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 (631)722-3850  
[barbaraleb@aol.com](mailto:barbaraleb@aol.com)

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 (631) 696-3333  
[mccormick@scientific-consultants.com](mailto:mccormick@scientific-consultants.com)

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[wbogardu@optonline.net](mailto:wbogardu@optonline.net)

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 (631) 477-2717  
[akam10@optonline.net](mailto:akam10@optonline.net)

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 (631) 696-3333

[katz@scientific-consultants.com](mailto:katz@scientific-consultants.com)

**Rich Huber '08**

(631) 598-4613  
[raflash99@aol.com](mailto:raflash99@aol.com)

**Brian Andrews, Esq '08**  
 (631) 725-1515

[bandrewsesq@optonline.net](mailto:bandrewsesq@optonline.net)

**In Memoriam**



Image, courtesy Will Burgess/Reuters

**Steve Irwin**

1962 – 2006

It is only fitting and appropriate that Custer Institute recognize one of the world's preeminent naturalists, conservationists, environmentalists and champions of wildlife. Thus, it is with a heavy heart that I dedicate this issue of the Custer Comment to the memory of Steve Irwin, a man who died while *living* his passion, ironically filming a documentary entitled "Ocean's Deadliest" to be aired on the popular TV Channel "Animal Planet". Please see inside for additional commentary and pictures.

**Upcoming Events**

- The Custer Institute Annual Astronomy Jamboree, October 20 & 21; please see inside for further details;
- SUNY, Stony Brook Friday night lectures for September; please see inside for details and a comprehensive schedule;
- John Dobson at Custer, Saturday, October 7<sup>th</sup>; please see details inside.

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\*Cover image: Steve Irwin with a Sumatran tiger cub at an Australian zoo in 2004

## Editor's Column

<p><b>Tom Madigan, Editor</b> Tom Madigan 99 North Summit Ave. Patchogue, NY 11772-2226 <a href="mailto:tmadigan@optonline.net">tmadigan@optonline.net</a> <a href="mailto:tom@tommadigan.net">tom@tommadigan.net</a> 631-714-4388</p> <p>Cutoff for submissions is the 15<sup>th</sup> of the month preceding publication</p> <p>Visit the new Custer Website at <a href="http://www.custerobservatory.org">http://www.custerobservatory.org</a> Custer Comment Archive: <a href="http://www.tommadigan.net/custer">http://www.tommadigan.net/custer</a></p>	<p><b>The Custer Comment is published monthly by</b></p> <p>Custer Institute P.O. Box 1204 Main Bayview Road Southold, NY 11971 631-765-2626</p> <p><i>"I have loved the stars too fondly to be fearful of the night."</i></p> <p>Sarah Williams</p>
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I would like to express my heartfelt gratitude and appreciation to all those who responded to my recent plea for help and either forwarded my resume or offered moral support. I am pleased to announce that your efforts have borne fruit. With several leads still outstanding, I have become gainfully employed as a result of the efforts of two particular individuals. It gives me great pleasure to recognize and thank Custer member Thomas Haerberle and Professor Sean Tvelia of Suffolk County Community College for leveraging their prestige and standing in their respective business and academic communities. Further and in addition to Sean's recommendation, special recognition is accorded to Dr. Michael Inglis of SCCC for the much appreciated confidence he has placed in me. Through their recommendation, I have obtained gainful, full-time employment with a major insurance provider in Manhattan combined with an excellent opportunity to work, part time, as a **Professional Assistant** with the first rate Earth and Space Science faculty at Suffolk County Community College. In addition, I would like to recognize Custer members Phil Harrington, Daniel Janosick, James Egan, Susan Harder, Gary Citro, James Slezak and last, but not least, my good friends Gary and Judy Mystkowski, Steven Landovitz, Stephen Knopp, Frank Mellillo, Bob Farrell and Suffolk County Police Officer Craig Vasey for either forwarding my resume or recommending me. As well, I would like to recognize Sue Rose, Gail Clyma, Susan Harder's sister Nancye Harder, Nikki Longo, Jeff Katz, Donna McCormick, Toqui Terchun, Ed Pascuzzi, Tom Carey, Joan Baffa, Tom DeCanio, Ruth Makofske, Barbara Lebkucher, Anna and Rico Verticchio and lastly Alan Stadler for taking a moment out of their busy schedules to either write or call, offering their moral support. Since the outpouring of support was nothing less than overwhelming, it's quite possible that I may have overlooked someone. If have, please accept my apology as well as my sincerest gratitude. Special thanks are accorded to my wife, Mary and my 3 wonderful children for their constant support, without which I would never have made it.

