

Come explore with the Planetary Society and
learn about discoveries on Mars, the Moon & More!

Arizona Skies

& New Discoveries • April 17-24, 2010

Dear Members & Friends:

We invite you to join us to explore new discoveries on Mars and the Moon and see the natural wonders of this desert paradise on **Arizona Skies & New Discoveries, April 17-24, 2010.**

We will gather in **Tucson, Arizona**, just south of the Santa Catalina Mountains, to begin our exploration of the spectacular desert landscape. Tucson is the "**Astronomy Capital of the World.**"

We will have the extraordinary opportunity to meet the scientist who postulated **the origin of our Moon** and learn about current research at the **Planetary Science Institute.**

At the **Arizona-Sonora Desert Museum**, which is surrounded by **Saguaro National Park**, there is a fascinating exhibit on the origin of life on earth. You will also have an opportunity to see spectacular desert plants and wildlife, including the iconic desert bird, the roadrunner!

On the north edge of the Santa Catalina Mountains, we'll visit **Biosphere 2** where scientists spent two years living under conditions similar to a space station or orbiting satellite. You will see different ecological habitats, their living quarters, and science laboratories, and have a **special lecture about this project.**

Our adventure will continue to **Kitt Peak** which has a large collection of optical telescopes. We will learn about their amazing research on the sun and then return to



Sunset courtesy of Taunya DeYoung/Mars Lander courtesy NASA/JPL

Tucson via the 300-year-old **Mission San Javier del Bac**, which beautifully represents the Spanish heritage of Tucson.

We will have a special lecture by the scientist in charge of the **Phoenix Mars Lander** (that completed its mission in 2008) which found water ice at the north Martian pole and compounds that have the ability to support life.

From Tucson, our adventure will next take us north to **Sedona**, where you may take a hot air balloon ride (a near earth adventure for Mars enthusiasts!). Explore **Red Rock State Park** (whose rock formations look like Mars). Then see **Palatki Heritage Park**, a UNESCO World Heritage Site that offers a wonderful glimpse into early native American life.

Near Flagstaff, we will visit the famous **Meteor Crater**. Walk to the edge and imagine the crater-pocked surface of the Moon, Mars, and other planets. Then enjoy an evening visit to **Lowell Observatory** where dark skies make the Milky Way a wonder to see!

We invite you to explore the extraordinary wonders in Arizona this year and hope you will join us!

Sincerely,

Dr. Louis Friedman
Executive Director



Arizona Skies Itinerary

Day 1 Home to Tucson, Arizona

Expedition members will fly from their nearest gateway city to Tucson, Arizona. Transfer by Stagecoach taxi to the *Lodge on the Desert (4 nights)*. Welcome social, orientation, and dinner. D

Day 2 Arizona-Sonora Desert Museum & Origins of Moon & Universe

This morning, we will have an introduction to the desert as we travel through Saguaro National Park to the Arizona-Sonora Desert Museum. This world-renowned zoo, natural history museum, and botanical garden has exhibits in the natural landscape of the Sonoran Desert. You may find yourself eye-to-eye with mountain lions, prairie dogs, Gila monsters, and more. There is also a superb exhibit of the origin of life on earth. We'll have lunch at the Museum and then visit the Planetary Science Institute (PSI) where research projects explore the origins of the Moon, solar system, and universe. PSI also manages the Dawn Mission with a rendezvous with Vesta in 2011 and Ceres in 2015. Lecture this evening on Biosphere 2. (B,D)

Day 3 Sabino Canyon & Biosphere 2

This morning, we'll explore the Sonoran desert with a tram ride and walk through Sabino Canyon in the Santa Catalina Mountains.



For hikers, there are diverse habitats with elevation change, and sweeping views of the desert landscape. The cliffside river provides a well-watered and shaded habitat for wildlife and many opportunities for observations and photography. We will depart in late morning for DeGrazia's Gallery in the Sun for a chance to see an authentic old homestead and an introduction to south-western art.

We'll continue north along the Santa Catalina Mountains (which are the center of an ancient volcano) to tour Biosphere 2, a self-contained complex from 1991 to 1994 that tried to duplicate what astronauts would encounter living in a different world. We will walk through the living quarters, and then enter the savanna wilderness and see a 40-foot ocean cliff by a tropical ocean. We will continue through the mangrove habitat, tropical thorn forest, and coastal fog desert environments. The rainforest has over 150 different species of plants with some 80 feet tall. We'll conclude with a walk to the lungs of the Biosphere.

In the late afternoon enjoy a visit to Saguaro National Park for a sunset walk or optional bike ride before dinner in the park. (B,D)

Day 4 Kitt Peak & Lunar & Planetary Laboratory

This morning, we will drive southwest of Tucson to Kitt Peak, situated in Tohono O'odjam Reservation. Here there is one of the highest concentrations of telescopes in the world, including the largest solar telescope. Visit the National Optical Astronomy Observatory and the National Solar Observatory. Learn about their newest discoveries that unlock the mysteries of the universe. Picnic lunch on the mountain top, then depart for Mission San Javier del Bac for a glimpse of Tucson's early Spanish heritage.

