation for Atmospheric Research (UCAR) and Colorado State University with support from NASA, NSF and the Department of State.

More info on the observing project and GLOBE can be found at <http://www.globe.gov/GaN/index.html>

**Editor:** This posting was culled directly from the SELENE website and can be found at [http://www.selene-ny.org/index.php?module=announce&ANN\\_user\\_op=view&ANN\\_id=22&84e827c0668c9182b259f13262749268=592a0f0412a8ab1cd9759000c6b1c2bb](http://www.selene-ny.org/index.php?module=announce&ANN_user_op=view&ANN_id=22&84e827c0668c9182b259f13262749268=592a0f0412a8ab1cd9759000c6b1c2bb)

### A7404 reaches the Assembly floor!

A7404, the Healthy, Safe, and Energy Efficient Outdoor Lighting Act, has been released from the Rules committee to the full Assembly. SELENE (<http://www.selene-ny.org>) urges all NYS residents to contact their Assemblyperson in support of this bill!

### Who says There's No Dirty Politics in the Lighting Industry?

*(or now we know why A7404 has been the target of the governor's veto pen three years in a row - and counting)*

FBI raids offices of Brian M. McLaughlin ([http://www.selene-ny.org/index.php?module=announce&ANN\\_user\\_op=view&ANN\\_id=24&84e827c0668c9182b259f13262749268=592a0f0412a8ab1cd9759000c6b1c2bb](http://www.selene-ny.org/index.php?module=announce&ANN_user_op=view&ANN_id=24&84e827c0668c9182b259f13262749268=592a0f0412a8ab1cd9759000c6b1c2bb)[http://www.nytimes.com/2006/03/03/nyregion/03labor.html?\\_r=1&oref=slogin](http://www.nytimes.com/2006/03/03/nyregion/03labor.html?_r=1&oref=slogin))

According to the NY Times ([http://www.nytimes.com/2006/03/03/nyregion/03labor.html?\\_r=1&oref=slogin](http://www.nytimes.com/2006/03/03/nyregion/03labor.html?_r=1&oref=slogin)), on March 3rd, the FBI raided the offices of of Brian M. McLaughlin, President of the New York City Central Labor Council. The FBI stated that the raid was part of their investigation into whether Mr. McLaughlin had received improper payments from electrical contractors and whether he had played a role in a scheme to fix bids for City streetlighting contracts.

According to the NY Times, "A law enforcement official said that contracts involving streetlights were bid on every three years and that the same companies, including Petrocelli Electric, would win the contracts." In fact, the City has spent more than \$150 million on streetlighting since 1999 with one firm, Petrocelli Electric, winning more than \$90 million of those contracts.

## Spring 2006 Class: Special Topics In Astronomy

As in our winter course offering, each week a different instructor will present a topic of special interest. Register for as many of the sessions as you like (30% discount if you register for all five). Remain after class, participate in any other events that are scheduled, and enjoy refreshments while Staff show you around the night sky. Classes will be held Saturdays from 6:00 P.M. to 7:30 P.M., April 22, 29 and May 13, 20 and 27. Anyone wishing to enroll in our spring semester of '*Special Topics in Astronomy*', please use the class / membership application elsewhere in this issue.

### **April 22; Binoculars**

Binoculars are NOT just for beginners and you'll learn why. The discussion will include an in-depth look at targets for binocular viewing in the current night sky and tips on how to select astronomically-worthy binos from the vast ocean of choices. Weather permitting, there will be a hands-on outdoor observing session (bring your binos). Instructor: Phil Harrington has authored numerous articles and books, including *Touring the Universe Through Binoculars* and *Star Watch*. He is an astronomy instructor at Dowling College and Suffolk County Community College, and is a Custer Member.

### **April 29; The Nature and Study of Cosmic Rays**

Where do cosmic rays come from? Are they survivors of the early universe? Are they remnants of supernovas? The discussion will include the findings of the MARIACHI Project, a collaboration between faculty at Suffolk County Community College, Brookhaven National Laboratory, physics teachers and students, that attempts to address these questions. Instructor: Dr. Mike Inglis has authored several books, including *Astronomy of the Milky Way* and *Astrophysics is Easy*. He is an assistant professor of astronomy at SCCC, a Fellow of the Royal Astronomical Society, and a NASA Solar System Ambassador.

