



National Science Bowl descends upon JPL

As a high school student growing up in Dayton, Ohio, Thaddaeus Voss didn't spend his nights going to parties or football games. Rather, he loved the thrill of hunkering down with friends to study for the annual National Science Bowl and Ocean Sciences Bowl— competitions that would later change the trajectory of his life.

"Kids study an insane amount for these competitions, but when you're a teenager, it's addictive and fun to compete," Voss said, recalling how he would memorize facts about marine biology and Earth science from three in the afternoon until nine or 10 p.m. "It felt like you were spending your time doing something that would help you later in life, to have this kind of discipline."

The two science competitions are heading to JPL for regional rounds in coming weeks: The National Science Bowl on Saturday, Jan. 26 and the National Ocean Sciences Bowl on Saturday, Feb. 23. These highly competitive events bring together teams of high school students to compete in a fast-paced verbal forum to answer a wide range of math and science questions. JPL hosts at the regional level—the Lab is expecting over 200 students and coaches, and over 100 guests—with championship teams competing at the national event in Washington in April.

"There's just so much we didn't know about the ocean—we didn't have oceanography classes at my high school—so this was the only time we'd be motivated to learn this stuff," Voss said of how the Ocean Sciences Bowl encouraged him to learn more about his home planet. "We realized how essential the ocean is to all life on Earth."

The competition became more than just a highlight of his youth—it put Voss on the path to his current job. In 2017, when he was nearing the end of his Master's degree program in electrical engineering at USC, Voss weighed his next steps, including working in the entertainment industry. At the same time, he learned that JPL hosted the regional Science and Ocean Sciences Bowl every year. So he reached out to JPL's Public Services Manager, Kimberly Lievense, and signed up to volunteer as one of the Bowl's timekeepers.

By the end of the day, he knew he wanted to work at JPL.

"I obviously knew JPL did great things, but it definitely sealed the deal for me when I came here to volunteer and saw how awesome the people are," Voss said, adding how the excitement and passion he saw in JPL employees inspired him.

At USC's next job fair, Voss made it a point to meet with JPL recruiters and, in early 2018, landed a job at JPL as a signal analysis engineer in communications system engineering.

As an official JPLer now, Voss is still volunteering for the Bowl but is stepping up his responsibilities this year: he'll be one of the 2019 moderators for both the Science Bowl and the Ocean Sciences Bowl. The role means he'll be the one calling on the student who buzzes first, as well as the one to determine if their answer is correct and award points to teams.

"I'm most looking forward to having more of a connection to the competition and to the students," Voss said. "I want them leaving Lab feeling like, 'Wow, I can't wait for next year.' That was the best thing when I was a student. I hope they leave more motivated and more excited about science."

You can learn more about the National Science Bowl <https://science.energy.gov/wdts/nsb/> and the National Ocean Sciences Bowl <http://nosb.org/>.



Photo Credit: (NASA/Aubrey Gemignani)

NASA Day of Remembrance at Arlington Cemetery

NASA Family's Day of Remembrance observance was held on Thursday, Feb. 7 at Arlington National Cemetery in Virginia to honor the fallen heroes of Apollo 1, Challenger and Columbia, and all the members of the NASA Family who have lost their lives furthering the cause of exploration and discovery. NASA Administrator Jim Bridenstine, Vice President Mike Pence, June Scobee-Rodgers, widow of Challenger Commander Dick Scobee, and Chuck Resnik, brother of Challenger Mission Specialist Judith Resnik, were among those who attended the ceremony.

Flags at Headquarters and NASA centers across the country were flown at half staff.

Photo caption: June Scobee-Rodgers, widow of Challenger Commander Dick Scobee, right, speaks with NASA Administrator Jim Bridenstine, left, Chuck Resnik, brother of Challenger Mission Specialist Judith Resnik, second left, and Vice President Mike Pence at the Space Shuttle Challenger Memorial after a wreath-laying ceremony that was part of NASA's Day of Remembrance, Thursday, Feb. 7, 2019, at Arlington National Cemetery in Arlington, Virginia. Wreaths were laid in memory of those men and women who lost their lives in the quest for space exploration.

