

# Program Descriptions

## Astrobiology: Searching for Aliens?

What can rocks tell us about ancient life on other planets and what exactly is astrobiology? Find out in this presentation by NASA and Blue Marble Space Institute of Science astrobiologist Sanjoy Som.

## Constellation Tours and Stargazing

Lassen's dark night sky is a treasure and the reason for our festival! Laser-guided tours of the constellations along with telescopes pointed at planets, star clusters, dying stars, and distant galaxies.

## Charles Messier - Looking for Comets and Finding the Universe

Learn about how one man's search for comets has led to a lifetime of knowledge about our universe. Extraordinary pictures and fascinating facts about comets will be shared!

## Exploring Mars for Evidence of Life

Evidence of interactions between volcanism and water has been discovered on Mars. NASA senior research scientist, Dave Des Marais, explains how Lassen is studied to search for clues of ancient life on Mars.

## How Hot Springs Support Life

NASA scientist Kirsten Fristad will delve into the formation and chemistry of hydrothermal systems that can support life in unbelievably extreme conditions.

## Fact or Fiction Quiz Show

How much do you know about astronomy and the night sky? This interactive quiz show is a blast for kids and families. You will be sure to have fun debunking astronomy myths and misconceptions.

## Future Parks of Our Solar System

In this well-illustrated presentation, you will take a tour of the top destinations of the solar system. Featuring the latest images and videos from robot space probes, we'll explore the wondrous places in our solar system.

## International Dark Sky Association Q&A

Would you like to save our remaining dark skies for future generations? Stop by and meet with the International Dark Sky Association to learn more about this disappearing resource and how you can help.

## Junior Ranger Astronomy Activities for 6 to 12 year olds

Junior Rangers will learn that "Half the Park is After Dark" through fun activities and take home some great lessons about the importance of preserving and protecting our dark night skies for future generations.

## Life on Other Worlds

What is the possibility of life, perhaps even intelligent life, on planets outside of our own? Join Mike Bennett, former director of the Astronomical Society of the Pacific for the latest on this fascinating topic.

## Looking Up and Seeing Farther

### Activities for Preschoolers

Fun activities for 3 to 5 year olds to introduce what can be found in the daytime and nighttime skies and the tools astronomers use to explore them. Safe viewing of the sun and moon, clear skies permitting.

## Microbes and Life on Other Planets

Join NASA and SETI Institute scientist Niki Parenteau in a discussion about how microscopic organisms in Lassen's hydrothermal areas help direct the search for life on other planets.

## Moon Over Lassen

A brief look at Earth's nearest neighbor. Explore the origins, distance, sizes and features (craters!) of our next door neighbor.

## Our Magnetic Sun

Be sure to stop by for this fascinating look at our closest star. Learn all about the life cycles of these celestial giants and get ready to safely view our sun through a specially designed telescope.

## Solar Scope Viewing

Come and safely marvel at our closest star through a solar scope and learn some surprising and interesting facts about the center of our solar system.

## Solar System Hike

How far apart are the planets? Come on this guided hike of our solar system on the Mill Creek Falls trail to find out... not to mention taking a great hike on a beautiful trail. Space is limited for this moderate, 4-mile hike. Reserve your spot at the KYVC.

## Solar System Volcanoes and Geology

Dramatic surfaces give us insight to the inner workings of planets. Delve deep to explore the insides of rocky planets and learn what they tell us about the formation of our solar system through fun activities.

## The City Dark Film Screening

Filmmaker Ian Cheney asks a simple question, do we need the stars? This critically acclaimed film features stunning astrophotography and a cast of eclectic scientists. *The City Dark* is the definitive story of light pollution and the disappearing stars.

## Two Years on Mars

Dave Blake, NASA senior research scientist, will share results from the first two years of the exploration by the Mars Science Laboratory focusing on the mineralogy of the Red Planet.

## Waganupa - The Center of the Universe

Northstate Public Radio host of *The Blue Dot Report*, Dave Schlom, covers such diverse topics as stellar evolution, SETI, the joys of amateur astronomy, the big bang, dark energy, galactic cannibals, death by black hole, and the pale blue dot. Get ready for an intellectual thrill ride through the cosmos!

# Lassen Volcanic Dark Sky Festival

## August 1 - 3, 2014



# Half the Park is after Dark!

From animals to plants and water to volcanoes, Lassen Volcanic National Park protects many different natural phenomena. One of the most spectacular is frequently overlooked—our incredible, dark, night sky. Lassen is one of the best places to learn about and enjoy the splendor of the night sky. Far from the light pollution of civilization, Lassen is one of the last sanctuaries of natural darkness. Whether you have yet to experience the grandeur of the Milky Way, or you are a dedicated amateur astronomer, Lassen’s dark skies offer an unparalleled view of the celestial wonders.

We welcome you to join NASA scientists, park rangers, and astronomers in celebrating all that is out of this world during the Dark Sky Festival. View the program schedule and descriptions enclosed to learn more about programs, presentations, hikes, and Junior Ranger activities.

## A few tips on night sky observation:

Dress warmly for nighttime events.