Lastly, I would like to offer special thanks to Custer's president, Chuck Cardona, for keeping me employed during some of the leaner times at AdZone when, as is so often the case when exploring uncharted territory, the only certainty is that next month's rent will always be due.

### Diana Lichtman Passes on May 26<sup>th</sup>, 2006

It is with a heavy heart that I report that Custer member, Jeff Lichtman, lost his wife on May 26<sup>th</sup>, 2006. Diana suffered from Fibromyalgia and Type 2 Diabetes, the 2 afflictions that were the subject of a detailed and informative lecture by Custer's Jeff Katz, PhD. Jeff Lichtman took the opportunity to contact me when he read about the upcoming lecture by Dr Katz, presented on August 26<sup>th</sup>. Jeff and Diana knew each other for 24 years and were married 22 of those 24 years. She had been suffering from ill health for many years and Jeff characterized his late wife as an "Irish Angel" who had cared for his mom for 2 years until his mom passed away. Anyone wishing to send a sympathy card or to contact Jeff to express their condolences, please contact Barbara Lebkuecher for additional details. I'm sure I speak for Custer's Executive Board, its Board of Directors and its membership when I offer our heartfelt sympathies to Jeff and his family during this time of mourning.

Best,

Tom

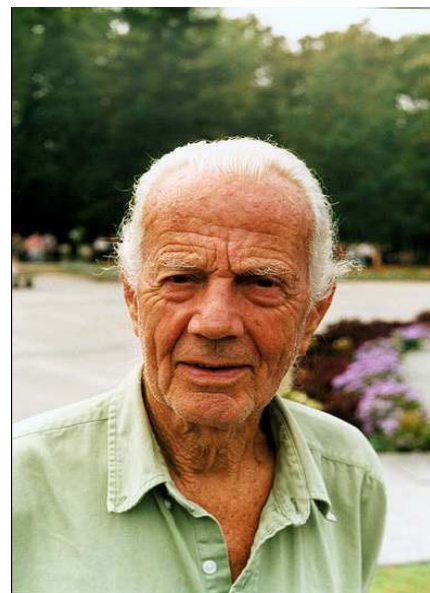
*Tom Madigan, Editor*

"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*

## An Evening With John Dobson

Once again, Custer Institute is honored to host John Dobson (<http://www.johndobson.org>), a world renowned amateur astronomer and one who is widely credited with popularizing Astronomy with his impromptu lectures, complete with telescope, on the sidewalks of San Francisco. He is a genuine living legend, having revolutionized astronomy with his invention of the "Dobsonian" telescope mount, inspiring countless individuals around the world to look up and appreciate the universe around them. He was born in China into a family of educators (his grandfather founded Peking University), obtained a degree in chemistry from University of California at Berkeley, and later became a Vedantic monk, attempting to reconcile science and religion. While at the monastery, he honed his skills as a telescope maker and launched the Sidewalk Astronomers movement.



Here in the U.S., many consider him to be the Father of Amateur Astronomy. He has authored several books, including *Beyond Space and Time*, and is the subject of the acclaimed film, "A Sidewalk Astronomer." Please join us on this special occasion when John will, once again, speak to us about cosmology, his life and his work with the clarity, wisdom and wit that are his hallmark and the personal qualities that have set him apart as a truly exceptional individual.

As always, refreshments and observing will follow the talk. Seating is limited, so send in your registration or contact [CusterDonna@yahoo.com](mailto:CusterDonna@yahoo.com) today.