### **May 13; Re-visiting the Big Bang: What Particle Accelerators Teach Us About the Early Universe.**

Insight into the origins of matter and the properties of the universe at its beginning has resulted from recent discoveries made at one of the world's most powerful instruments for high-energy collisions of atomic nuclei, the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory (BNL). Instructor: Thomas W. Ludlam, Ph.D., is Associate Chair for Nuclear Physics in BNL's Physics Dept., was instrumental in making the RHIC a reality at BNL and oversaw the development of its four successful experimental detectors.

### **May 20; Amateur Radio Astronomy**

A complete overview of amateur radio astronomy, from its history to equipment basics, targets studied, and how amateur astronomers can get started. Instructor: Mike Kozma is an electrical engineer who has designed communication equipment for both military and commercial applications, and who teaches at Queensborough Community College. He has been involved in optical and radio astronomy for over 35 years, is an amateur radio operator, and a member of AOS and NARC.

### **May 27; The Sun and Its Impact on Terrestrial Events**

The Canadian power grid shuts down. The Thames River freezes over. The stock market crashes. A war breaks out. Should we blame these events on the Sun? The discussion will examine the Sun, what similar stars can tell us about it, solar phenomena and their impact on the space program, our health, and our lives, and the upcoming research program at Custer. Instructor: Dr. Jeffrey Owen Katz is Custer's Observatory Director and a Board Member. He has a diverse background in the sciences and in finance, has authored several books, and is president of Scientific Consultant Services Inc.

Cost for Custer members: \$35 for all 5 weeks or \$10 per session; Non-members: \$50 for all 5 weeks or \$13 per session. We accept Paypal (to the account of CusterPaypal@yahoo.com), checks or money orders (made out to Custer Institute). Please send the form below to: Custer Winter Class, P.O. Box 1204, Southold, NY 11971. For further information contact Donna McCormick ([mccormick@scientific-consultants.com](mailto:mccormick@scientific-consultants.com)) or 631-696-3333).

## Custer Class and Membership Application

Name \_\_\_\_\_ Email \_\_\_\_\_

StreetAddress \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Phone \_\_\_\_\_

I am a Custer Member: \_\_\_ All 5 classes at \$35, or the following sessions at \$10 each: \_\_\_ 1/21, \_\_\_ 1/28, \_\_\_ 2/4, \_\_\_ 2/11, \_\_\_ 2/18;

I am not a Member: \_\_\_ All 5 classes at \$50, or the following sessions at \$13 each: \_\_\_ 1/21, \_\_\_ 1/28, \_\_\_ 2/4, \_\_\_ 2/11, \_\_\_ 2/18;

I would like to become a Custer Member: \_\_\_ \$45 Individual; \_\_\_ \$60 Family; \_\_\_ \$25 Senior (65+); \_\_\_ \$25 Junior (12-18).

\_\_\_ I have made payment via Paypal or \_\_\_ enclosed my check/mo (payable to Custer Inst.) for \$ \_\_\_\_\_. Confirmation of registration **will only be sent by email.**

Please mail your form to: Custer Institute  
P.O. Box 1204  
Southold, New York 11971.

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## Custer Clean-Up

The Observatory Staff is in the process of doing an inventory of Custer's equipment and other resources. During the course of this project, a major clean-up will be undertaken; the basement is the main target. If you have any personal items stored at Custer, and you would prefer not to see them thrown into the dumpster, absorbed into Custer's collection, or sold, please contact Jeff Katz ([katz@scientific-consultants.com](mailto:katz@scientific-consultants.com)) or call 631-696-3333) as soon as possible. If you would care to assist in the clean-up project, let him know because we could sure use the help!

## Skilled Labor Wanted

The renovation of the dome is underway. The Observatory Staff is going to need assistance to complete this project and other related ones. If you have any skill with carpentry, electrical work, painting, etc., and could volunteer a few hours of your time, please contact Jeff Katz ([katz@scientific-consultants.com](mailto:katz@scientific-consultants.com)) or call 631-696-3333) as soon as possible.

## Observatory & Other Staff Wanted

Custer is in the process of improving its facilities and expanding the services it offers to the public. The Observatory Committee is looking for individuals who are interested in volunteering just a few hours a month. People are needed for all kinds of jobs-from helping to give the public a tour of Custer and the night sky on Saturday nights, to assisting with events, research, fund raising, secretarial work, and even providing refreshments to our guests. If you are able to lend a hand on a regular basis or would just like to volunteer to help with a specific project, please contact Donna McCormick ([mccormick@scientific-consultants.com](mailto:mccormick@scientific-consultants.com)) or call 631-696-3333).

