

# FROM EARTH TO THE Universe



**Rhodes College  
SPS Chapter  
2009 Marsh  
White Award  
Final Report  
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As part of the International Year of Astronomy (IYA), Memphis hosted the NASA-sponsored “From Earth to the Universe” exhibit. A cornerstone project of IYA, “From Earth to the Universe” is a breathtaking display of astronomical images from the world’s greatest ground and space based telescopes. The exhibit was housed in the foyer of the Memphis Central Library throughout the month of April. There were thirty two images displayed at a time. All images had captions in English and Spanish explaining the image. There were supplemental handouts in both languages explaining the exhibit and images. A local organizing committee for the exhibit included members of the Memphis Astronomical Society, Mr. Amit Kapadia (an IYA representative working with the Spitzer Science Center), and the Department of Physics at Rhodes College.

To kick off the exhibit in Memphis, Rhodes hosted the 2009 Peyton N. Rhodes Physics Lecture. Dr. Gordon Squires from the Spitzer Science Center joined Dr. Joannah Hinz from the University of Arizona to present “A Study in Scarlet: The Spitzer Space Telescope View of the Triangulum Galaxy.” Dr. Squires first spoke about the electromagnetic spectrum and how and why astronomers study all wavelengths. He brought an infrared camera with him which he used to show the audience how they looked in infrared. He had an audience member put a trash bag over their hand to show how infrared light allows you to see through certain objects. After the demo with the camera, Dr. Squires talked about NASA’s Great Observatories and the Spitzer Space Telescope. At the end of his talk, a new image taken by Spitzer of M33, the Triangulum Galaxy, was unveiled. He explained to the audience that this image had never been seen by the public before and that Memphis was getting a sneak peak before its official debut on April 3<sup>rd</sup> during the 100 Hours of Astronomy project. This got everyone really excited and the image was unveiled to a great reception from the audience. The image of M33 was added to the exhibit at the library. Dr. Hinz, who worked on the team responsible for the image of M33, spoke next. She started off talking about why we need to study galaxies in the infrared. For the remainder of her talk she discussed what we have learned from M33, including the galaxy being much larger than we had thought from the optical, the evolution of the galaxy, and the galactic dust. At the end, Dr. Squires and Dr. Hinz took questions from the audience about both M33 and Spitzer. Dr. Squires set up the infrared camera again and allowed everyone a chance to play with it. Before and after the lecture, Rhodes SPS students assisted by sponsoring and running a table with free astronomy goodies for attendees. Items available included *Eyes on the Skies* DVDs, IYA brochures, NASA IYA bookmarks, general IYA bookmarks, and Telescope Field of View cards.



Rhodes SPS students went over to the exhibit multiple times to serve as science liaisons by interacting with the public and answering questions. Several demonstrations were taken to help visitors understand how telescopes work and how astronomical images are gathered. These activities enabled users to obtain a better understanding of the science behind astronomical observing. Field of view cards were used to help participants understand the field of view that certain telescopes see. These cards contain a variety of holes in them representing the field of views of telescopes such as GALEX, the Chandra X-ray Observatory, a Backyard Telescope, Arecibo, the Spitzer Space Telescope and the Hubble Space Telescope. By looking through the various holes, users gained an understanding of how small many of the images displayed are in our sky. Another demonstration was a tactile surface of the moon. This was meant to help both visually impaired and non-impaired visitors understand the geography of the moon. There was a demonstration with pieces of foam and skewer sticks to display how reflecting telescopes work. After placing the skewers perpendicular to the foam, the users slightly curved the foam until all skewers met at the same point. It was explained that reflecting telescopes work in the same way. Rhodes SPS also took an 80mm refracting telescope to the display. By being able to look through an actual telescope, visitors gained a complete understanding of how telescopes work.

Rhodes SPS was pleased to contribute to the “From Earth to the Universe” exhibit as another part of its 2009 IYA-focused outreach. As part of IYA, Rhodes SPS has been holding monthly Observatory Open Houses, going into local school classrooms to talk about astronomy, and had a speaker from NASA’s Johnson Space Center for the 2009 Zone 10 Meeting. Helping with the “From Earth to the Universe” exhibit has helped the Rhodes SPS Chapter increase interaction with the Memphis Astronomical Society. We hope to build on this relationship next fall and beyond.

More information on the “From Earth to the Universe” cornerstone project can be found at <http://www.fromearthtotheuniverse.org/>.