This afternoon, meet scientists from the Phoenix Mars Lander Mission that discovered water on Mars in 2009. Learn about their Mars discoveries and current research. Then explore the Space Imagery Center that has mapped much of the solar system and beyond. (B,L)

Day 5 Phoenix Botanic Garden & Sedona

After breakfast we will drive north through the Sonoran Desert to the capital of Arizona, Phoenix. We will have lunch at the Phoenix Botanic Garden. The Garden displays thousands

Phoenix Mars Lander Mission

According to the ancient Greeks, the phoenix is a bird the size of an eagle, sings a beautiful sunrise song, and symbolizes rebirth. The phoenix lives 500 years and just before death bursts into flames, when a new phoenix rises from the pyre.

The Phoenix Mars Mission was, in part, a combination of spacecraft and instruments from two previous unsuccessful attempts to explore Mars. With this base the new Phoenix rose to become one of the most successful space missions. It explored three main questions. Can Mars support life? What is the history of water on Mars? How is climate affected by polar dynamics?

As the Lander settled near the North Pole of Mars the thrusters blew away surface soil and exposed a white material that turned out to be water ice. From the water ice, soil chemistry, and minerals, scientists have concluded the arctic site had a wetter and warmer climate in the past and could again in the future.

The Phoenix also found ice clouds and snow-ice precipitation falling from clouds.

The Mission's Principal Investigator, Peter Smith, says "The evidence for water and potential nutrients 'implies that this region could have previously met the criteria for habitability' during portions of continuing climate cycles."



of Arizona's native plants, found from mountain tops to desert basins, and showcases 139 endangered desert plants. Stroll the grounds and see hundreds of plants from around the state. We will then continue north to the spectacular red rock country of Sedona and Oak Creek Canyon. *Kokopelli Suites (3 nights)*. Enjoy an evening of sky watching. (B)

Day 6 Meteor Crater & Lowell Observatory
(Optional hot air balloon ride)

This morning, adventurers may take an optional hot air balloon ride over Oak Creek Canyon and the colorful buttes, spires, and pinnacles of redrock sandstone. Or enjoy a morning hiking adventure in the red rock country to the base of Cathedral Peaks.

In the afternoon, we'll drive to Meteor Crater to see the impact of the large meteor 50,000 years ago. It displaced 300-400 million tons of rock and created a crater 4,100 feet wide and 571 feet deep. You may also see an Apollo test capsule and displays on meteors, asteroids, and space equipment. This will be an interesting tie-in to the many observations of craters on the Moon, Mars, and other planets. Afternoon walk in the lava fields of Sunset Crater Volcano National Monument.

Evening visit to the Lowell Observatory to see the astronomy displays and then view the night sky through the same telescope where Percival Lowell viewed Mars and postulated the infamous canals made by intelligent life. (B,D)

Day 7 Red Rock State Park & Palatki Heritage Park

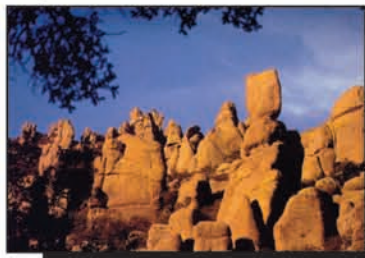
This morning we will explore Red Rock State Park, a wonderland of sedimentary colorful rock formations. We will walk through manzanita and juniper wildlands for a breathtaking view of the eroded rock of Oak Creek. The fault divides the canyon with many springs which feed the waters of the canyon running through the Coconino Sandstone.

In the afternoon we will explore Palatki Heritage Park, a UNESCO World Heritage Site. It includes one of the largest dwellings of the Sinagua, or Western Anasazi, people. See the cliff dwellings as well as pictographs and petroglyphs.

The Sinagua people lived from 500 to 1425 AD by hunting, gathering, and rudimentary agriculture. Historians believe the Sinagua left the region because of a long drought and warfare. Festive dinner in celebration of our journey. (B,D)

Day 8 Sedona to Phoenix & Home

After breakfast transfer to the Phoenix airport for afternoon flights home. (B)



Reservations #1128

Yes! I/We want to join **Arizona Skies & New Discoveries, April 17-24, 2010**, offered by **The Planetary Society and Betchart Expeditions Inc.**

Please reserve _____ space(s) on the expedition. As a deposit, I/we have enclosed a check for \$_____ (\$500 per person), payable to Betchart Expeditions Inc. Trust Account.

Name(s): _____ Age ____ Sex ____
 _____ Age ____ Sex ____

Address: _____

City _____ State _____ Zip _____

Phone: Home (____) _____

Work (____) _____

Email: _____

Citizenship: ___ USA ___ Canada Other: _____

Member of the Planetary Society: ___ Yes ___ No

Accommodations Preference:

___ Twin ___ Single Twin Share ___ with a friend or
 ___ assign a roommate
 ___ Nonsmoker ___ Smoker

Signature: _____ Date: _____

Signature: _____ Date: _____

Please Mail To: Arizona Skies & New Discoveries
Betchart Expeditions Inc.
17050 Montebello Road, Cupertino, CA 95014-5435

Costs & Conditions

Expedition Fee: \$2,795 per person twin share + air fare to Tucson with return from Phoenix.

