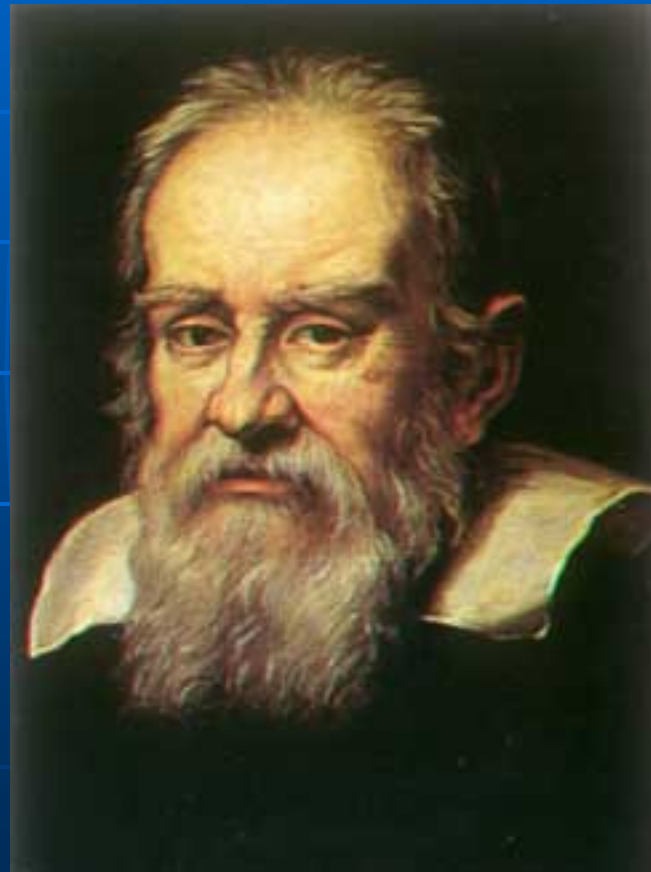
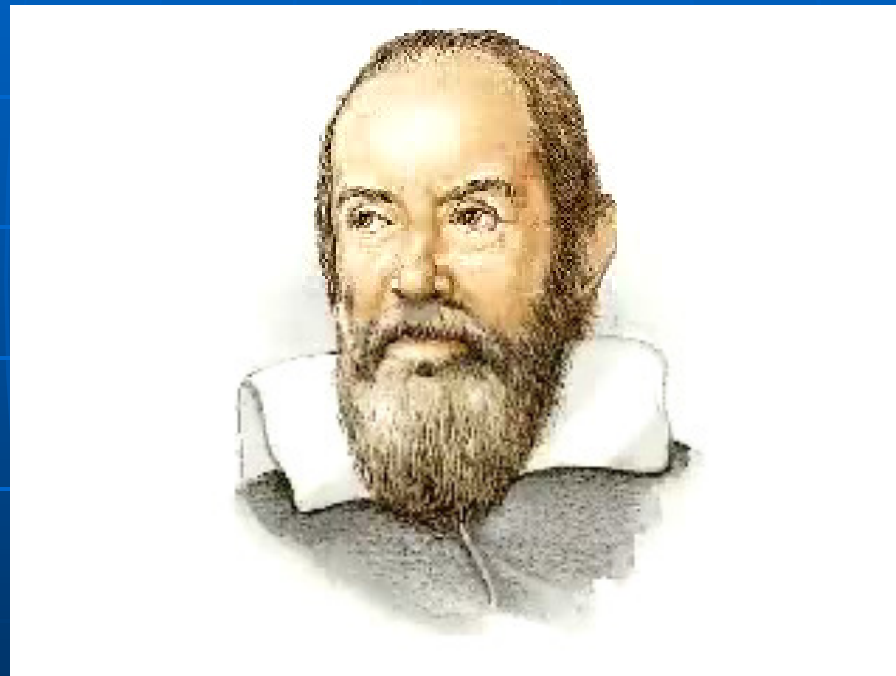