Events



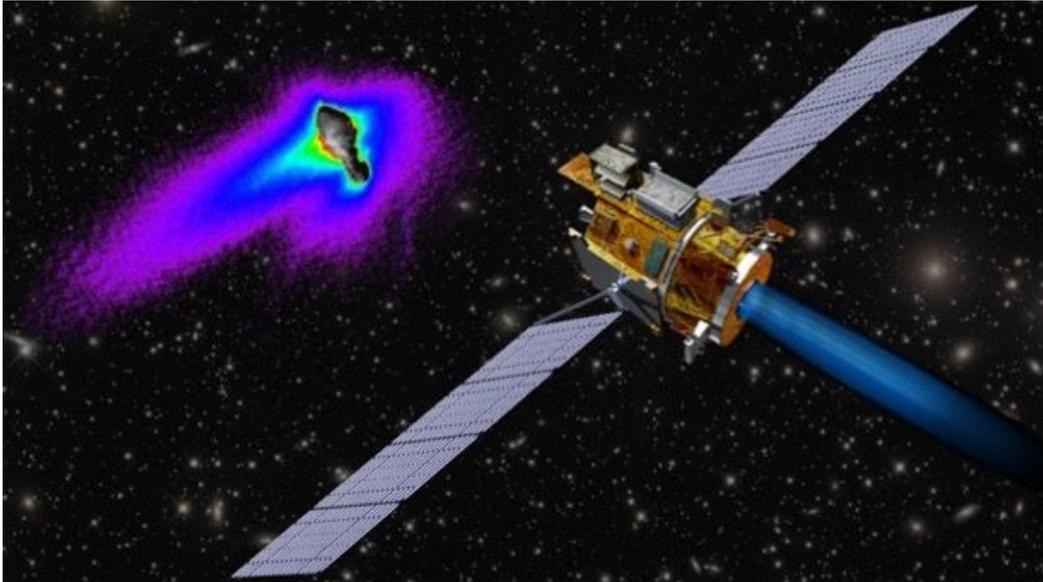
TIAA Webinar: Managing Income and Debt

Wednesday, Feb. 13

9 a.m. PST/ 12 p.m. EST

Discover how to help make your money work harder by using your cash flow more effectively, developing good saving habits and better debt management.

You can register for this webinar and many other upcoming titles at [TIAA.org/webinars](https://www.tiaa.org/webinars).



If It Isn't Impossible, It Isn't Worth Doing: Rescuing Deep Space 1

Speaker: Marc Rayman

Thursday Feb. 14

12 p.m. - 1 p.m.

186 - von Kármán auditorium

One of the lowest-cost planetary missions NASA has ever conducted, Deep Space 1 (DS1) was designed to take risks so subsequent missions would not have to. Following its successful 1998-1999 prime mission to test new technologies, DS1 embarked on an ambitious two-year extended mission dedicated to comet exploration. However, it soon suffered a hardware failure initially considered to be catastrophic, ironically unrelated to the new technologies. The loss of the sole star tracker deprived the spacecraft of three-axis attitude knowledge.

With the guiding principle "Never give up! Never surrender!" the small JPL operations team undertook one of the most remarkable deep-space rescue missions ever. It took them more than two months just to point the high gain antenna to Earth. After seven months of intensive and stressful work, they uplinked new logic to the system to replace the star tracker. DS1 resumed thrusting with its ion propulsion system shortly after that. The team encountered and overcame more daunting challenges in the subsequent 15 months, and in 2001 they succeeded in acquiring NASA's first close-up images of a comet nucleus and other unique data.

This talk will summarize the rescue and comet encounter, both of which were completed largely without the public and even many JPLers ever knowing about it.

About the "Mission Chronicles" series:

The 3X/5X Operations Working Group is sponsoring a "Mission Chronicles" series to communicate to a wide JPL audience the challenges experienced during mission development and operations, increase awareness of those situations, and help prevent similar occurrences in the future. The event is restricted to US persons—JPLers only.

Video and presentation material will be available after the talk on JPL Tube by searching "Mission Chronicles."



VIP Tour of Virgin Orbit for Caltech Management Association Members

Saturday, Feb. 23

Group 1—10 am to noon

Group 2—1:30 p.m. to 3:30 p.m.

Virgin Orbit, 4022 E. Conant Street, Long Beach

The Caltech Management Association has arranged a tour of Virgin Orbit's high-tech factory for its members and their guests. Because of space limitations, the tour participants will be selected by lottery. If you belong to the association or join in time, you can enter their lottery for a chance to go.

The tour offers the opportunity to meet the people behind Virgin Galactic's sister company and hear about their plans for the future of small-satellite launches. Founded by Sir Richard Branson, Virgin Orbit aims to launch small satellites into Earth orbit by using a 70-foot carbon-fiber rocket attached to a modified 747 jumbo jet that serves as a flying

launchpad.

The company recently completed their first successful “captive carry” test flight, during which the rocket remained attached to the plane. A number of such flights are planned. The next step will be a drop test, in which the rocket is released in flight from the plane but does not ignite its engine, instead falling to the Mojave Desert floor. Following the drop test, barring any technical setbacks, Virgin Orbit will attempt the first orbital flight of the rocket this year.

