

*The June 28th, 2017 Edition of THE REVENGE HUMP DAY!*

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Welcome to the June 28th, 2017 Edition of THE REVENGE HUMP DAY!

Yesterday, June 26, 2017 was a very important day in the life of the Bolgeo Clan. Linda Louise Vannucci Bolgeo, SHE WHO MUST BE OBEYED, and Richard Timothy Bolgeo, Uncle Timmy, celebrated their 47<sup>th</sup> Anniversary. That's right folks, 47 years of being joined in the Bonds of Holy Deadlock! My has time flown. I can remember when I took SWMBO for my wife at the Little Rock Air Force Base Chapel. We were definitely wide eyed children who had no idea what time had in store for us. But, two children, three grandchildren and God knows how many nieces and nephews (both natural and adopted) later, we are still standing and enjoying life. That is all you can really ask for.

We will be leaving for LibertyCon 30 on Thursday of this week and it looks like it is going to be a hell of a convention. Because I set it up many years ago as a limited size con, LibertyCon is limited to 750 paid attendance. We, we are sold out again this year. The Choo Choo is down to one hotel building and 30 or so train cars and they are all sold out. But, Brandy has got another room block over at the Marriott that is sold out. I was concerned about transportation between the two hotels, but we have a shuttle that runs between the Marriott and the Choo Choo from 9 am to 2 pm all weekend. It should work out OK for transportation.

For those of you who would like to see what is going to happen in programming this year at LibertyCon 30, you can check it out online at:

<http://libertycon.org/index.php/programming/schedule>

I think that we will shortly have a copy of the program book on line for you to check out. Just got to the LibertyCon website in the next few days and it should be uploaded for your information.

As for the LibertyCon app, I think that you can upload the new one to your phone now. But one thing I was told, you have to delete your old app before you upload the new one.

There probably won't be a Revenge next week because of LibertyCon. But you can be assured that we will return the week after. I want to thank all of you for your patience with me over the years and I hope to see a great many of you at LibertyCon this year.

So on that "hopeful note", why don't y'all sit back and relax because here's the best in gossip, jokes and science for your reading pleasure!

*Uncle Timmy*

<G>~<O>~<S>~<S>~<I>~<P>~<S>~<T>~<A>~<R>~<T>~<S>~<H>~<E>~<R>~<E>~<I>

NASHVILLE FAN, ALISA RANSOM PETERMAN, NEEDS A LITTLE HELP

From: "Nancy Holland" [drnancyh.holland@gmail.com](mailto:drnancyh.holland@gmail.com)

I hope you remember Alisa (Ransom) Peterman. Her husband, Todd, has been placed in Hospice Care. They are in dire financial straights, as he has been unable to work for some time. Her work time has been compromised because of his need for care. They are behind on their utility bills and property tax. The money they had for property tax had to be used for emergency bills.

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In addition to money, he is unable to wear any of his clothing because of fluid retention. He could use an XL nightshirt or other loose fitting clothing. They could also use some queen size bed sheets, and basic household items like paper towels.

The address is:       Alisa Peterman  
                          443 Claircrest Drive  
                          Antioch, TN 37013. (This is off Tusculum Rd.)

Alisa's phone number is 615-894-2833. Anyone wishing to hand deliver donations should do so between 1:00 and 3:00 p.m.

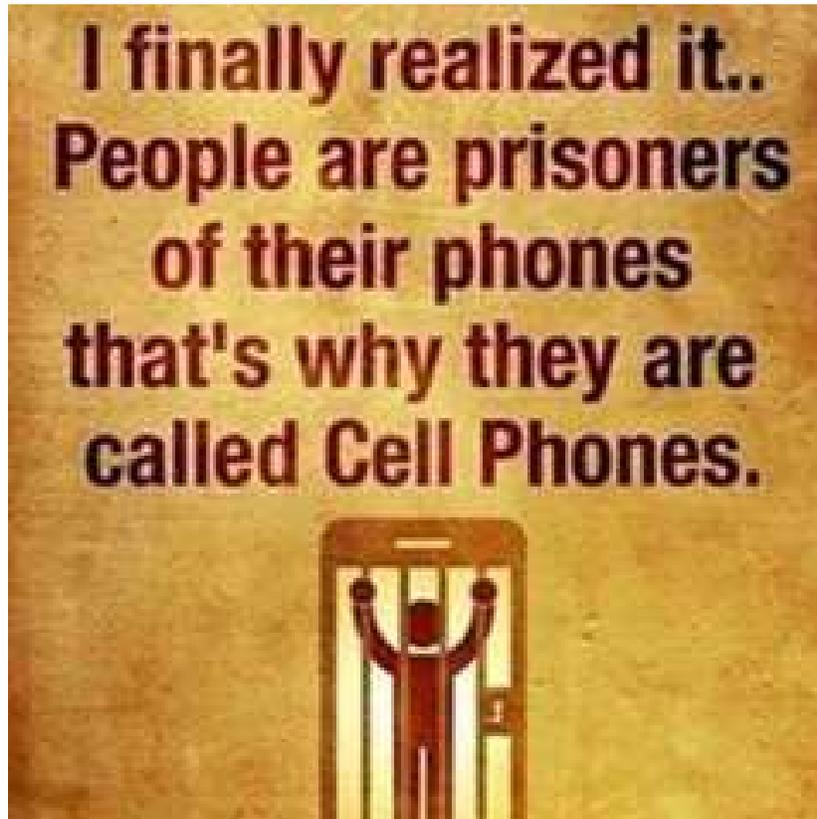
Donations of food would also be helpful. If you live in this area, and would like to take food between 1:00 and 3:00 p.m., please email me, [drnancyh.holland@gmail.com](mailto:drnancyh.holland@gmail.com), or call Alisa prior to going.