Do not use flashlights. Your eyes will become accustomed to the darkness.

Food, beverages, and smoking are prohibited.

Stargazing activities will be cancelled in the event of cloudy, stormy, or smoky weather.

If you don’t see the object through the telescope, let the operator know.

Averting your vision to the side of an object will often bring out more detail.

## Dark Sky Supporters

The Dark Sky Festival is made possible with support from the Lassen Association, NASA, Astronomical Society of the Pacific, Astronomical Society of Nevada, International Dark Sky Association, SETI, StarChaserz, California Guest Services and visitors like you.

# Program Schedule

Locations: [Kohm Yah-mah-nee Visitor Center \(KYVC\)](#) | [Bumpass Hell Parking Area \(Bumpass Hell\)](#) | [Manzanita Lake \(ML\)](#) | [Loomis Museum \(Loomis\)](#)

## Friday, August 1

Time	Event	Location
10:00a - 11:00a	The City Dark Film	KYVC
11:00a - 1:30p	Solar System Hike*	Mill Creek Falls Trailhead
12:30p - 1:30p	Our Magnetic Sun	Loomis
1:00p - 3:00p	International Dark Sky Association Q&A	Loomis
1:00p - 2:00p	Life on Other Worlds	KYVC
2:00p - 5:00p	Solar Scope Viewing	Bumpass Hell, KYVC, Loomis Plaza
2:00p - 3:00p	Looking Up and Seeing Farther	KYVC
3:00p - 4:00p	Exploring Mars for Evidence of Life	KYVC
3:00p - 4:00p	The City Dark Film	Loomis
4:00p - 5:00p	Fact or Fiction Quiz Show	KYVC
8:30p - 9:30p	How Hot Springs Support Life	KYVC Amphitheater
8:30p - 9:30p	Charles Messier - Looking for Comets	ML Amphitheater
9:30p - 11:00p	Constellation Tour and Stargazing	Bumpass Hell, KYVC, ML Amphitheater

\* Space is limited for the Solar System Hike. Stop by the KYVC to reserve a spot.

## Junior Ranger Night Explorer

Junior Rangers ages 5 to 12 can earn a Night Explorer patch by completing activities in the Night Explorer workbook. Get your book at KYVC or the Loomis Museum. Supplies are very limited.

## Saturday, August 2

Time	Event	Location
9:30a - 11:30a	Jr. Ranger Astronomy	ML Amphitheater
10:00a - 11:00a	The City Dark Film	KYVC
11:00a - 1:30p	Solar System Hike*	Mill Creek Falls Trailhead
12:00p - 4:00p	NASA Astrobiology	Sulphur Works
12:30p - 1:30p	Our Magnetic Sun	Loomis
1:00p - 3:00p	International Dark Sky Association Q&A	Loomis
1:00p - 2:00p	Microbes and Life on Other Planets	KYVC
2:00p - 5:00p	Solar Scope Viewing	Bumpass Hell, KYVC, Loomis Plaza
2:00p - 3:00p	Solar System Volcanoes	KYVC
3:00p - 4:00p	Astrobiology: Searching for Aliens	KYVC
3:00p - 4:00p	The City Dark Film	Loomis
4:00p - 5:00p	Future Parks of Our Solar System	KYVC
8:30p - 9:30p	Exploring Mars for Evidence of Life	KYVC Amphitheater
8:30p - 9:30p	Waganupa - The Center of the Universe	ML Amphitheater
9:30p - 11:00p	Constellation Tour and Stargazing	Bumpass Hell, KYVC, ML Amphitheater

## NASA Astrobiology Tent

Meet with NASA scientists to find out more about astrobiology—the study of the origin, evolution, distribution, and future of life in the universe! Stop by Sulphur Works and take home something from NASA. Saturday and Sunday only.

## Sunday, August 3

Time	Event	Location
9:30a - 11:30a	Jr. Ranger Astronomy	ML Amphitheater
10:00a - 11:00a	The City Dark Film	KYVC
11:00a - 1:30p	Solar System Hike*	Mill Creek Falls Trailhead
12:00p - 4:00p	NASA Astrobiology	Sulphur Works
1:00p - 3:00p	International Dark Sky Association Q&A	Loomis
1:00p - 2:00p	How Hot Springs Support Life	KYVC
2:00p - 5:00p	Solar Scope Viewing	Bumpass Hell, KYVC, Loomis Plaza
2:00p - 3:00p	Future Parks of Our Solar System	KYVC
3:00p - 4:00p	Microbes and Life on Other Planets	KYVC
4:00p - 5:00p	Fact or Fiction Quiz Show	KYVC
8:30p - 9:30p	Two Years on Mars	KYVC Amphitheater
8:30p - 9:30p	Moon Over Lassen	ML Amphitheater
9:30p - 11:00p	Constellation Tour and Stargazing	Bumpass Hell, KYVC, ML Amphitheater

## Thank you!

Thank you for your interest in protecting dark night skies and for your attendance. We hope that you continue to be curious about the wonder of a starry night, and share your experience with friends and family. Donations received during the festival will benefit future astronomy events at the park.