Participation in the tour is limited to members and their guests who are U.S. citizens. Lottery winners can each invite one guest. Tour start times will be determined by lottery and will not be picked by the selected association members.

To participate, you must complete the two steps below:

1) Apply for FY19 membership before entering the lottery. If you haven't already renewed, or you are a new member, go to <https://cma.sites.caltech.edu/become-member> for the form and procedure, including membership fee payment. Because of annual membership renewals, all FY18 members and non-members must complete this step. Membership is open to all active and retired employees of Caltech and to contract employees as affiliate members.

2) By Thursday, February 14, register for the lottery at <https://docs.google.com/forms/d/e/1FAIpQLSe7ymS8IipcGn9nCyJttyjpAmF00E6SaWOXE37hxzUIGUKcgA/viewform>.

Enter your name and email address, and indicate whether you will be bringing a guest. Members who have been in CMA longer than one year will have multiple chances to win, based on the number of current years of continuous membership (up to five chances). So, for example, new members will have one chance to win, while those with five years, or more, of continuous CMA membership will be entered five times in the lottery.

Lottery participants will be notified of the winners via e-mail at the end of the day on Thursday, Feb. 21.

If you have questions, please contact:

For general event and membership information, Dan Goods at Daniel.E.Goods@jpl.nasa.gov.

For lottery and membership information, Randii Wessen at Randii.R.Wessen@jpl.nasa.gov.

JPL Classifieds

Ads submitted Feb. 11

Submit an ad to: universe@jpl.nasa.gov

For Sale

2007 PORSCHE CAYMAN: used by the single owner as daily driver with occasional track use. Odometer reading is 102,264 miles. The original engine has been replaced and the current engine has only 45,000 miles on it. Car comes with electric steering, replacing the original hydraulic steering, adjustable swaybars, and internal fire-suppression system. Cooling system and transmission were replaced 2 years ago. New battery as of this afternoon. Lo Jack vehicle recovery system transfers with ownership. Sides, rear and roof repainted with original 'atlas gray' color a year ago (front hood was not, retaining its original car bra). \$16,500 price includes lightly used set of 18" Hankook Ventus S-R3 tires, plus deeper-worn Nitto NT01 "spares." A set of 17" tires/rims is also available with this set for \$1,000. Full maintenance and repair record are available. Full title is available for ownership transfer. Payment will be accepted only through bank wire transfer. Vehicle photos: <https://www.autotrader.com/cars-for-sale/vehicle-details.xhtml?listingId=504499216&ownerId=72088589&searchRadius=0>. Contact Glenn Orton 626-433-3549.

2000 LEXUS RX300, 184k miles. Powertrain, suspension, brakes, chassis all well-maintained and in great condition. Window motors and driver's door power lock don't work great. Cosmetically OK, except for some peeling clearcoat on the rear, and a tear in the leather of the driver's seat. Asking \$3,000. Please call or text 315-420-9620 if interested.

ELECTRIC BIKE - Swagtron EB7. Never been used. Still in the original box up for sale. I am asking \$500 for it , or give me your best offer. Contact Donny Avalos at avalosfam5@twc.com.

TICKETS: 3 tickets for the Palm Springs Aerial Tram. 1 adult ticket (\$20), 1 senior (65+) ticket (\$18) and 1 child's ticket (3-11 yrs) (\$12). Good until Dec. 20, 2019. Regular price purchased at the tram ticket office in Palm Sprngs would be: \$25.95 (adult), \$16.95 (child), senior (\$23.95). Peter, 310-850-7845, pmkroger@verizon.net.

SPEAKERS: 70's vintage Alec-Lansing "Voice of the Theater" speakers in custom built cabinets. 15" woofers, 8.5 x 18.5" cones. Overall dimensions: 26"(w) x 18"(d) x 31.5"(h). \$1,000 OBO for the pair. For photos or questions contact Thom: tawynne2@gmail.com

ANTIQUUE BRASS BED: fits full size mattress, decent shape but needs some TLC. \$175 OBO. Email octoluga@gmail.com for pictures, questions.

XBOX ONE S - \$170. Retail box, wireless controller, power adapter, HDMI cable (All retail items in box) + Halo Master Chief Collection Disc (4 Games). Excellent condition, hardly used (Bought 'X' for 4K Gaming, stopped using 'S'). Plays 4K UHD HDR Movies/Discs, Blu-ray & DVD flawlessly. Amazon Prime, NetFlix, Hulu - All Apps (4K Video). Contact 626-372-4437 or rsjohari@att.net for photos/info.

ASUS ROG STRIX GTX 1080 - \$400. Excellent Condition! Adult owned by passionate gamer. Retail box and all original accessories included. Upgraded PC to RTX 2080 Ti - No longer need GTX. Listed for \$829 on Amazon (<https://www.amazon.com/gp/product/B01GRRRW0A>). This is the exact model I purchased from Amazon. Giving it away for \$400. Contact 626-372-4437 or rsjohari@att.net for photos/info.

