

OBSERVER

Volume 3 Issue 1

Summer 2007

Special points of interest:

- Star Parties
- Lectures
- Light Pollution Mapping
- Educational Outreach

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STARLAB 2007 Fundraising/ Demonstration Tour

The Island Astronomy Institute rented the STARLAB Portable Planetarium for an exciting demonstration tour the last two weeks in May. Teachers, school-children and principals responded with enthusiasm



to the presentations!

Starting with Tremont Elementary School on May 11, the Institute visited the four elementary schools on Mount Desert Island, and then headed off the island

to Mountain View Elementary School in Sullivan, Peninsula Grammar School in Winter Harbor, and the Ella Lewis School in Steuben. To complement the school events, public demonstrations were

held in the Tremont Community Building, Harbor House, MDI YMCA, and Mt. Desert Elementary School and Peninsula Grammar school.

One aim of the tour was to show large donors how the Institute can help the region's schools. At \$65,000, the STARLAB is far too expensive for any one school in Maine, so we plan to share this resource with as many schools as possible.



We are receiving enthusiastic letters of support from the schools that participated in STARLAB 2007; these letters will be included in grant applications to help us purchase this valuable equipment.

We will have additional opportunities to showcase the Digital STARLAB in September 2007, when we will have the equipment on loan for two weeks, thanks to an anonymous donor.

Starlit Communities wins MCF Grant

The Maine Community Foundation has awarded the Island Astronomy Institute a grant of \$3,500.

Our Hancock County Community Building Program application was supported by letters from Acadia National Park,

Pemetic Elementary School, and the Hancock County Planning Commission.

With the ultimate goal of protecting our starlit skies through passage of municipal lighting ordinances, this grant will be used to help municipali-

ties seeking to protect the region's dark skies.

We will develop and present a workshop for the Hancock County Planning Commission's respected "Striking a Balance" series to promote Maine's first outdoor

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The Perseids are coming! By James Cormier

The perennial favorite sky event of August is the Perseid meteor shower. 2007 is a great year for viewing the Perseid shower because the moon is new on August 12th, the peak evening of the shower.

Highest counts will be after midnight on the morning of the 13th: when as many as 100 meteors per hour can be seen.

The 12th and 13th represents the peak of the Perseids. However, many can be seen several nights prior and after this

date, so try viewing the Perseids on the Friday and Saturday night prior to the peak.

“a great year for viewing the Perseids”

One of the oldest known meteor showers, the Perseids were recorded by the Chinese

in 36 AD. The source of the shower is Comet Swift-Tuttle. The comet’s orbit intersects Earth’s and provided a trail of debris that the Earth passes through every year at the same time.

The meteor shower peaks when Earth passes through the thickest part of this debris. Meteors entering Earth’s atmosphere travel at speeds of 130,000 miles per hour! That is why if you blink, you just might miss one!

Got Glove? Hands-on Educational Outreach

This fall the Institute’s outreach program brings hands-on education to five lucky schools with an opportunity to try on Peter Homer’s space glove.

Peter invented an elegant solution to a problem that has vexed NASA astronauts and engineers since the dawn of the space age:

working in space is actually very exhausting. Nothing makes this clearer to students than putting their hands in Peter’s glove. In a



homemade vacuum chamber, his glove stiffens like an inflated tire - but not as stiff as the current NASA glove.

The problem was so difficult to solve that NASA awarded Peter \$200,000 for his improvement.

Developed for only \$500 on his kitchen table, the new glove design shows how rapid prototyping can produce remarkable results.

When two classes of Pemetec students tried on each of Peter’s many prototypes in June, they got to experience

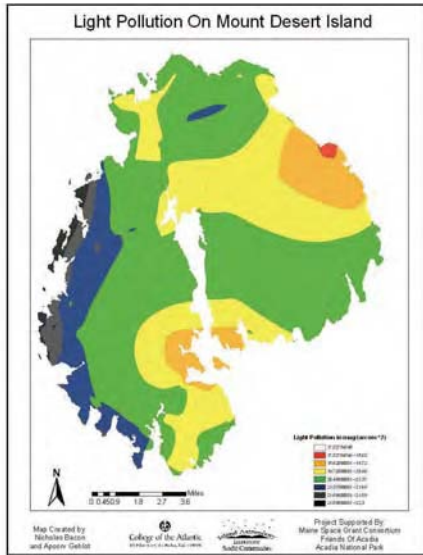
exactly how engineers use so-called “mistakes” to pro-



duce truly innovative designs. Students got the opportunity to feel how pressure, force, work, and energy are related. When combined with an explanation of the demands of life support, it’s an integrated physical and life sciences experience that students can truly grasp and hold onto.

