

# Astronomy at Eastern University

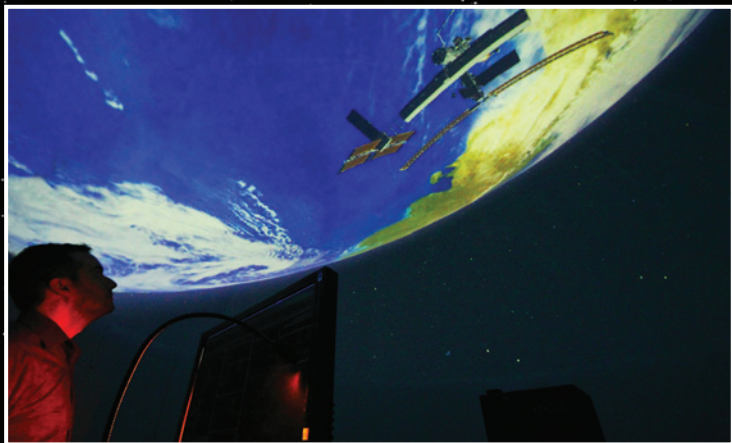
A man in a dark shirt is looking at a large curved screen displaying a fiery, orange and yellow celestial scene. A smaller screen in the foreground shows the text 'The Bradstreet Observatory and Julia Fowler Planetarium'. The background features a bright blue and white nebula-like structure against a dark sky.

*The Bradstreet Observatory  
and  
Julia Fowler Planetarium*

## DIGITAL UNIVERSE

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The Julia Föwler Planetarium offers an invaluable experience for Eastern University students and visitors alike. We host thousands of guests each year – and all our visitors see dazzling shows while learning about aspects of the cosmos they can't enjoy in any other astronomy facility. The Planetarium boasts a full-dome digital projection system called the Spitz SciDome that transports our audiences not only to the night sky, but also to distant places in our universe.



## PUBLIC PROGRAMS

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The most popular public planetarium presentation that we offer is the perennial favorite *Star of Bethlehem*. A form of this program began at Eastern in 1972 and has been offered nearly every year since. Completely revised and modernized for our SciDome projector in 2007, it is given more than a dozen times each December to consistently sold-out performances to reservation-only audiences.

Other public shows given in the past and still available to private groups include: *Black Holes*, *Stars*, *We Are Astronomers*, *The Little Star That Could*, *Astronaut*, *Infinity Express*, *Two Pieces of Glass*, *Fractals*, and *The Zula Patrol*.

## The Julia Fowler Planetarium

*“Best place to ponder the Heavens.”*

*- Main Line Today*

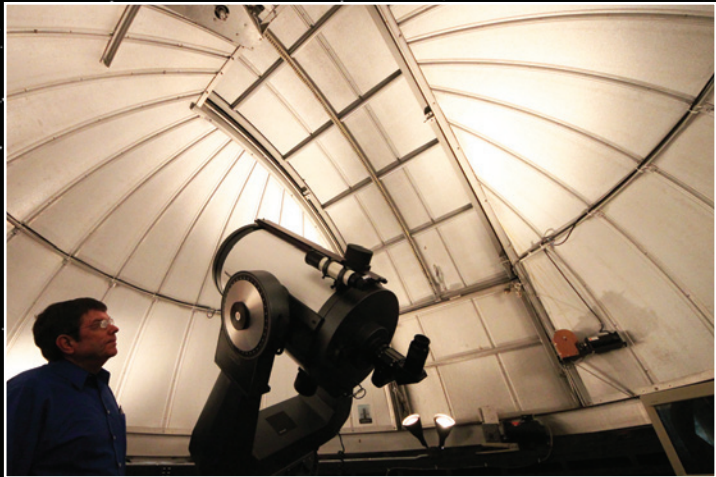


# The Bradstreet Observatory

## TO SEE THE UNIVERSE

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The Bradstreet Observatory at Eastern University consists of two 16-inch diameter Meade LX200 Schmidt-Cassegrain telescopes. The telescopes are housed in 14.5-ft. diameter domes that are completely computerized and afford access to any region of the sky while simultaneously protecting the equipment from vibration due to wind. The telescopes are also fully computerized and can automatically point to any objects in their databases. Supplementary pointing capabilities have been added via auxiliary computers, located in a large climate-controlled warm room, that have extended the database to over 526 million objects!



## STUDENTS AND RESEARCH

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Although visual observations are an integral part of the educational program, the Observatory really shines in its capabilities for astrophotography and research. Two Santa Barbara Instrument Group (SBIG) ST10XME CCD cameras form the heart of the Observatory's success story. The Observatory is used heavily by the non-science major core astronomy students throughout the semester to fulfill their primary lab requirements. Besides astrophotography, these state-of-the-art digital cameras are also utilized for research by monitoring variable stars, mostly eclipsing binaries. Our undergraduate astronomy majors and minors actively participate in research endeavors and have presented numerous papers at professional astronomical meetings.