Single Supplement: We encourage all singles to bring a roommate. If you prefer a single or do not have a roommate, the single supplement is \$595 per person.

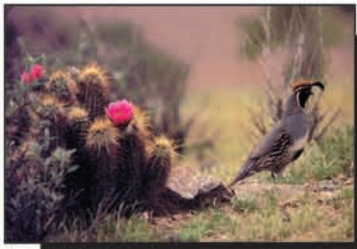
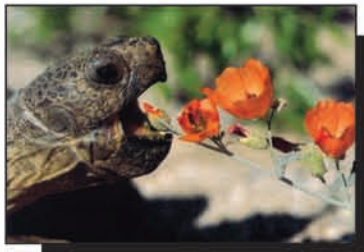
Expedition Fee Includes: Group arrival and departure transfers; transportation by motorcoach or 15-passenger vans; accommodations in first class lodges twin share with private bath; meals and activities as indicated; tour leadership by an excellent naturalist and local guest experts; administration.

Expedition Fee Does Not Include: Air fare; independent arrival transfers in Tucson; some meals; optional activities such as the hot air balloon ride or biking; beverages at meals; alcoholic beverages, snacks, sodas, bottled water, laundry, or other personal expenses.

What to Expect: This expedition is for the travel enthusiast who would like to explore the Tucson and Sedona areas, with a special focus on science and astronomy, as well as the spectacular desert habitat. Led by an excellent naturalist, we will explore superb natural areas, see observatories, visit Biosphere 2, and visit Spanish and ancient Anasazi cultural sites. There will be optional hot air balloon rides or bike riding in Saguaro National Park (at additional cost). Typically, it will be in the 80's to low 90's, with great spring weather. (No smoking in buses or vans, during lectures or meals, please.)

Accommodations: In Tucson we will stay in the beautifully renovated Lodge on the Desert, a famous lodge from the early days. In Sedona, we will stay in a comfortable all suites inn.

Air Fare & Airline Ticketing: Please book your flights directly with the airlines to arrive in Tucson by 4 pm on April 17, 2010, and to depart after 1 pm on April 24th. We will coordinate group arrival transfers; individual arrivals will transfer on their own. For assistance with flight information, please call Taunya, (800) 252-4910.



For reservations, please contact
Betchart Expeditions Inc.

**17050 Montebello Road
Cupertino, CA 95014-5435**

Telephone (800) 252-4910 or (408) 252-4910

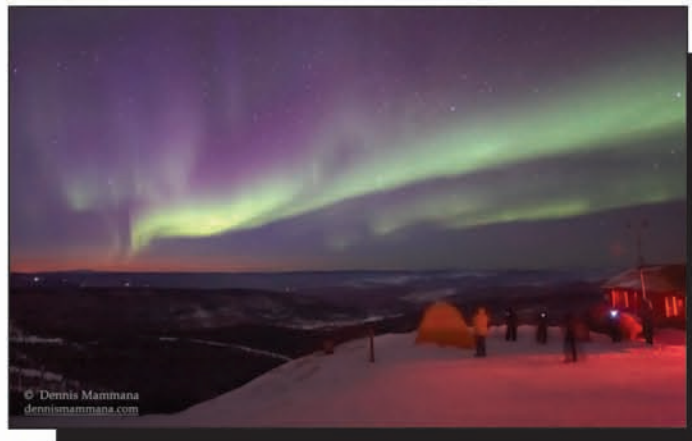
Fax: (408) 252-1444

Email: Taunya@betchartexpeditions.com

Reservations, Deposits & Payments: To reserve a place on this expedition, please mail a deposit of \$500 per person with the completed reservation form. Final payment is due 60 days before departure (February 17, 2010).

Cancellations & Refunds: The initial deposit is refundable up to 60 days before departure less a handling fee of \$100 per person. There is no refund for any cancellation within 60 days of departure. Trip cancellation insurance will be offered. No refunds are made for unused services.

Questions? Please call **Taunya DeYoung, Betchart Expeditions Inc.**, Phone: **(800) 252-4910** or **(408) 252-4910**. Fax: (408) 252-1444. Email: Taunya@betchartexpeditions.com. Look on the Web: www.betchartexpeditions.com



Coming March 18-24, 2010!

Alaska Aurora Borealis!

Join us as we explore the great beauty of Alaska in winter, and see the famed Aurora Borealis or Northern Lights, the greatest light show on Earth!

Alaska Aurora Borealis March 18-24, 2010

Space is limited, so contact us soon for a detailed brochure and reservations: *email:* info@betchartexpeditions.com
telephone: **(408) 252-4910** (int'l.) or **(800) 252-4910** (USA)
fax: (408) 252-1444

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Photos of Aurora Borealis courtesy of Dennis Mammana

Illustrations and map courtesy of April Milne & Narca Moore-Craig

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