Galileo Galilei



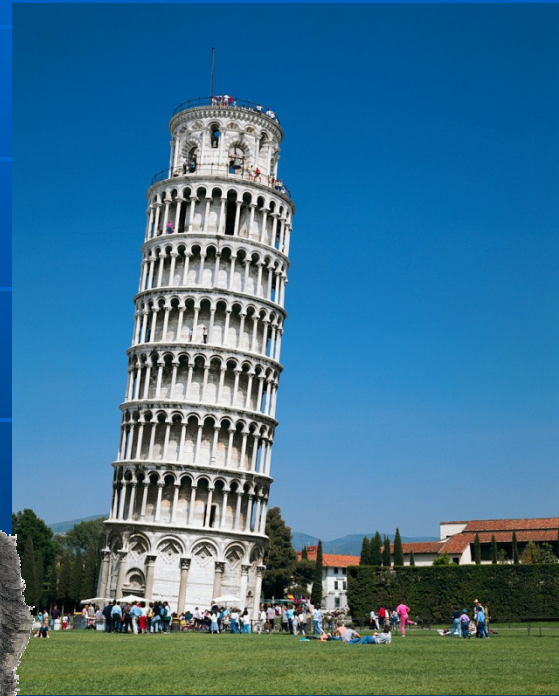
In his own words!



Early Years

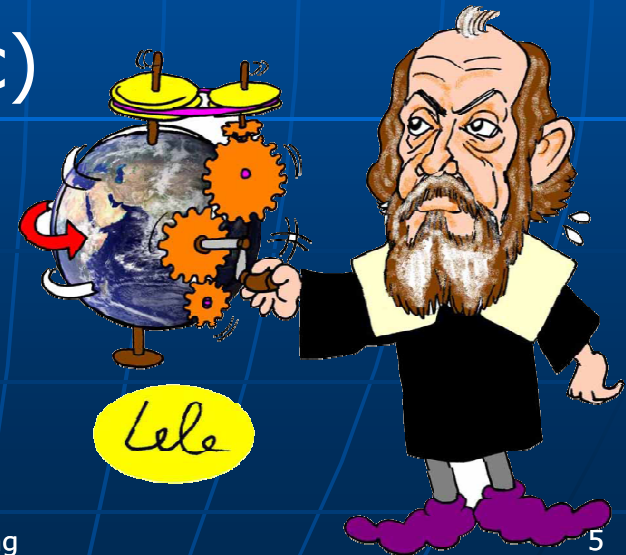
- Born 15 Feb. 1564 in Pisa
- Educated in Camaldolese Monastery
- Father wanted him to be a medical doctor
- Interested in mathematics

Pisa, Italy



Galileo's Personality

- Frequent strokes of creative genius
- Visionary-far reaching
- Very often (but not always) right
- Profound knowledge of scholastic philosophy
- Sarcastic (more than ironic)
- Self-confident
- True Catholic

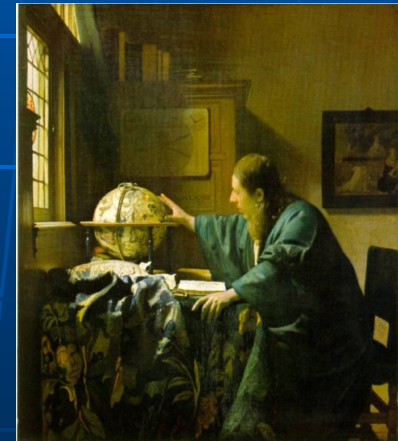


Discoveries

- Observed swinging lamps in Cathedral of Pisa and found period to be independent of the amplitude – idea for a pendulum clock
- Used inclined planes to prove that bodies do not fall with velocities proportionate to their weight but proportionate to time.
- Disproved Aristotle's view when he observed a supernova and showed that the new star could not be close to the earth by parallax arguments
- Found that projectiles follow a parabolic path


Galileo's Telescope

- Improved Dutch spyglass to achieve 8-9X magnification
- Observed mountains on the moon, the Milky Way composed of tiny stars, and sunspots
- Accurately measured the period for four of Jupiter's moons
- Saw that Venus showed phases like the moon did and must therefore orbit the Sun rather than the Earth

