

# JPL marks Fourth with Pathfinder

By Mark Whalen

JPL veterans of two decades or more know quite well that NASA's first Mars rover mission was much more than a major character in the 2015 movie "The Martian." Indeed, when the Pathfinder spacecraft landed on Mars on July 4, 1997, it marked the beginning of two decades of continuous presence on the Red Planet.

JPLers celebrated the mission's 20th anniversary on Lab in late June prior to a commemorative Independence Day event at the nearby Rose Bowl.

"Mars Pathfinder: An Oral History" showcased five panel talks in Pickering Auditorium June 27 by key participants in the historic mission. Among panel participants were former NASA Administrator Dan Goldin, former JPL directors Ed Stone and Charles Elachi, JPL Director Mike Watkins, and Brian Muirhead, Matt Golombek and Jennifer Trosper from the Pathfinder mission.

Also, on June 28, JPLers viewed a newly completed documentary, "The Pathfinders," the latest episode in a series on the history of the Laboratory.

At the Rose Bowl, JPL-provided displays included an inflated, full-scale model of Curiosity and a 3-D Mars panorama near the main entrance to the stadium. Inside, the solar system was painted on the field, and Mars-themed video, images and factoids were presented throughout the program on the Jumbotron.



Photos by Bob Paz / JPL Photo Lab

Top: A JPL-themed firework. Bottom: The Rose Bowl field took on a new look for July 4.

# Solar System Ambassadors celebrate 20 years

By Carl Marziali

Giving back is an American tradition, but while others return their riches, Solar System Ambassadors pay forward their dreams for exploring the boundless universe.

James Paradise grew up on a farm in eastern Nebraska, bought a telescope in high school, and devoured every issue of “Science Digest,” the main source of astronomy news at his town’s modest library.

He began a practical career as a chemist, but boredom and the oil bust of the early 1980s nudged him back to his passion. He started over with a degree in electrical engineering and joined Martin Marietta in Denver. His first two projects: the Space Shuttle and JPL’s Galileo craft.

Paradise just celebrated 35 years with Lockheed Martin, a good part of those spent working on JPL missions. He has been a Solar System Ambassador for half that time.

“I know how incredibly lucky I am, going from a farm in Nebraska to working in space,” he said. “It was a dream I never thought would be possible.”

He and 41 other Solar System Ambassadors traveled to JPL at their own expense June 20-21 for a celebration of the 20th anniversary of the program. Ambassadors volunteer to hold at least four public events each year to spread the word about space exploration. The Solar System Ambassador program originally started at JPL.

There are now more than 700 ambassadors, said program coordinator Kay Ferrari.

“They know their communities, they know what works in their communities,



Visiting Solar System Ambassadors get a closeup view of a rover wheel at JPL's Mars Yard.

Ryan Lammom / JPL Photo Lab

and they know how to share the message,” she said.

“This is how we affect the world.”

Around 15 years ago, Paradise gave a presentation about his work to sixth graders at a school in Iowa. An inquisitive young man introduced himself after the talk, and stayed in touch over the years with questions about space science.

That sixth grader went on to earn an engineering degree. Paradise hired him into Lockheed Martin, where he works today on hypersonic test vehicles.

Cathalina Juarez, one of the youngest ambassadors, began volunteering in 2016 while working at a non-profit on a NASA grant for outreach to minority-serving institutions.

The experience taught her the value of reaching out to underserved communities. She has hosted a “Latinas in STEM” event and plans to hold talks on this summer’s solar eclipse at a couple of neigh-

borhood libraries.

The best part, she says, is talking to young students: “They get so excited about the different missions that NASA is doing.”

The ambassadors took a field trip to the Goldstone Observatory near Barstow, one of three sites in NASA’s Deep Space Network; toured Mission Control, the Mars Yard and other sites on Lab; and gathered in von Karman to hear from former Director Ed Stone and Michael Malaska, a JPL expert on planetary ice who switched careers from pharmaceuticals to space exploration.

Malaska’s gateway drug: his time as a Solar System Ambassador.

“It took a whole career before I realized that I actually loved space science. That pulled me over into the Solar System Ambassadors program, and then ... into coming here to JPL to work on Titan,” he said.

# Bittersweet gathering for the Cassini family

By Susan Braunheim

With Cassini's exploration of Saturn coming to a dashing end in a few months, the mission team scheduled an "All Cassini Plus Alumni" group photo on Wednesday, June 21, to commemorate the event.

The photo shoot provided a great opportunity for people to catch up with co-workers and old friends. While they readied for the camera, past and present team members sipped coffee and reminisced, sharing Cassini highlights and war stories as well as their feelings about the coming end of the long, productive mission.