## Custer Dome To Be Delivered Help Needed!

It looks like the dome will be delivered on schedule, sometime between Monday, April 3<sup>rd</sup> and Tuesday, April 4<sup>th</sup>. As it turns out, the contractor's crew will be unloading it, bolting it together, raising it, putting in the motor, etc.

Apparently, all that is required from Custer staff is the dismantling of the roof, storage of the lumber and relaying of the tarp on the dome floor. Expectations are that the dome will be raised sometime on Friday or Saturday, depending on work progress and weather; therefore, the roof should be off by Thursday night, April 6<sup>th</sup>.

Anyone who would like to be a part of this historic event in the annals of Custer Institute, please contact Donna McCormick at (631) 696-3333 or [mccormick@scientific-consultants.com](mailto:mccormick@scientific-consultants.com) and let her know when you're available. We're looking for anyone who's into demolition and doesn't mind heights!

We're also going to need a crew to clean up and paint the library soon after the dome installation. Again, let Donna know if you can help. What's involved? The books need to be thoroughly dusted and boxed; the shelving and other furniture needs to be cleaned and moved (some consideration being given to switching the floors housing the library and museum); the room itself cleaned, primed and painted. If the contractor doesn't do it, there's a bit of wall repair and spackling that needs to be done as well.

## Custer Institute Good Neighbor Award



Image, courtesy Tom Madigan

Custer 'Good Neighbor' Phil Harrington stands in front of the 'Star Watcher' Observatory. Located on the property of his Miller Place home, the observatory houses his 18" custom Dobsonian.

Custer member, 8-time author and professor of Astronomy at Dowling College, Phil Harrington has proposed the establishment of a '*Custer Institute Good Neighbor Award*'. The award would recognize those businesses or municipalities who have made an effort to stem the spread of light pollution. The winners wouldn't necessarily have to be in Southold and would be announced every year at the Jamboree. They would be presented with a plaque or framed certificate. In addition to the obvious benefit to observational Astronomy and the restoration of the night sky as 'The Greatest Show on Earth', the award would recognize the comprehensive benefits of any *Light Pollution Solution* including, but not limited to: the positive environmental impact their solution has; the conservation of energy with the

commensurate reduction in air pollution, a byproduct of the power generation requirements of inefficient or unnecessary lighting; the preservation and, in some cases, restoration of Suffolk County's character as a 'quiet, country environment'.

**Editor:** Phil's idea has already been approved by Custer's President, Chuck Cardona. All that remains for it to become reality is approval by Custer's Board of Directors.

## ***Exciting News from Enceladus!***

A Note From Dr. Carolyn Porco

Dear Friends and Colleagues,

Tomorrow, the Cassini Imaging Team's report on Enceladus will be published in the journal SCIENCE, along with reports from other Cassini instrument teams.

What we have discovered about the story of Enceladus is thrilling beyond imagination: more heat emerging from the south polar region, per square meter, than from the Earth, and, possibly, subterranean organic-rich bodies of liquid water only tens of meters beneath the south polar terrain.

If we did nothing else, these findings alone would have made the Cassini mission worthwhile.

Go to...

<http://ciclops.org>

... for more information.

I'm attaching below our press release that went out earlier today.

And watch the major networks (CBS, ABS, NBC) tonight and CNN American Morning tomorrow morning, all of which are featuring Enceladus in their lineup.

Enjoy!

*Carolyn Porco  
Cassini Imaging Team Leader  
Director/CICLOPS  
Space Science Institute  
Boulder, CO*

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**CASSINI IMAGES OF ENCELADUS SUGGEST GEYSERS ERUPT LIQUID WATER AT THE  
MOON'S SOUTH POLE**

Images returned from NASA's Cassini spacecraft have yielded evidence that the geologically young south polar region of Saturn's icy moon Enceladus may possess reservoirs of near-surface liquid water that erupt to form geysers of the kind found in Yellowstone National Park.

This finding and others are being reported today by the Cassini Imaging Science Team in the journal Science.

“We realize that this is a radical conclusion – that we may have evidence for liquid water within a body so small and so cold,” said Dr. Carolyn Porco, Cassini imaging team leader at the Space Science Institute in Boulder, Colo., and the lead author of the Science report.

“However, if we are right, we have significantly broadened the diversity of solar system environments where we might possibly have conditions suitable for living organisms. It doesn’t get any more exciting than this.”

High resolution Cassini images showing the icy jets, and the towering plume they create, reveal the abundance of the constituent particles and the speed at which they are being ejected from Enceladus. These results indicate that there are far too many particles being released from the south pole of Enceladus for the source to be merely frozen mist condensing out of a plume of water vapor, or particles that have been blown off Enceladus by jets of water vapor arising from warm ice.

