



# KOPERNIK OBSERVATORY & SCIENCE CENTER

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## Winter Star Party

Saturday, February 23, 2013



6:00 PM **Members-Only Reception** (light refreshments provided)  
KOSC Members are invited to attend this informal reception to meet other members, get some early views through the telescopes (weather permitting), and kick off the Winter Star Party!

6:30 PM **Doors Open to the Public**  
Enjoy telescope observing (if clear) or tours (if cloudy). Take a tour through part of our galaxy with GeoWall, our special 3D projection system. Kids get to make and take home their own miniature Jupiter model.

7:00 PM **Comet Preview 2013**  
**Roy Williams, KOSC**  
Enjoy a short presentation about two comets heading this way and learn how to get ready to observe these rare heavenly sights. See a comet made right in front of your eyes!

7:30 PM **Mikołaj Kopernik Birthday Celebration**  
Polish astronomer and mathematician Mikołaj Kopernik, known in English as Nicolaus Copernicus, was born February 19, 1473. Help us celebrate his 540<sup>th</sup> birthday with cake and special Polish desserts.



8:00 PM **Things That Go Bump in the Dark**  
**Dr. Michelle Thaller, NASA Goddard Spaceflight Center**  
Astronomers think that everything we see in the universe makes up less than 4% of what actually is in the universe. How could this be? Is regular matter really such a small part of the universe? Newly discovered *dark matter* and *dark energy* are seriously mysterious things, however, experts are getting better at detecting and mapping both. What they are finding out is astonishing. These *dark matter* maps raise questions about the entire history of the universe, including how galaxies, stars, and planets formed in the first place. *Dark energy* may determine the fate of all matter, dark or otherwise, that exists. Come find out about these *things that go bump in the dark*.



Dr. Thaller is the Assistant Director of Science for Communications, NASA, Goddard Space Flight Center. Interested in astronomy since childhood, she trained as an astrophysicist and studies the life cycles of stars. She has been an observer on the Hubble Space Telescope, JPL's Spitzer Space Telescope, and many ground-based observatories. She is a masterful public speaker, having made numerous television appearances, including the Discovery Channel. After her presentation, Dr. Thaller will answer questions about this mysterious matter in deep space.

### Admission

\$5 adults, \$3 students/seniors, \$16 family maximum  
*KOSC Members are Free*



For information call (607) 748-3685 ext 315 or visit [www.kopernik.org](http://www.kopernik.org)