Many team members present began

Program Secretary Karen Chan has been with Cassini from day one. Although she appreciates the mission's many accomplishments, she says it will be difficult to see it go. "I feel like Cassini is my baby because I have been there from conception through development, then its birth when it launched, and through the phases of adulthood," Chan said.

Others are newer to the team. Morgan Cable is a project science systems engineer and has worked on Cassini for about a year and a half. She is thrilled to be part of such a flagship mission. "It is so amazing to be welcomed into the Cassini

Cable said.

"Now that the mission is ending, it's the culmination of a lifetime," noted John Casani, Cassini's project manager before the spacecraft launched in 1997. "Literally, some people have worked on this mission for their whole professional lifetime, and the fact that it has been so successful and has worked so well, much longer and much better than anyone ever expected, is a real acknowledgement to the people who worked on it," Casani said.

"It's kind of sad to know it's all going to end soon but it's going to end the same way I hope I end: quickly," Casani said.



Bob Paz / JPL Photo Lab

their careers working on Cassini. Some never left. Project Scientist Linda Spilker has been on the mission since 1988.

"It takes Saturn 30 years to go around the sun and that's almost as long I've been working on Cassini," Spilker said.

"As the Cassini mission ends I realize what a tremendous success the mission has been and we leave this incredible legacy, a wealth of scientific data. In a sense Cassini's ending is also a beginning because it makes me think we need to go back. So as we close Cassini's chapter, there's so much left to do and explore in our solar system," she said.

family, and it really is a family," Cable said.

During its journey, Cassini has made many discoveries, including vast seas of liquid methane on Saturn's largest moon, Titan, and a global ocean with hydrothermal activity within the moon Enceladus. The Cassini spacecraft flew through a plume of material being ejected from the south pole of Enceladus.

Cassini's revelations about Enceladus have revolutionized the way scientists look at ocean worlds, including where they may exist, and where life might be found. "As a scientist interested in astrobiology, it was the coolest discovery,"

The spacecraft, which has explored the ringed planet and its moons since 2004, will make a fateful plunge into Saturn's atmosphere on Sept. 15, ending its long and historic mission.

Early that morning, the Cassini team will gather with family and friends to watch as the spacecraft's final transmissions arrive via the Deep Space Network. Given the time the signal will take to travel from Saturn to Earth, Cassini will have been gone for an hour and 23 minutes when its voice finally fades in JPL mission control. But the mission's legacy will continue to be felt for decades to come.

## Retirees

The following JPL employees recently announced their retirements:

### June

**Mark Adler**, 25 years, Section 6030; **Henry Tauchen**, 17 years, Section 3000.

### July

**Dennis Ferren**, 37 years, Section 2724.



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# Universe

### Editor

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## Classifieds

Ads submitted June 17–July 7.

### For Sale

DRAFTING MACHINE, Bruning; without scales, \$15. 626-448 4383, leave message.

ELECTRONIC DRUM KIT, Roland, lightly used, play through an amplifier or to yourself w/headphones, great for whole family, includes padded seat w/back support, amplifier w/USB and AUX connections; \$690. Text or call 818-489-0426.

ROAD BIKE, carbon fiber: 2016 Ridley Orion size XS, electronic shifting (Di2 Ultegra), excellent condition, \$1,600. Call or text 203-733-5432.

### Vehicles / Accessories

'07 HONDA Rebel motorcycle, red, new tires, low miles, asking \$1,800. Text 626-348-4295.

'08 HUNTER 41DS sailboat (deck salon), very well equipped and cared for, has an extra 50-gal fuel tank, see to appreciate, pictures available upon request; will entertain any offer; \$158,000. Carolyn Chester: 361-510-2267; Brad Coe, 626-260-2413; chestercarolyn@yahoo.com.

JEEP Wrangler windows, MOPAR soft top, (sides only) in black, dark tint, great condition, barely used \$150/obo. Text 724-288-3976.

### Wanted

HOME in to rent in the Glendale Unified School District (Montrose/La Crescenta/Glendale); require 3 bedrooms, 2+ bathrooms, looking for a well-maintained house in a quiet neighborhood; move-in date is flexible. 720-771-1919, Oleg.

USED VEHICLE in good cond.; moving out of California; can pay \$1,000-\$2,000 cash, but would like to give it a ride to see how it drives; prefer a manual trans., 4-WD truck w/ clean title; any vehicle in need of a good home and responsible owner will be welcomed. 808-778-0760.

### Free

KITTENS, beautiful black and white, to a loving home, photos avail. allegrainganni@gmail.com.