**When:** Saturday, October 7<sup>th</sup>, 2006, 8:00 PM;  
**Where:** Custer Institute, Main Bayview Road, Southold, NY

\_\_\_\_\_  
Please Print Send this form to the Custer Institute at the address above. Questions? Contact [CusterDonna@yahoo.com](mailto:CusterDonna@yahoo.com)

Name \_\_\_\_\_ E mail Address \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone \_\_\_\_\_

Please reserve \_\_\_\_\_ tickets at \$12 per ticket for Members or \$15 for Non-Members. Confirmation **will only be sent via email.**

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\_\_\_\_\_ Enclosed is my check or \_\_\_ I have made payment via [www.Paypal.com](http://www.Paypal.com) to the account of [CusterPaypal@yahoo.com](mailto:CusterPaypal@yahoo.com)

**Total \$** \_\_\_\_\_.

Custer Institute is an educational institution as defined by IRS Code section 501(c)(3) and is a Not-For-Profit Corporation in New York State that is reliant on public support.

## ***Astronomy Jamboree 2006!***

28th Annual Astronomy Jamboree And Conference

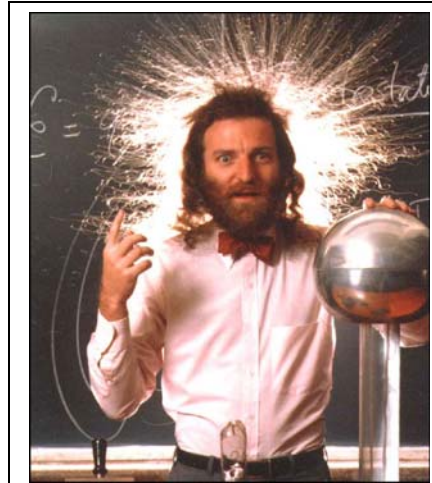
Friday, October 20 and Saturday, October 21, 2006

Friday At Custer Observatory

- 6:00 PM **Registration;**
- 7:30 PM **Concert;**
- 9:00 PM **The Universe in Verse:** Poetry with Bob & Steve Chapin;

Saturday At Southold High School  
(South off Rte. 25 onto Oaklawn Avenue, east of Main Bayview Road/Custer)

- 10:00 AM **Portable Planetarium Shows** by David Cohn (gym)\*
- 11:00 AM **Science Adventures Assembly** Presentation (auditorium)\*
- 11:00 AM **"Eclipses"** by George Lomaga (classroom)
- Noon **Lunch Break;**
- 1:45 PM **"Dark Energy, Dark Matter"** by Dr. Kenneth Lanzetta;
- 3:00 PM **"On the Trail of Sungrazing Comets"** by Tony Hoffman;
- 4:15 PM **"The Hybrid Image: A New Philosophy of Aesthetic Astroimaging";** by Robert Gendler, sale & signing of his new book to follow;
- 6:00 PM **Dinner Break;**
- 8:00 PM **Keynote Address: "Intelligent Life in the Universe?"** by Dr. David Helfand;
- 9:30 PM **Raffle Drawing**



Dr. David Helfand, Keynote Speaker

### Guests and Speakers

**Dr. David Helfand**, Keynote Speaker

**David Cohn**, Director, Tupper Planetarium in Centereach;

**Robert Gendler, MD**, renown astrophotographer; his new book, *A Year in the Life of the Universe*, will be available for sale & signing;

**David Helfand, PhD**, Chairman of the Astronomy Dept., Columbia University; astrophysicist and guest on Comedy Central's "Daily Show";