# Public Offerings

## PUBLIC NIGHTS

During the fall and spring semesters, the Observatory offers free tours on Tuesday evenings. Up to 15 people can visit at a time (by reservation only) to view the night skies through our large telescopes. These tours last an hour and a half. You will view the visible planets and brighter celestial objects of the season, and have the option to take photos of celestial objects using state-of-the-art digital cameras. To make reservations, e-mail Observatory Administrator Steve Sanders at [ssander2@eastern.edu](mailto:ssander2@eastern.edu)

## SCHOOL VISITS

Numerous school and Scouting groups visit the Planetarium and Observatory throughout the fall and spring semesters. Students from PreSchool (age 4) through college age will learn about the moon, solar system, seasons, constellations and black holes. Boy and Girl Scout groups usually cover the entire listing of astronomy badge requirements in a 2-hour visit. The charge is \$5 per student with a \$100 minimum charge to use the facilities. Programs in the Planetarium are usually 35-50 minutes (depending on the age group) with a 30-minute visit to the Observatory where we observe the Sun and inspect this modern facility. To reserve a date and determine a topic, contact Dr. Bradstreet at [dbradstr@eastern.edu](mailto:dbradstr@eastern.edu).

“ *This was the best event we’ve ever experienced with the Radnor Conservancy group. You presented a well put together presentation, coupled with a much appreciated enthusiasm for learning.* ”



“ *This is our favorite and most enjoyable field trip of the entire school year! We keep coming back year after year and wouldn’t miss it for anything. Our students love everything that you do!* ”

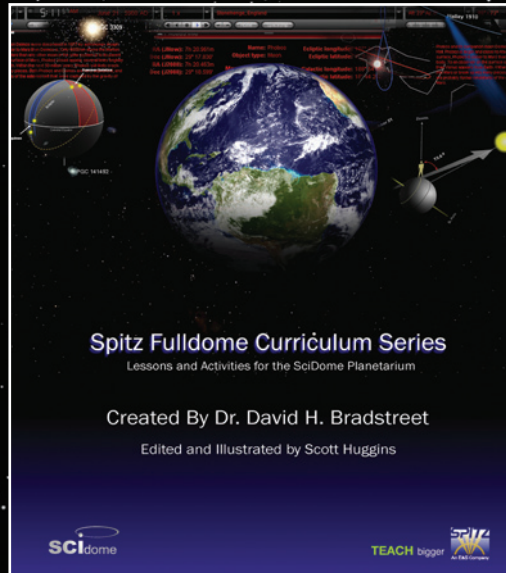
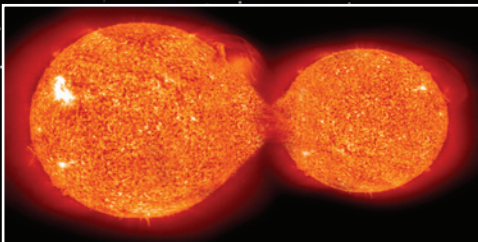


Immerse Students in the

# Fulldome Curriculum

## REVEALING THE UNIVERSE IN NEW WAYS

The first planetarium resource of its kind, the Fulldome Curriculum is an unprecedented series of classes and short demonstrations designed for teaching astronomy in an immersive dome setting. Created exclusively for Spitz, Inc. by Dr. David H. Bradstreet, Eastern University's Planetarium and Observatory Director, the Curriculum uses the spherical, 3D qualities of the dome to explain the most commonly taught planetarium subjects, including phases of the moon, seasons, coordinates, planetary motion, time, eclipses and much more. Spitz' Fulldome Curriculum is included with each Spitz SciDome system and is being used by planetariums worldwide.



*"The Fulldome Curriculum, Dr. David Bradstreet created for Spitz, Inc. has changed how we and the planetarium industry view education in the dome. His teaching scenarios use unique three-dimensional perspectives, and never-before-seen visualizations that have fundamentally reimagined astronomy teaching. Not only does Dr. Bradstreet explore subjects that are rarely taught in the planetarium - he layers his curriculum with wit, practical knowledge, and refreshing observations about why the universe works as it does. He brings a comprehensive understanding of education and presentation to space-science education.*

*Dr. Bradstreet has worked with us for years to guide and refine Spitz' presence in the planetarium community. His enthusiasm for teaching, and his seemingly endless knowledge of astronomy have established credibility for our company we would not have had without his input and instruction."*

*Scott Huggins  
Director of Marketing at Spitz Inc.*

# Contact



*For Public Nights:*  
Steve Sanders  
ssander2@eastern.edu  
or 610.341.1390

*For School, Scouting and Church Field Trips:*  
Dr. David Bradstreet  
dbradstr@eastern.edu



The McInnis Learning Center  
Julia Fowler Planetarium, 3rd Floor  
Bradstreet Observatory, 5th Floor

1300 Eagle Rd.  
St. Davids, PA 19087-3696

[www.eastern.edu/astronomy](http://www.eastern.edu/astronomy)



The Orion Nebula (M42) taken by students at Eastern University. Taken with our ST-10XME camera and edited in Adobe Photoshop.



M51 the Whirlpool galaxy, taken over many hours by students at Eastern University. Seen with the companion galaxy (NGC 5195), it is a good example of intergalactic collisions!