

Lake Metroparks Celebrates

# the INTERNATIONAL YEAR OF **Astronomy**

By Becky Parkin, *Interpretive Manager*

The International Year of Astronomy marks the 400th anniversary of Galileo using the first astronomical telescope. Celebrations will take place throughout 2009 to commemorate the contributions of astronomy to society.

**TRY TO IMAGINE LIFE AS IT WOULD HAVE BEEN 400 YEARS AGO.** The United States would not become a country for some 150 years. Pencils and horse drawn carriages were just starting to be used in Europe. Shakespeare was at his peak of writing, the Pilgrims had set sail for the Americas, Elizabeth I was Queen of England and all people believed in a geocentric universe (the idea that the earth is the center of the universe). This was the time when Galileo Galilei was preparing to use the first astronomical telescope to look up into the skies. This was a time when the science we take for granted today was first being discovered.

Galileo Galilei was born in Pisa, Tuscany (now Italy) in 1564 (the same year that Shakespeare was born and Michelangelo died). In the beginning of 1609, when Galileo was 45 years old, he heard about a new invention by Hans Lipperhey from the Netherlands. It was a telescope that could magnify an object by three times. Galileo had never seen a drawing from the Netherlands, but by the fall of 1609, after some readjustments he created the first telescope that could magnify objects by 20 times. By doing so, Galileo opened a whole new world. He

turned his eyes toward the skies and started to look closely at the moon and its surface with his amazing new tool. He drew the phases of the moon and observed that the moon was not smooth, but covered with craters and peaks. In January 1610, he observed four moons revolving around Jupiter. He realized that many more stars could be seen when using a telescope. He also observed that Venus has phases like the moon.

These observations were extraordinary. No one had ever seen or thought of these possibilities in the night sky. With these findings, Galileo could show that the Copernican idea of a heliocentric universe (the sun in the middle of the universe and the earth as a planet) was possible.

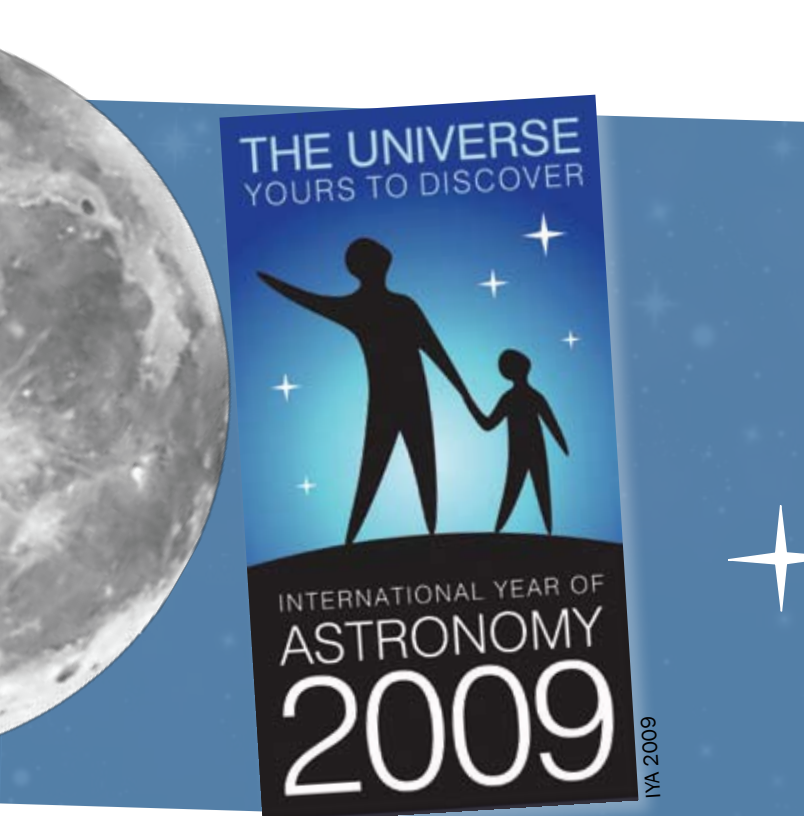
Throughout his life, Galileo published several books and papers on his view of the universe. He was always thoroughly questioned and told to keep his views quiet. But in 1632, Galileo published *The Dialogue*, which compared the heliocentric and geocentric models of the universe. This writing directly contradicted the theories of Aristotle, who believed in a geocentric universe. His theories stated that the earth was a



Portrait by Leoni

**“I’ve loved the stars too fondly  
to be fearful of the NIGHT”**

—Galileo



corrupt region and the heavens were perfect and unchanging. Galileo proved the changing of the universe by showing the moon's surface and the phases of Venus. If the moon was smooth, as it was thought at the time, then nothing had ever disturbed it and it was perfect, but the moon was covered with mountains and craters that were formed by impacts of rocks and other space debris. The phases of Venus proved that it was moving around the sun and not around the Earth. If Aristotle was wrong, then the heavens were not perfect and unchanging and therefore the religious leaders of that time felt these writings were blasphemous. Galileo was found guilty of heresy and put under house arrest for nine years, until his death on January 8, 1642.

Galileo's passion for astronomy has catapulted the human race into the space age. We now have a better understanding of what Galileo saw those many years ago, but what has never changed, is that Galileo changed the way that humans looked at the night sky. What he saw 400 hundred years ago is the same as what we see today! Lake Metroparks encourages you to step out at night and reconnect to not only the past, but to the future.

**LAKE METROPARKS INVITES YOU TO EXPLORE the night sky (just like Galileo) at several programs that are scheduled for this year:**

**MONTHLY**

Astronomy Night

**FEBRUARY**

Valentines Under the Stars

**MARCH**

GLOBE at Night  
Telescope 101

**APRIL**

Solar Experience

**MAY**

Ancient Astronomy  
A Night Under the Stars

**JUNE**

Wine and Cheese Solstice Hike

**JULY**

Telescope 101

**AUGUST**

Lunar Eclipse Viewing  
Super Star Party

**SEPTEMBER**

Full Moon Hike  
Equinox Hike

**OCTOBER**

A Day in the Life of Galileo  
Great Worldwide Star Count  
Telescope 101

**NOVEMBER**

Leonid Meteor Shower Viewing

**DECEMBER**

Geminid Meteor Shower Viewing

**ASTRONOMY 101**

Come and make your own telescope at **Telescope 101**. Make a star chart and connect the dots of the past. Enjoy a different astronomical feature each month at **Astronomy Night**. Discover the night sky with thousands of others as we count how many stars we can see at night during the **Great World Wide Star Count** and **GLOBE at Night**. **Super Star Party** will celebrate the life and times of Galileo and all of his contributions to the science of astronomy. Explore the sun and the moon and understand how ancient peoples used the night sky. Consult pages 7, 26 and 27, and look in future issues of *Parks Plus!* for details about these programs and more.



Galileo's telescope Istituto e Museo di Storia della Scienza, Florence