**Tony Hoffman**, Staff Editor, *PC Magazine*; noted comet and asteroid hunter/discoverer; a Director of the AAA of NY;

**Kenneth Lanzetta, PhD**, observational astrophysicist and professor, Dept. of Physics and Astronomy, SUNY Stony Brook;

**George Lomaga**, retired astronomy instructor, Suffolk County Community College;

## Keynote Address: "Intelligent Life In The Universe?"

In the last ten years, 200 new solar systems have been discovered within our local galactic neighborhood. Observations of newly forming stars suggest more than half spawn planets. Coupled with discoveries in biology and artificial intelligence, we can estimate the number of intelligent civilizations in the Milky Way. This illustrated lecture will discuss these issues, the estimates achieved, and explore the question of whether or not we still qualify as intelligent life in the cosmic sense. Dr. David Helfand is Chair of the Astronomy Dept. at Columbia University, was a Sackler Distinguished Visiting Astronomer at Cambridge University, received the 2002 Great Teacher Award from the Society of Columbia Graduates and the 2001 Presidential Teaching Award. His work as an astrophysicist has ranged from radio, optical and x-ray observations of celestial sources from nearby stars to distant quasars; he is currently involved in a project to survey the galaxy to obtain a complete picture of the birth and death of stars in the Milky Way. He appeared on the Discovery Channel's "Science News" to provide weekly updates on astronomical discoveries. His recent television appearances have been limited to more serious matters on Comedy Central's "The Daily Show." He says he serves on far too many university, government, and American Astronomical Society committees for his own (or anyone else's) good, and he believes he is a better cook than astronomer (most colleagues he's had over to dinner agree).

## "Dark Energy, Dark Matter."

Recent research has demonstrated that the expansion of the Universe is accelerating. This requires that 70% of the Universe must be composed of a mysterious form of energy that cosmologists have dubbed "dark energy." These observations also demonstrate that most of the remaining 30% of the Universe is a mysterious form of matter, dubbed "dark matter." The result: cosmologists are now faced with the interesting situation that 95% of what makes up the Universe is unknown. This illustrated lecture will shed light on the nature of dark energy and dark matter, as well as address the implications. Dr. Kenneth Lanzetta is a Professor in the Dept. of Physics and Astronomy at Stony Brook University. He is an observational astrophysicist with special interests in cosmology. His original research on the formation and evolution of galaxies has led to very significant (and some say controversial) findings about the early Universe.

## "On The Trail Of Sungrazing Comets."

Several times over the past millennium, brilliant comets have been visible in daylight, even when very near the Sun. More than 1000 of these "sungrazing" comets have been found (mostly by amateurs) in images from the Solar and Heliospheric Observatory (SOHO). This illustrated lecture will discuss the impact of these discoveries, the nature of sungrazing comets, and how anyone may discover them in SOHO images or participate in several other astronomical discovery projects. Tony Hoffman is a Director of the Amateur Astronomers Association of New York and a Staff Editor at *PC Magazine*. In June 2006, his *Sky and Telescope* article (co-authored with Dr. Brian Marsden), "The Booming Science of Sungrazing Comets," won an award from the American Astronomical Society's Solar Physics Division. As a volunteer reviewer for the Spacewatch FMO Project, Tony has personally found 75 comets and one near-

Earth asteroid (2005 JB22). He recently has had an asteroid named after him: **112900 Tonyhoffman**.

**Editor:** Please see last month's issue of the Custer Comment for a full-featured, front page article about Tony Hoffman and the asteroid that bears his name.

"The Hybrid Image: A New Philosophy Of Aesthetic Astroimaging."

**CCD** or astroimaging is one of the most popular avocations of amateur astronomers today. In addition to their educational value, such images are of artistic merit. This illustrated lecture will provide an introduction to aesthetic astroimaging. Coverage will include a brief discussion of the history of this field, as well as of the evolution of the imaging philosophy and various ambitious projects of one of astroimaging's most renown figures. Dr. Robert Gendler is a physician whose astroimages have inspired countless individuals to take up the camera; his images appear everywhere and regularly in *Sky and Telescope*. After the lecture, Dr. Gendler will autograph copies of his newly released book, *A Year in the Life of the Universe* (available for purchase at the conference).

Please print the following form and send it to:

Donna McCormick  
C/o Custer Institute  
1115 Main Bayview Road  
P O Box 1204  
Southold, New York 11971

Phone: 631-765-2626

Any questions, please contact Donna at [CusterDonna@yahoo.com](mailto:CusterDonna@yahoo.com).

## Custer Institute 28<sup>th</sup> Annual Astronomy Jamboree Registration Form

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Name: \_\_\_\_\_  
E mail Address: \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone \_\_\_\_\_

All tickets **\$5 higher at the door**. Registration confirmation **only provided via email**.

Please reserve \_\_\_\_\_ tickets at \$35 per ticket for Members, \$45 for Non-Members, \$25 Seniors/Students, \$5 Children under 13

\_\_\_\_\_ I would like to join Custer as an \_\_\_\_\_ Individual (\$45), \_\_\_\_\_ Family (\$60), \_\_\_\_\_ Senior/Student (\$25), \_\_\_\_\_ Sponsor (\$100/yr)

\_\_\_\_\_ I am a Custer Member but would like to pay my dues in the amount of \$ \_\_\_\_\_.

