OLLI SYLLABUS FALL, 2020

Course Title: "Deciphering the Cosmos: A Sampling of Famous Skywatchers"

Course Description/Outline:

Throughout history, individuals have watched the sky and noticed patterns. These patterns helped us unravel the way the universe works and the Earth's place in it. Dive into the lives of eight of these famous astronomers from the past in this lecture series. Learn of their discoveries and why they are significant in addition to their own trials and tribulations.

- **Week #1 - Nasir al-Din al Tusi and the ancient sky**
  - Introduction (and idea behind) the series
  - Ancient views of the sky
  - The role of Arabic astronomy (the greatest Arab astronomer?)
  - Astrology (and how to do it)

- **Week #2 - Galileo Galilea and the "Optik Tube"**
  - The life of Galileo
  - Science & religion
  - The telescope and how it works

- **Week #3 - Johannes Kepler and the laws governing the solar system and the motion of the planets**
  - The life of Kepler (old world vs new world)
  - Kepler's Laws
  - Extra-solar planets

- **Week #4 - Benjamin Banneker on the sky, eclipses, and the almanac**
  - The life of Benjamin Banneker
  - Surveying and the sky
  - Phases of the Moon and eclipses

- **Week #5 - Henrietta Leavitt and the cosmic distance scale**
  - The role of women in astronomy
  - Cepheid variable stars

- **Week #6 - Edwin Hubble and the expanding universe**
  - The boy from Marshfield, Missouri
  - Measuring velocity and distance (distance indicators)
  - The expansion of the universe

- **Week #7 - Cecilia Payne-Gaposchkin and the composition of stars**
  - The life of Cecilia Payne

- Spectra of stars
- Stellar composition
- The H-R Diagram and what it tells us

- **Week #8 - Leslie Peltier and amateur contributions to the science**
  - The kid from northwest Ohio
  - Variable star observing and other things to see from your backyard
  - How amateurs can contribute to the science of astronomy

Instructor Bio:

David Leake has been sharing the stars with the community since he saw his first constellation in 5th grade. He retired in the summer of 2019 after 30 years at the William Staerkel Planetarium at Parkland College, the last 20 as director. At Parkland, he taught Physics and Astronomy in addition to welcoming over 20,000 school children to the planetarium. In 2005, Dave won the ICCTA outstanding faculty member award, the first Parkland faculty to win the state award. He is also the co-founder of the Champaign-Urbana Astronomical Society, Inc. Dave was instrumental in working with local entities to acquire "dark sky park" status for the Middle Fork River Forest Preserve in 2018.

Contact Info: dleake@parkland.edu