First Light Pollution Map of MDI

The first light pollution map of Mount Desert Island was created by College of the Atlantic students Nicholas Bacon and Apoorv Gelhot from the Geographic Information Systems Laboratory. Working in collaboration with Peter W. Lord as part of the Island Astronomy Institute's new Starlit Communities Project., the two COA students gathered 140 data points over two moonless nights this April.



The map documents loss of natural starlight caused by artificial sky glow. This glow covers most of the United States and is the result of exterior lighting that unintentionally shines up into the sky, where it is called "light pollution." The results are plotted using the scale employed by the World Atlas of Artificial Night Sky Brightness. As hoped, the map documents the existence of nearly pristine dark skies (black) on the western edge of Mount Desert Island. The map also indicates the emer-

gence of very high metropolitan levels of light pollution (red) in the commercial district of Bar Harbor. The map clearly shows the impact from the growth of the Island's largest towns. Enough data was collected over two "all-nighters" to reveal local influences such as the MDI High School and Town Hill business district. The team's next goal is to increase the map's resolution with even more data collected by Institute volunteers and school groups. The new data will make it possible to track seasonal, monthly, and weather-dependent changes. As the number of people on the Island grows this summer, the impact of light pollution is expected to grow measurably worse

Starlit Communities Grant – continued

To showcase lighting designs that save energy, improve safety, and protect our starlit skies, we will be promoting Starlit Community Demonstration Projects, such as the remodeled Pat's Pizza in Ellsworth. At Pemetec Elementary School in Southwest Harbor, we will work with teachers on an innovative student service-learning project to

measure light pollution levels with economical handheld light meters. The STARLAB planetarium will return and be used to show students how to use the light meters to measure the difference between good and bad lighting designs.

"save energy, improve safety, and protect our starlit skies"

The MCF grant will be combined with \$15,000 from Friends of Acadia to secure a matching grant of \$20,000 from the National Park Service, Challenge Cost Share Program for a total of \$40,000 to protect our endangered starlit skies.

STARLAB 2007 Raffle Winner



Caleb Geary, of Tremont, stands next to his new telescope, presented to him by the Island Astronomy Institute's director, Peter Lord. Caleb toured Mr. Lord's Meadow View Observatory, where he learned to use his telescope.

Caleb's winning raffle ticket helped pay for the Institute's regional campaign to purchase a portable STARLAB planetarium. See our online STARLAB page for details about this amazing new equipment and our fundraising efforts: www.islandastro.org/starlab.html



Educating Maine's Starlit Communities

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Our Mission

To provide programs, facilities, and resources to schools, teachers and the public that promote astronomy as a stimulating educational and cultural activity for people of all ages.

Starlit Communities puts space technology to work in Maine

STARLAB Digital Planetarium

Help us reach 100 members in 2007

___ (\$25) Member ___ (\$35) Family
___ (\$50) Friend ___ (\$100) Sky Gazer
___ (\$150) Nova ___ (\$250) Super Nova

Name(s) _____

Address _____

Town _____

State _____ Zip _____

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The Island Astronomy Institute is a 501 (c) 3 tax exempt corporation. Contributions are tax deductible to the full extent permitted by law.

Our Newest Advisory Board Members

Kyle Bissell



Peter Homer



Summer Events

Sat. July 14

Star Party Somes Sound Picnic area. 8:00 PM.

Sat. July 21

“Of Curiosity & Starlight,” lecture at 5:00 PM, Humbolt Field Research Institute, Steuben. 207-546-2821

Optional dinner after the lecture - 6:30-7 PM. Reservations preferred by Friday evening. \$25.

Thurs. July 26

Solar Program for Children, Jessup Library, Bar Harbor. 10:00-11:00 AM

Tues. August 14

“Night of Stars,” College of the Atlantic, Beech Hill Farm, Perseids Viewing

Fri. August 24

“Of Curiosity & Starlight,” lecture at College of the Atlantic, Dorr Museum. 7:30 PM.

Sat. Sept 8

Star Party Somes Sound Picnic area. 6:45 PM.

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