\_\_\_\_\_ I would like to make a tax-deductible donation to Custer Institute in the amount of \$ \_\_\_\_\_.

\_\_\_\_\_ Enclosed is my check or \_\_\_\_\_ I have made payment via [www.Paypal.com](http://www.Paypal.com) to the account of CusterPaypal@yahoo.com

TOTAL \$ \_\_\_\_\_. The Custer Institute is a 501(c)(3) NYS educational nonprofit reliant on public support.

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**Note:** please check Custer's website at <http://www.custerobservatory.org> for any last minute changes or additions

As always, refreshments and observing are ongoing throughout the evening, weather permitting.

\* = Suitable for children, as well as adults

Custer Institute is an educational institution as defined by IRS Code section 501(c)(3) and is a Not-For-Profit Corporation in New York State that is reliant on public support.

***Steve Irwin, A Pictorial Tribute***



Steve with one of his “Closest” Friends



Steve posing again with the same Bloke!



**An Irwin Family Portrait**

From left to right, Terri holding young Bob with Steve holding Bindi Sue



Terri and Steve with one of their “Hardback” Friends



Steve with Ayers Rock as a backdrop



A man whose passion for the outdoors and wildlife was surpassed only by the passion he had for his family, Steve Irwin is pictured here with Terri, his devoted wife and companion, and Bindi Sue their oldest child and only daughter. This image embodies all of that for which Steve Irwin lived, the love he had for his family, followed all too closely by the love he had for nature, wildlife and the environment. If one could image any of the ways someone, who possessed the passion and intensity Steve Irwin had for that which he devoted his life, could meet their fate, his demise could not have been any more fitting and appropriate: he died as he lived, embracing what he loved. May we all be as fortunate!

Steve Irwin, you will be sorely missed!  
*Via con Dios*

*Requiscat in Pacem*

For an online tribute, to make a donation in Steve's memory, to fund many of the worthy causes and charities Steve supported or to just leave a message, please visit [http://www.crocodilehunter.com/australia\\_zoo](http://www.crocodilehunter.com/australia_zoo) , [http://www.australiazoo.com/australia\\_zoo](http://www.australiazoo.com/australia_zoo) or <http://www.australiazoo.com/steve.php>

**Editor:** Unless otherwise noted, all images provided courtesy of the Associated Press and / or The Australia Zoo (<http://www.australiazoo.com>).

## Gift Corner & Classifieds

**We Have Meteorites!**

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

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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](mailto: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](mailto: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 \$12 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 September 2006

“ Nine months he [Adams] waited until LeVerrier, too,  
Pointed to that same region of the sky.  
Then Airy, opening his big, sleepy lids,  
Bade Challis use his telescope, - too late,  
To make that honour all his country's own;  
For all LeVerrier's proofs were now with Galle  
Who, being German, had his star-charts ready  
And, in that region , found one needle-point  
Had moved. A monster planet!”

- Alfred Noyes

In our nocturnal hunt for other solar planets this month, there's plenty of gas if you know where to look, but our terrestrial-type neighbors are in serious hiding. Both MERCURY and MARS are well concealed in the bright evening twilight, but above them JUPITER is still aloft in the southwest until after nightfall. VENUS sinks into the brightness of dawn this month, but above her SATURN, in Leo, rises higher in the east in the predawn sky with each passing day. The 5.7 magnitude URANUS reaches opposition on the 5<sup>th</sup> and is in the sky all night; look (with binoculars or

telescope) within 1½° to the east (left) or southeast of the 4<sup>th</sup> magnitude star λ (Lambda) Aquarii and note its movement from night to night. The 7.8 magnitude planet NEPTUNE is in Capricornus, a little more than 1° northwest of the 4<sup>th</sup> magnitude star ι (Iota) Capricorni.