### For Rent

ALTADENA, 3 bedrms., 1 bath, 1,195 sq. ft., N. of Altadena Dr., E. of Lake; very quiet neighborh'd, mtn. setting, great view, walk to 3 separate trailheads; 2-year-old fridge, stove, microwave included in lease; single-car garage + outside parking, plenty of built-in storage; laundry rm. w/washer-dryer hookups, good natural light; cat or small inside dog negotiable; natural setting w/roses & mature oak trees, observe deer + birds; \$2,600/mo.; owner pays trash + sewer, tenant pays water, electric, gas. 626-390-7657.

ALTADENA, furn. room w/awesome view for lease; nonsmoker to share a beautiful 4-bdrm., 3-bath house across from community garden; available end of August; close to local colleges, Pasadena city schools, walk to JPL; utilities included, central air/heat, internet access; near 210/134/110/bus stop/shopping/entertainment/restaurants; \$740/month. 818-370-0601.

ALTADENA (91001), 2-bdrm, 1½-bath condo, security access/alarm & gated, cable internet ready, central air/heat, well maintained, carport, nice closet organizers, kitchen w/marble floors,

washer/dryer, den, fireplace, patio with garden and hot tub, community pool + more, you pay utilities, excld. trash; \$1,875/mo. 626-798-6185.

ALTADENA (91001), furn. loft w/awesome view for lease; nonsmoker to share a beautiful 4-bdrm., 3-bath house across from community garden; available August; close to local colleges, Pasadena city schools, walk to JPL; utilities included, central air/heat, internet access; near 210/134/110/bus stop/banking/entertainment/restaurants; \$700/month. 818-370-0601.

LA CAÑADA, furn. room & bathrm; nonsmoker to share a beautiful 4-bedroom, 2-bath house, bike to JPL; utilities included, central air/heat, internet access; near 210/shopping/banking/restaurants; \$1,200/month. 818-414-4024.

LA CRESCENTA house, 1,546 sq. ft., 2 lg. bedrooms, 2 bath, updated kitchen (appliances incl.) + laundry area (washer-dryer included), 2 fireplaces, living rm., open dining/family rooms, central a/c; detached 2-car garage, front & back yards, outdoor deck + back patio; blue-ribbon Glendale Unified Schools; long-term lease preferred; avail. 8/1; \$3,500 + \$1,000 deposit. 818-624-9408, Ben.

MONTROSE, lovely, quiet, single-story air-conditioned home to share, 5 miles/JPL, an easy bike-ride; private room + bath, private entry, Wi-Fi/utilities included, washing facility on site, full kitchen w/microwave, a peaceful garden, street parking in safe neighborhood; I have a small hypoallergic dog that loves people; 1-block walk to village w/boutiques, coffee shops, multi-cultural cuisine restaurants; references required. 818-437-1970, Jane.

NORTH HILLS, near 5/118 junction, looking for moderately quiet non-smokers to rent 2 rooms in my house; 25-minute drive (20 miles) to JPL, small pets OK, there is a music studio and my band practices twice a week, not past 9 p.m.; available Aug. 16; \$900 for private bathroom, \$700 for shared bathroom, utilities included. 818-383-8942.

PASADENA, furn. room in a lovely 4-bd./2-bath house, big backyard, hardwood floor, big closet, shared bathroom, kitchen and laundry privileges; 2 miles to JPL, close to public transportation; short- or long-term lease available; must like dogs and be very clean; \$900 + \$900 deposit. 818-960-8654.

### Vacation Rentals

MAMMOTH, Snowcreek, 2 bd., 2 ba. + loft, sleeps 6-8, fully equip'd kitchen incl. microwave, D/W, cable TV, VCR, phone, balcony w/mtn. vw., Jacz., sauna, streams, fishponds, close to Mammoth Creek, JPL discount, no pets. 626-798-9222, 626-840-3749 or valeriee@caltech.edu.

MAMMOTH, Snowcreek, beautiful updated condo, 2 bd., 2 ba. + loft (sleeps 6-8), great location by pond/meadow, new appliances, TVs, DVD players, free wireless Internet and washer/dryer, no pets. 818-952-2696 or BigMtnPrettySky@gmail.com.

MAMMOTH, remodeled 2 bed/2 bath + loft, short walk to Canyon Lodge; Courchevel 6 features full kitchen, cable/Internet TV, DVD, Blu-Ray, wireless hi-speed Internet, 2-car garage, Jacuzzi, grill, pool; no pets. http://Courchevel6.com.

NEWPORT BEACH, Balboa Peninsula cottage, 2 bd., 1 ba., sleeps 7, not updated, original; no disposal, but TV; 2 houses from bay, around the corner from G or I Street beach; avail. July 15-22, 22-29, + Aug. 12-19; \$2,000 per week. 626-799-2909 or keepsclean@yahoo.com.