# ASTRONOMY IN THE U.S. VIRGIN ISLANDS:

# The Etelman Astronomical Observatory

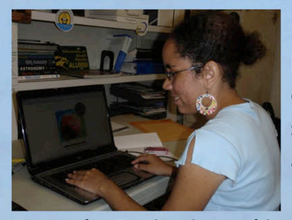
*C. Gómez Martín, C. Benjamin, O. C. Thomas*

*University of The Virgin Islands*

## History & Location

Located in the Caribbean Island of St. Thomas, U.S. Virgin Islands (18°, 21 N, 65°W, 420 m) amidst the ruins of an old sugar cane estate – *Estate Bonne Resolution* - the Etelman Astronomical Observatory (EAO) is the southeastern most optical observatory in the U.S.A. The Estate was donated to University of the Virgin Islands (UVI) in the 1960s by Mr. Harry Etelman.

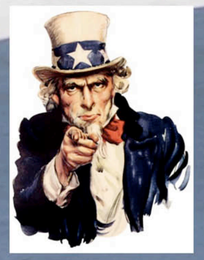
EAO houses a 0.5-m Cassegrain robotic reflecting telescope. In 2003, the current telescope replaced the original one installed by Mr. Etelman during the construction of the facilities. EAO was struck by lightning in 2005, and was over-hauled shortly thereafter. The facility was then virtually abandoned until the overhaul was completed in 2008-2009.



In 2009, Prof. Gómez Martín joined UVI as the director of EAO. Together with a group of students she has been working to establish a comprehensive astronomical research program at UVI.

Cassandra Benjamin working on an outreach presentation

The telescope is used primarily for research by several members of the NASA South Carolina Space Grant Consortium, which includes the University of the Virgin Islands, College of Charleston, and the University of South Carolina. Funding for the observatory is made possible through the NSF and NASA. UVI is a HBCU with a student population of 2700.

We are actively seeking:

1. Development Office donations, granting
2. Research collaborators
3. Volunteers/Assistants
4. Visitor Center
5. Transportation

## Our Vision

*To serve as an integral part of the Virgin Islands community both as an educational and motivational source. Components:*

1. Astronomical Observatory
2. Botanical Garden
3. Green Estate

## Astronomy

At EAO, we are preparing to become operational by 2011. We plan to implement a full research program with an outreach component to educate the community.

Research Interest has been expressed in the following areas: exoplanets, flares, and gamma ray burst detection. We are also working with Arecibo to implement collaborations and the Winter School of The Caribbean Islands.

Outreach programs:

**In Place:** *The Traveling Starlab Program* to bring astronomical education to less privileged areas, and *The Annual Fun with Physics Day* hosted with the APS.

**Future:** weekly public nights, special groups, workshops for educators.

EAO will also serve as an academic facility, where astronomy classes will be taught, as well as allowing members of the public to experience the *Be an Astronomer for a Day*.

## Botanical Garden

The Garden will illustrate the native flora and fauna of the Virgin Islands.

Our aim is to educate the Virgin Islands' community about its surroundings and to conserve and live in harmony with the environment.

*Our Plan:*

1. Restore it to its original grandeur
2. Remove exotic invasions
3. Enrich with more VI native species
4. Curational Program
5. Produce Botanical Arboretum Booklet
6. Conservation Program:
   a) Endangered species: e.g. Calyptranthes Tomasiana
   b) Feature & conserve rare plants
   c) Ex-SITU Plant conservation

## Green Estate

We propose to make the Etelman Estate a *Green Estate* so it may serve as a direct research and teaching tool in the areas of renewable energy and conservation.

A common argument against renewable sources of energy is that it is too time consuming and costly. However, the long-term costs both financially and environmentally are significantly more affordable than the alternative.

Powering a research grade telescope requires a vast energy source. The location of Etelman affords it the ideal opportunity to take advantage of two renewable energy sources that are in abundance and are capable of sustaining the facilities' energy cost and possibly even generate revenue . Available Sources of Energy:

**Solar:** We plan to cover the facility's roof with solar panels.

**Eolic:** At an altitude of 400 meters, winds speeds are rather large. A wind turbine correctly positioned can supply enough power to operate the observatory.

The overwhelming interest and willingness shown towards the project by the community, together with the precarious situation of St. Thomas (regarding renewable sources of energy, recycling, and conservation), shows that not only is making the observatory functional beneficial for the university but rather a necessity for the territory.

UVI must serve the community as a group of leaders and secure our children's future by teaching, preserving and conserving this amazing piece of paradise that so many people take for granted and exploit by constantly depleting it of its natural resources and beauty.

We intend to educate the VI community to think and act GREEN. We have started our work through *The UVI Green Ambassadors Program* is a group of students, lead by Prof. Gómez Martín, dedicated to promoting *green habits* through community outreach.

The Etelman Estate offers UVI a unique opportunity to place itself above other universities of the region by establishing itself as a world class research facility and offering UVI the opportunity to reach out to the community and inform them about cost-saving *green* alternatives that will benefit the Virgin Islands for generations to come.

Left to right: O.C. Thomas, J. Donnell working in the control room.