

Program Descriptions

A Molecular Universe

Partha Bera, NASA Ames

Join NASA research scientist, Partha Bera, for this fascinating look at the origin, evolution, and fate of prebiotic molecules, the building blocks of life.

Art and Science Faire

Enjoy interactive exhibits where you can make space art, play with the sun, learn about preserving our dark sky, and meet people who study space for a living!

Ask a NASA Astronomer

Sachin Shenoy, NASA

Our universe is filled with mystery. From dark matter to black holes, here is an incredible opportunity to ask a NASA astronomer about anything that has sparked your cosmic curiosity!

A Starry Endowment

Chad Moore, NPS Night Sky Division (Former Director)

Something special happens to us under a starry sky. Our eyes fill with wonder, we may feel gratitude or find insight, and we gain a valuable perspective. How do we preserve this starry heritage to ensure that future generations can experience this profound and humbling gift?

Astrobiology - Life on Earth (and Elsewhere?)

Dr. David DesMarais, NASA Ames

The science of astrobiology investigates the origins, evolution, and distribution of life in the universe. Learn how scientists study stellar systems while searching for biosignatures that may indicate the presence of life.

Astronomical Speeds and Planetary Science

Dr. Buck Bateson, Bateson Observatory / RECON

Join Dr. Bateson on a journey through space and time. Learn how to orient yourself with celestial objects and marvel at their mind-boggling speeds and distances.

Come for the Stars, Stay for the Sun

Dr. Tyler Nordgren, University of Redlands

From starry skies to next year's solar eclipse, the national parks offer the premier location to see the beauty of nature above the horizon.

Exploring Mars for Evidence of Life

Dr. David DesMarais, NASA Ames

The climate of Mars has been more similar to that of Earth than has the climate of any other planet in our Solar System. Orbiters and rovers have found evidence of past water systems on the red planet. Today, the Curiosity rover is helping examine rock that preserved evidence of ancient diverse environments and climate changes spanning hundreds of millions of years.

Exploring the Outer Solar System

Dr. John Keller, RECON

Learn about RECON, a citizen science astronomy research effort involving students and teachers from over 50 communities across the western United States who are conducting coordinated telescope observations of objects out beyond Pluto.

From Fire to Ice, Where Do

Perseid Meteors Come From?

Suzy Gurton, Astronomical Society of the Pacific

Comets were long thought to be gasses in the atmosphere. Learn what they're really made of and how they create the reliable meteor showers we enjoy each year.

Juno at Jupiter / Our Sky Tonight

Gigi Giles, NASA Solar System Ambassador

After traveling 5 years and 1.7 billion miles, NASA's Juno spacecraft has arrived at Jupiter. Learn how this unprecedented mission will shed light on our understanding of the Solar System's formation and evolution. The presentation will be followed by a brief look at what will be visible in the sky tonight.

Kinesthetic Astronomy / Our Sky Tonight

Dan Ruby and Lou Loftin, RECON

Explore our cosmos through fun astronomy activities that get you moving! Find out what's currently visible at night and how to find and observe it easily.

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.

Our Place in Space

Suzy Gurton, Astronomical Society of the Pacific

Enjoy fun, hands-on activities focused on our place in the solar system. Perfect for kids of all ages. Bring the family and have a blast!

Postcards from Mars

Dr. David DesMarais, NASA Ames

Photographic images taken by orbiters and rovers have been essential for exploring and characterizing the surface of Mars. Take a visual tour of the Martian surface ranging from highlands, craters, volcanoes, canyons, polar caps, rivers, and giant springs and discover the processes that have shaped the stark yet beautiful Martian landscape.

Searching for Life with the

James Webb Space Telescope

Bonnie Meinke, Space Telescope Science Institute

Astronomers have discovered thousands of planets over the last 20 years, but we do not know if any could support life. NASA's upcoming James Webb Space Telescope can search for potentially habitable worlds around our nearest neighbor stars. Are we on the brink of discovery of another Earth?

Studying Interstellar Ices

Gustavo Cruz Diaz, NASA Ames

The word ice describes the solid state of water in a normal way of speaking. But, for astrophysicists "ice" comprises other kinds of volatile molecules in the solid phase. Come and learn more about how astrophysicists are studying ice in space.

Tyler Nordgren Book and Poster Signing

Dr. Tyler Nordgren, University of Redlands

Meet astronomer, artist, and author Dr. Tyler Nordgren. Dr. Nordgren will be available to sign copies of his book *Stars Above, Earth Below: A Guide to Astronomy in the National Parks* and Lassen's *See the Milky Way* poster available at bookstores in the Loomis Museum and Kohm Yah-mah-nee Visitor Center.