Instead, they have found a much more exciting possibility: the jets may be erupting from near-surface pockets of liquid water above 0 degrees Celsius (32 degrees Fahrenheit), like cold versions of the Old Faithful geyser in Yellowstone.

“There are other moons in the solar system that have liquid water oceans covered by kilometers of icy crust,” said Dr. Andrew Ingersoll, an atmospheric scientist and a co-author on the paper in Science.

“What’s different here is that pockets of liquid water may be no more than ten meters below the surface.”

In the near-vacuum conditions at the moon’s surface, liquid water would boil away into space, erupting forcefully into the void and carrying particles of ice and liquid water along with the vapor. Analysis of the jets and plumes indicate that most of the particles eventually fall back to the surface, giving the moon’s south pole its extremely bright veneer. Those that escape the moon’s gravity go into orbit around Saturn, forming the E ring.

Cassini images have revealed the geology of Enceladus in startling detail, including relaxed craters and extensive surface cracks and folds. Imaging scientists report that the moon has undergone geologic activity over the last four and half billion years up to the present, with the active south pole being the only place where liquid water may currently exist near the surface. Telltale geologic features throughout the southern hemisphere of Enceladus also point to a change in the body’s shape with time. Scientists believe these to be related to an episode of intense heating in the moon’s past that may, in turn, explain the anomalous warmth and current activity in the south polar region.

The sources of this warmth are a major puzzle. Some combination of tidal flexing and heating of the interior by naturally radioactive material may provide the heat to power the geysers, which almost certainly erupt from the narrow, warm fractures, called ‘tiger stripes’, seen crossing Enceladus’ south polar region. However, obtaining enough energy to reproduce the observed heat emanating from the south pole is still a problem.

Dr. Torrence Johnson, a satellite expert at NASA’s Jet Propulsion Laboratory, Pasadena, Calif., and a co-author, notes: “Active water geysers on little Enceladus are a major surprise. We’re still puzzled about the details and energy sources, but what’s exciting is that Enceladus obviously figured out how to do it. Now it’s up to us to crack the mystery.”

Images accompanying this release are available at <http://ciclops.org>, <http://saturn.jpl.nasa.gov> and <http://www.nasa.gov/cassini>.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory (JPL), a division of the California Institute of Technology in Pasadena, manages the Cassini-Huygens mission for NASA’s Science Mission

Directorate, Washington. The Cassini orbiter and its two onboard cameras were designed, developed and assembled at JPL. The imaging team consists of scientists from the U.S., England, France, and Germany. The imaging operations center and team leader (Dr. C. Porco) are based at the Space Science Institute in Boulder, Colo.

-end-

## Pluto Mission News

March 9, 2006

<http://pluto.jhuapl.edu>

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### New Horizons Adjusts Course Toward Jupiter

With a 76-second burst from its thrusters today, New Horizons cleaned up the last of the small trajectory “dispersions” from launch and set its course toward next February’s gravity-assist flyby of Jupiter.

Changing the spacecraft’s velocity by about 1.16 meters per second, the maneuver was the smallest of the three New Horizons has carried out since launch on Jan. 19, and the first conducted with the spacecraft in three-axis pointing mode. It also aimed New Horizons toward the Pluto “keyhole” at Jupiter – the precise point where the giant planet’s gravity helps swing the spacecraft toward the close flyby of the Pluto system on July 14, 2015.

When the maneuver started at noon EST, New Horizons was about 51.7 million kilometers (32.1 million miles) from Earth, moving along its trajectory at 37.5 kilometers (23.3 miles) per second. Mission operators at the Johns Hopkins University Applied Physics Laboratory in Laurel, Md., monitored spacecraft status through NASA’s Deep Space Network antenna station near Canberra, Australia.

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New Horizons is the first mission to Pluto and the Kuiper Belt of rocky, icy objects beyond. Principal Investigator Alan Stern, of the Southwest Research Institute (SwRI), leads a mission team that includes the Johns Hopkins University Applied Physics Laboratory, Ball Aerospace Corporation, the Boeing Company, NASA Goddard Space Flight Center, NASA Jet Propulsion Laboratory, Stanford University, KinetX, Inc., Lockheed Martin Corporation, University of Colorado, the U.S. Department of Energy, and a number of other firms, NASA centers and university partners. For more information on the mission, visit <http://pluto.jhuapl.edu>.

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