- 5 Uranus is at opposition today in Aquarius as we pass between it and the Sun. It's just 1,770 million miles out beyond us, and its 5.7 magnitude disk is 3.7 arcseconds across as seen by telescope.
- 7 Full Corn Moon rises shortly after sunset this evening. A shallow partial lunar eclipse was seen this afternoon, but not by anyone in North America. And since the Moon's at perigee (closest approach) before midnight as well, be aware that coastal flooding could occur under storm conditions.
- 8 Star Trek was “launched” at 8:30 PM on NBC on Thursday, September 8, 1966, 40 years ago today. Fascinating.
- 18 Check out the smily waning crescent Moon leading Saturn up in the eastern sky at daybreak. Tomorrow morning the Moon, wearing more of a grin, will be beneath Saturn and the star Regulus will take Saturn's place beneath the Moon.
- 22 New Moon. An annular solar eclipse will be seen best along the South American coast of Guyana, Surinam and French Guiana shortly after sunrise. From a cruise ship at the right location in the south Atlantic, an observer could see an eclipse lasting 7 minutes, and the annulus would be uncommonly thick.
- 22 Fall begins at 11:03 PM tonight.
- 23 Neptune was discovered 160 years ago today by Johann Galle at the Berlin Observatory.
- 26 This evening the waxing crescent Moon is setting below and to the left of Jupiter.
- 29 At about 8:26 PM the star W Sagittarii will suddenly wink out at the dark left edge of the (nearly) first quarter Moon. W Sagittarii is a Cepheid variable star which ranges between 4.3 and 5.1 magnitude, with a period of about 7½ days. It's found just above the tip of the “Teapot's spout”.

Oct. 6 Harvest Moon tonight!

*Prepared by Robert Chapin*

## **Highlights for September 06**

### **Stony Brook Open Nights Continue During September**

#### **The Living World “Voyage of the Sea Turtle”**

Friday, September 15, 2006

Dr. Carl Safina

In images from travels in the oceans of three continents and readings from Carl Safina's new book, *Voyage of the Turtle* is a global journey. Motivating our travels is the pursuit of Earth's last warm-blooded monster reptile, the skin-covered Leatherback Turtle. The Leatherback has seen dinosaurs come and go and is the closest thing we have to a last- living dinosaur. Imagine an 800-pound turtle and you've just envisioned merely an average female Leatherback; they can weigh over a ton.

Throughout our explorations from tropical New Guinea jungle beaches to chilly waters off Newfoundland, we experience the vast oceanic realm that is the sea turtle's theater of life. And, we explore a curious fact: that in the Pacific, sea turtles are careening toward extinction, while in the Atlantic sea turtle recovery is the mode. Their inspiring Atlantic comeback lets us envision long-term survival.

Dr. Carl Safina grew up loving the ocean and its creatures and is author of more than a hundred publications, including the books *Song for the Blue Ocean* and *Eye of the Albatross*. His conservation work has been profiled in the *New York Times*, on *Nightline*, and in the Bill Moyers TV special "Earth on Edge." He is a recipient of the Pew Scholar's Award in Conservation and the Environment, and a MacArthur Foundation "genius" award. He is now president of Blue Ocean Institute, which seeks to inspire a closer relationship with the sea.

#### **Geology Open Night “Tectonics of Mountain Building”**

Friday, September 29, 2006

Prof. Daniel M. Davis, Dept. of Geosciences

"**W**hen Push Comes to Shove: the Tectonics of Mountain Building". Wherever tectonic plates collide, thick piles of crustal rocks that are caught between the converging plates are squeezed and thrust into enormous deformed zones called thin-skinned fold-and-thrust belts. As much as 10 to 20 kilometers thick, and up to hundreds of kilometers across, these mountain belts are the sites of major earthquakes, and in their submarine variety, where they are called accretionary wedges, they produce the largest of all earthquakes (including the one that caused the great Indian Ocean tsunami). They are responsible for forming sedimentary basins that contain many of the greatest oil deposits. From their active youth (like the present-day Himalayas) to their eroded, inactive, yet still majestic old age (like the present-day Appalachians), they form impressive natural barriers capable of affecting everything from human culture to the weather.

Prof. Davis will show some of the results of fieldwork and laboratory experiments that have shed light into how the world's great (and not-so-great) mountain belts form.