LASSEN VOLCANIC NATIONAL PARK

Dark Sky Festival



August 12 - 14, 2016



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.

We welcome you to join NASA scientists, park rangers, and astronomers in celebrating all that is out of this world during at the Lassen Dark Sky Festival.

Telescope Viewing

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

Telescope viewing will occur outside KYVC, in the Bumpass Hell parking area, and adjacent to the Manzanita Lake Campground D-loop.

Night Sky Observation Tips

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 may be cancelled in the event of cloudy, stormy, or smoky weather. Check with park staff for more information.

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.

Amateur astronomers are welcome to set up their own observation equipment at telescope viewing locations. Please check with staff on where to setup.

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.

Program Schedule

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

Friday, August 12

Time	Event	Location
9:30a - 11:30a	Jr. Ranger Astronomy	Summit Lake Amphitheater
10:00a - 11:00a	The City Dark Film	KYVC
11:00p - 1:00p	Solar Scope Viewing	Bumpass Hell
12:30p - 1:30p	Astronomical Speeds and Planetary Science	Loomis
1:00p - 4:00p	Art & Science Faire	Loomis Plaza
2:00p - 3:00p	From Fire to Ice	KYVC
3:00p - 4:00p	The City Dark Film	Loomis
3:30p-4:30p	Postcards from Mars	KYVC
8:30p - 9:30p	Astrobiology - Life on Earth (and Elsewhere?)	KYVC Amphitheater
8:30p - 9:30p	Searching for Life with the James Webb Telescope	ML Amphitheater
9:30p - 11:00p	Telescope Viewing	Bumpass Hell, KYVC, MLCG

Moon Viewing

A half moon will be visible until about 1 am. Although this will brighten the night sky, it also provides an opportunity to view its magnificent craters through telescopes at park viewing locations.

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.

Perseid Meteor Shower

Friday and Saturday, midnight through dawn

Sightings peak at 50 or more meteors per hour in a dark sky. To enjoy the show, simply dress warmly and hone your night vision by avoiding light sources—including your flashlight!

Saturday, August 13

Time	Event	Location
9:30a - 11:30a	Jr. Ranger Astronomy	ML Amphitheater
10:00a - 11:00a	The City Dark Film	KYVC
11:00p - 1:00p	Solar Scope Viewing	Bumpass Hell
12:00p - 4:00p	NASA Astrobiology	Sulphur Works
12:00p - 1:00p	Kinesthetic Astronomy / Our Sky Tonight	Loomis
1:00p - 4:00p	Art & Science Faire	Loomis
1:00p - 2:00p	Tyler Nordgren Book and Poster Signing	Loomis Plaza
1:00p - 2:00p	Our Place in Space	KYVC
2:00p - 3:00p	Ask a NASA Astronomer	Loomis
2:00p - 3:00p	Juno at Jupiter/ Our Sky Tonight	KYVC
3:00p - 4:00p	The City Dark Film	Loomis
3:30p - 4:30p	Interstellar Ices	KYVC
8:30p - 9:30p	Exploring Mars for Evidence of Life	KYVC Amphitheater
8:30p - 9:30p	Come for the Stars, Stay for the Sun	ML Amphitheater
9:30p - 11:00p	Telescope Viewing	Bumpass Hell, KYVC, MLCG

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.

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 the KYVC or the Loomis Museum. Supplies are limited.

Sunday, August 14

Time	Event	Location
9:30a - 11:30a	Jr. Ranger Astronomy	ML Amphitheater
10:00a - 11:00a	The City Dark Film	KYVC
11:00p - 1:00p	Solar Scope Viewing	Bumpass Hell
12:00p - 4:00p	NASA Astrobiology	Sulphur Works
12:00p - 1:00p	Exploring the Outer Solar System	Loomis
1:00p - 4:00p	Art & Science Faire	Loomis
2:00p - 3:00p	Juno at Jupiter/ Our Sky Tonight	KYVC
2:00p - 3:00p	Ask a NASA Astronomer	Loomis
3:00p - 4:00p	The City Dark Film	Loomis
3:30p - 4:30p	A Molecular Universe	KYVC
8:30p - 9:30p	Searching for Life with the James Webb Telescope	KYVC Amphitheater
8:30p - 9:30p	A Starry Endowment	ML Amphitheater
9:30p - 11:00p	Telescope Viewing	Bumpass Hell, KYVC, MLCG

Dark Sky Supporters

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

Thank you!

We appreciate your interest in protecting dark night skies. We hope that you continue to experience the wonder of a starry night and share your experience with friends and family. Donations received during the festival will benefit future park astronomy events.