

SCAN to REGISTER

# Monarchs, Milkweed and the Milky Way

*Let there be night...*

6:30 PM

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The ability to see the Milky Way at night from one's front yard is just as much an indicator of a healthy, natural environment as is the presence of a pesticide free, natural habitat with natives that attract, say, the iconic monarch butterflies.

In this talk, Dr. Gokhale will provide a roadmap that will walk you through the steps you can take to protect the natural nighttime conditions in your community.

Dr. Vayujeet Gokhale is an astronomer and a professor of Physics and Astronomy at Truman State University in Kirksville, Missouri. He loves the night sky, and is especially interested in preserving its beauty for future generations. He is presently working towards becoming a Master Naturalist.



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*Nocturnal pollinators use natural light from the stars and moon in the night sky to navigate. This light-seeking behavior draws them to artificial light where they become confused and trapped.*

*Point sources of light such as a single lamp post or porch light can attract and disorient insects.*

Artificial Light at Night (ALAN) may be one of the main contributors to firefly decline.

80% of fireflies found in North America are known to communicate with each other via bioluminescent flashes, flicker and glow.

These species are active at dusk or after dark, and artificial lights that are on at this time can make it harder for them to see each other and also makes them more prone to predation.

The resulting decreases in reproduction and survival could have severe consequences for firefly populations.

The monarch butterfly's annual migration is a marvel of nature. Each year, millions of monarchs embark on a journey spanning thousands of miles, relying on environmental cues—including the position of the sun and their internal circadian clocks—to navigate.



Even short-term exposure to artificial light at night was shown to desynchronize the monarch's biological rhythms, making it difficult for them to maintain their migratory course.

At night, the butterflies are normally at rest and quiescent, but as soon as a light is turned on, they behave as if it's daytime and expend energy instead of resting.



**You are an important part of protecting our nocturnal invertebrates and improving views of the night sky.**

1. Use outdoor lighting only where and when it is actually needed.
2. Use motion-detectors and/or automatic timers so lights.
3. Use light covers or shields so that light only shines down to the ground.
4. Keep landscape lighting low to the ground, and away from reflective surfaces.
5. If lighting is necessary, use yellow or orange light of appropriate intensity.
6. Close your curtains at night to keep your indoor lights, well, indoors.