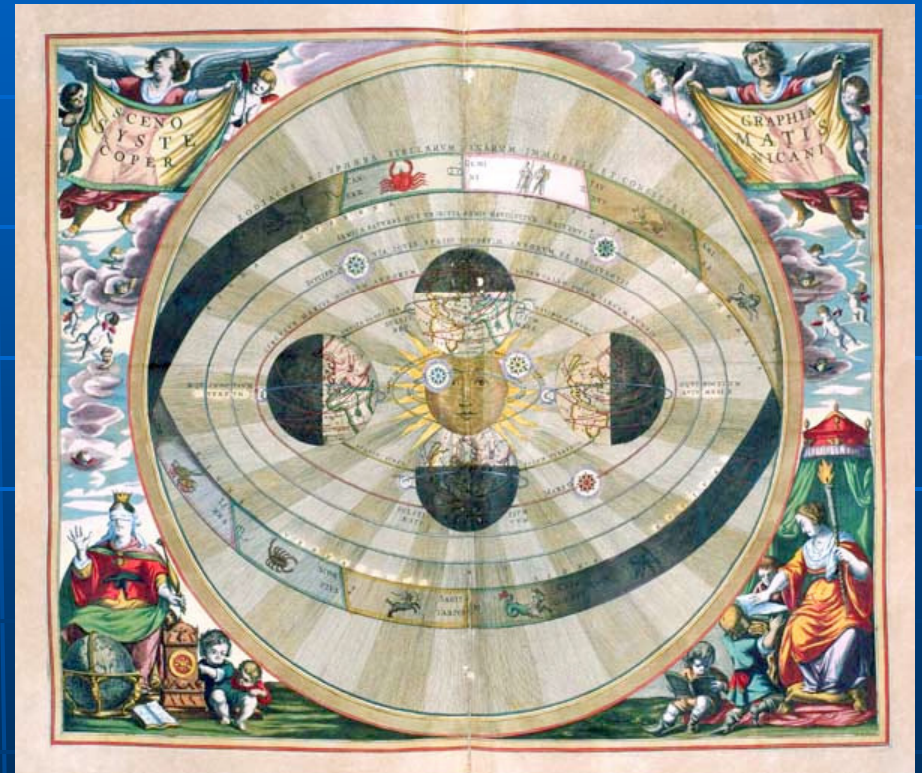
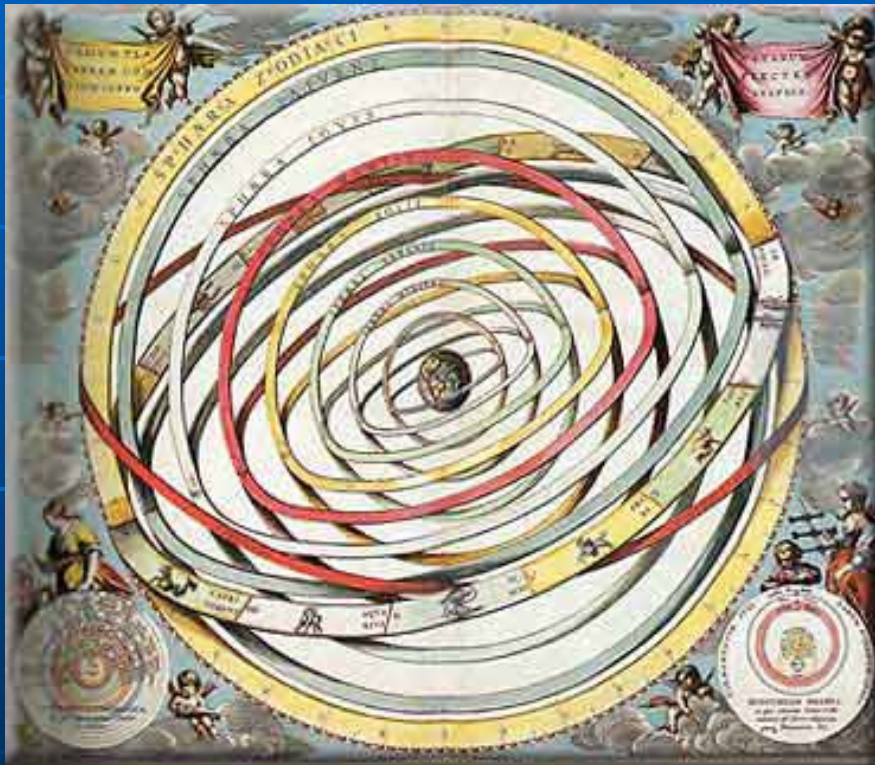