Wanted

SPACE INFORMATION/memorabilia from U.S. & other countries, past & present, for personal use

(see <http://www.youtube.com/watch?v=S7PvjGp7mCU>)
). mrayman@alumni.princeton.edu, 818-790-8523,
Marc Rayman.

Looking for small iPod or Shuffle that still works/holds charge. For a service project. Will pay ~\$15-\$25 depending on type and shape.

For Rent

GLENDALE – \$900 Furnished spacious Bedroom for rent. Ideal for postdoc, student, single person with limited furniture. Minimum 6 month commitment. The rental includes with private full-size bathroom, laundry on site, cover parking, Wifi internet, utilities. Living room and Kitchen privileges; walking distance the Americana, shopping centers, gyms, restaurants. A non-smoker, professional and responsible mature female preferred to share this charming 2-BD/3-bath townhouse/condo, 12 minute drive to/from JPL. 1st month rent plus security deposit, 2 preferences required. Available in February. Pictures available upon request. Please text to 626-373-6283.

MONROVIA - Beautiful, sunlit room available for sublease. \$1,200 a month, all utilities and parking

included. Furnished or unfurnished. Avail 03/01/2019. Lease ends 08/14/2019. Home is located walking distance to historic downtown Monrovia with easy access to LA Metro, the 210, and 605. You will be sharing the home with two other female professionals. Please text Brian at 909-677-6674.

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, Jacuzzis, grill, pool; no pets. <http://Courchevel6.com>.

JPL Family News

Retirees

The following JPL employees recently announced their retirements:

Karen Chan, 32 years, Section 4020; Bryan A. Bell, 42 years, Section 386B; Yunjin Kim, 30 years, Section 8650; Janine M. Medlin, 35 years, Section 3914; Vivian L. Molina, 18 years, Section 1220; Michael J. Sierchio, 27 years, Section 3400; Paul Stella, 40 years, Section 3466; Donna M. Wolff, 45 years, Section 397L; Lawrence E. Young, 41 years, Section 335F

Letters

Thank you to my JPL family and friends, Cassini family and Juno family for the wonderful flowers, sympathies, and warm thoughts and hugs on the passing of my father. Your thoughtfulness and kindness has helped give me strength during this difficult and sad time – Tammy Fujii.

Passings

Ralph A. Johansen, an aerospace engineer at JPL for more than 31 years, working on such missions as the Hubble Space Telescope, Ranger, Viking, and Mariner. He is survived by his wife, Mary Johansen, his children, Judi and Greg, their spouses, and five grandchildren.

Connie Colgan-Borowitz, 84, who worked at JPL in the 1980s and 1990s as an administrative assistant. She is survived by three living children, eight grandchildren and seven great-grandchildren.

Elyzabet So, 61, who worked at JPL for 1½ years as an electronic development technician, including work on Europa Clipper and Mars Exploration Rover missions. She is survived by husband Don Lam, daughter Jacqueline Lam and son Phillip Lam. Memorial service was held on Dec. 7, 2019, at Rose Hills Whittier.

Gail Yopez died on July 28, 2018, at the age of 70, after a courageous battle with cancer. She was employed at JPL for 27 years, most recently in Org. 2200. She worked on such projects as AIRS and KidSAT, and supported space shuttle missions on Challenger and Atlantis. She is survived by son James, daughters Jana and Cindy. A memorial service was held on Aug. 26, 2018, and she is interred at Lookout Cemetery in Lookout, California.

Roger N. Dick, 80, a retired systems analyst and programmer, died Oct. 26, 2018. He worked at JPL for 36 years, 11 months, most recently in 372M-Enterprise Applications Engineering. He was married to Betty Dick, a contractor on Lab, who passed on June 27, 2016. Dick is survived by his children Darcel Dick, Roger Dick Jr., and Suzanne DeMascio; grandchildren Frank, Rory, Vincent, Drew and Dylan DeMascio, and Maci and Garret Mueller; daughter Shelly Mueller, and niece Theresa Mercado. A service was held Jan. 5 at Riverside National Cemetery. In lieu of flowers, the family has requested donations be made to local submarine veteran's chapter or Mason's chapters.

David P. Rice, 79, a retired Line Manager at JPL, died Nov. 28, 2018. He worked at JPL for 32 years, 6 months, most recently in 3769-Measurement, Integration & Testing. Rice is survived by his wife of 58 year, Sharon, sons Mark and Brent, and grandsons Shane, Jackson and Braeden. A private service was held Dec. 4, 2018.

Announcements

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