Don Davis is a Professor of Geophysics whose main research interests involve the mechanics of large-scale crustal deformation. He is particularly interested in the mechanics of thin-skinned mountain belts and the role of pore fluids and basement structure in the development of accretionary wedges at convergent plate margins. Prof. Davis is well known for applying a model for the development of mountain belts that is similar to a bulldozer pushing sand.

Unless otherwise specified, all lectures begin at 7:30 in the Earth and Space Sciences (ESS) building, room 001.

## ***News and Noteworthy***

### **Custer's Danny Janosick Images M-27, The Dumbbell Nebula**



Image, courtesy Daniel Janosick

On 12 July, 1764, Charles Messier discovered this object, the very first Planetary Nebula and number 27 in his catalogue of “non Cometary” objects. Located in Vulpecula, south and east of Cygnus the swan, this object represents the first in a new class of celestial objects: Planetary Nebulae. Planetary Nebulae (Latin; plural for nebula or cloud) are the remnants of a star whose mass was no less than 1.4 solar masses that, through evolutionary changes at the end of its life, ejected much of the mass it had while on the Main Sequence in the form of a bubble. This “bubble”, consisting of the heavier elements produced in post-hydrogen and helium burning stages of its life, shines by the intense ultra violet radiation emitted by the naked stellar core whose surface temperature exceeds 85,000° Kelvin. The term “Planetary Nebula” derives from its appearance at low magnifications as a planet in a small aperture telescope. The famous Ring Nebula in Lyra, M-57, is another famous Planetary Nebula within striking distance of M-27.

Danny produced this image from South Ocean Avenue, right here in Patchogue, using an 8” F/4 Newtonian on a Celestron CGE mount. The imaging particulars are as follows:

- Autoguiding-80 mm refractor with SBIG ST-4;
- Camera-SBIG 2000xm with Astronomix type 2 L, R,G, B filters and filter drawer;
- Exposures-LRGB-3 @ 5 minutes each, totaling 60 minutes exposure time (12 images total, combined);
- No UHC or LPR filters;
- All processing done in Images Plus.

***Editor:*** Great image, Danny!

## ***On The Uses And Abuses Of Language In Academia***

A synopsis by Pasqual S. Schievella, PhD, on a Lecture he gave at Custer Institute, August 12<sup>th</sup>, 2006

Dr. Pasqual S. Schievella gave a lecture, August 12, 2006, on a subject that has been examined by thinkers throughout history but has received extremely little attention by the general public: *the uses and abuses of language in academia*. According to Schievella, this subject underlies the illnesses of the world, a fact for which our “educators” are largely to blame.

Fundamental to all concepts of truth and knowledge lies the verifiable fact that all language is about our perceptions and conceptions of the existence of a physical world beyond our fallible experiences -- *rightfully*, if we are to preserve our sanity.

His major concern is to clarify the distinction to be drawn between the “proofs” of logic, whether in mathematics or in conventional language, and the “verification of ‘observation,’” i.e., our fallible experiences.

Consider the admonitions of four notable scientists, mathematicians, and philosophers:

- Ernst Mach: “Observed phenomena are [the] only basis of science.”
- Albert Einstein: “As far as the laws of mathematics refer to reality, they are not certain and as far as they are certain, they do not refer to reality.”
- Godfrey Harold Hardy: “A mathematician is someone who not only does not know what he is talking about but, also, does not care.”
- Bertrand Russell: “Mathematics is the subject in which we don’t know what we are talking about nor whether what we are talking about is true.”

Dr. Schievella concluded with the following:

Consider the arithmetical (or mathematical) equation  $1+1=2$ . Although it can be mathematically proved, it cannot be verified, since it has been established only by definition. This is the case with all arithmetical (numerical) and mathematical (alphabetical) values, such as 1, 2, 3, etc., and x, y, z, and the like.

Let us note, in passing, that these caveats apply as readily to conventional language as they do to mathematical and scientific language; that is, words do not have inherent (*i.e.*, absolute) meanings.

Moreover, it is clearly evident that *all* claims to truth and knowledge cannot be verified as absolutes, since they are based on definitions, perceptions, and/or conceptions.

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 Phone: 954-722-5243  
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ROBERT A. VANSON



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