Quantum Leaps - Dr. J. Mior Fleming
College

Copernican Theory

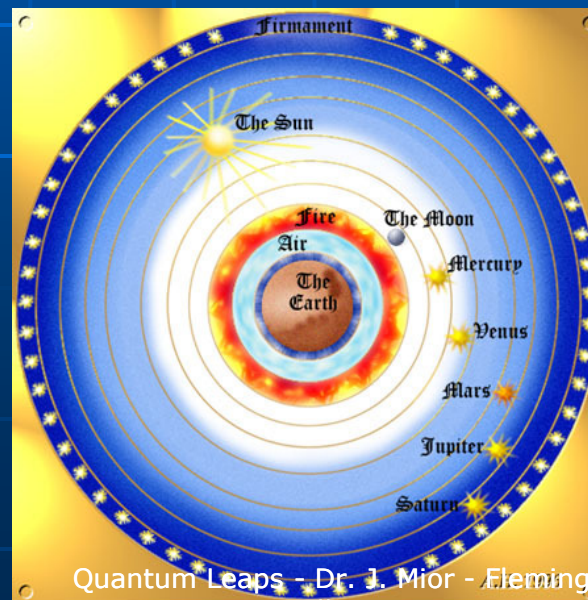
- “I hold that the Sun is located at the centre of the revolutions of the heavenly orbs and does not change place, and that the Earth rotates on itself and moves around it. Moreover ... I confirm this view not only by refuting Ptolemy's and Aristotle's arguments, but also by producing many for the other side, especially some pertaining to physical effects whose causes perhaps cannot be determined in any other way, and other astronomical discoveries; these discoveries clearly confute the Ptolemaic system, and they agree admirably with this other position and confirm it.” 
- In February 1632 Galileo published *Dialogue Concerning the Two Chief Systems of the World - Ptolemaic and Copernican* . -- Conclusion was right, but the proof was wrong

Ptolemaic vs. Copernican system



Aristotle's Cosmos

- The heavens, starting at the Moon, were the realm of perfection.
- The sublunary region was the realm of change and corruption.
- Christian philosophers liked the idea.



Quantum Leaps - Dr. J. Mior - Fleming College

Catholic Church

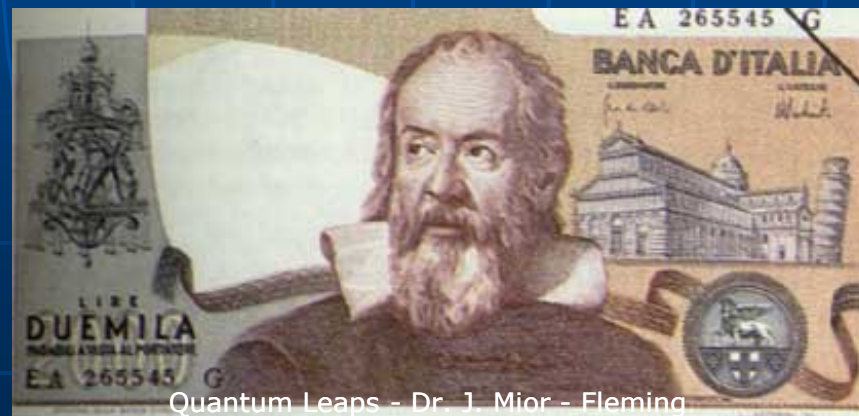
- Galileo found guilty of breaching the Inquisition of 1616 and sentenced to lifelong imprisonment
- Allowed house arrest rather than imprisonment
- On 31 October 1992 Pope John Paul II spoke on behalf of the Catholic Church admitting the theological advisors had made errors, but did not admit that the Church was wrong to convict Galileo on a charge of heresy because they were acting according to the best of their knowledge






Interesting Facts

- In 1588 Galileo was invited to give a lecture on the dimensions and location of hell in Dante's Inferno
- He described his 18 years as professor of mathematics at the University of Padua as the happiest years in his life



Quantum Leaps - Dr. J. Mior - Fleming
College

Cool Quotes

- [The universe] cannot be read until we have learnt the language and become familiar with the characters in which it is written. It is written in mathematical language, and the letters are triangles, circles and other geometrical figures, without which means it is humanly impossible to comprehend a single word.
Opere Il Saggiatore p. 171. 
- I have never met a man so ignorant that I couldn't learn something from him. (***“Io non ho incontrato mai un uomo così ignorante che io non potessi imparare qualche cosa da lui.”***)
- All truths are easy to understand once they are discovered; the point is to discover them.

Sources

- <http://www-history.mcs.st-andrews.ac.uk/Mathematicians/Galileo.html>

School of Mathematics and Statistics
University of St. Andrews, Scotland

- <http://galileo.rice.edu/index.html>
The Galileo Project.