There's no small act of kindness. It's all significant.

Thanks! Nancy Holland

<T>~<H>~<E>~<J>~<O>~<K>~<E>~<S>~<S>~<T>~<A>~<R>~<T>~<H>~<E>~<R>~<E>

From: "Jim Woosley" [Jimwoosley@aol.com](mailto:Jimwoosley@aol.com)



<J>~<O>~<K>~<E>~<S>



THIS ONE IS ESPECIALLY REVALENT AT CASA BOLGEO. UT

<J>~<O>~<K>~<E>~<S>

THIS ONE IS FOR GARY SHELTON. UT



<J>~<O>~<K>~<E>~<S>~<of>~<the>~<W>~<E>~<E>~<K>

From: "Ray Beloate" [beerman@rittermail.com](mailto:beerman@rittermail.com)

**Never Lose Your Grandson!  
A heart warming story.**



**My small grandson got lost at the shopping mall.....**

**He approached a uniformed security guard and said,  
"I've lost my grandpa!"**

**The guard asked, "What's his name?"**

**"Grandpa"**

**The guard smiled, then asked, "What's he like?"**

**The little tyke hesitated for a moment and then replied,**

**"Crown Royal whiskey and women with big tits."**

<J>~<O>~<K>~<E>~<S>~<of>~<the>~<W>~<E>~<E>~<K>

From: "Mike Waldrip" [waldripk@gmail.com](mailto:waldripk@gmail.com)

## ONLY IN AMERICA

I talked to a homeless man recently and asked him how he ended up this way.

He said, "Up until last week, I still had it all. I had plenty to eat, my clothes were washed and pressed, I had a roof over my head, I had HDTV and Internet, and I went to the gym, the pool, and the library. I was working on my MBA on-line. I had no bills and no debt. I even had full medical coverage."

I felt sorry for him, so I asked, "What happened? Drugs? Alcohol? Divorce?"

"Oh no, nothing like that," he said. "I was paroled".

<J>~<O>~<K>~<E>~<S>

## 10 COMMANDMENTS OF GRITS

There are several variations of this set of rules on the net. Nobody seems to know the origins, although I have heard they came down from Sinai with Moses' redneck cousin a week after the Israelites moved on. Seems he fell asleep after eating his grits...

I Thou shalt use only salt, butter, and cheese as toppings for thy Grits. OK, sometimes shrimp, bacon, and ham are allowed.

II Thou shalt not put sugar on thy Grits

III Thou shalt not put syrup on thy Grits

IV Thou shalt not put ketchup on thy Grits

V Thou shalt not put margarine on thy Grits

VI Thou shalt not eat Cream of Wheat and call it Grits, for this is blasphemy

VII Thou shalt not eat instant Grits

VIII Thou shalt not covet thy neighbor's Grits

IX Thou shalt not eat toast with thy Grits, only biscuits made from scratch

X Thou shalt eat grits every day

<J>~<O>~<K>~<E>~<S>

## PRAY FOR LEROY

In a revival tent service, the preacher said, "Anyone with 'special needs' who wants to be prayed over, please come forward to the front by the altar."

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With that, Leroy got in line, and when it was his turn, the preacher asked, "Leroy, what do you want me to pray about for you?"

Leroy replied, "I need you to pray for help with my hearing."

The preacher put one finger of one hand on Leroy's ear, placed his other hand on top of Leroy's head, and then prayed and prayed and prayed. The whole congregation joined with enthusiastic shouts of "Amen Brother!"

After a few minutes the preacher removed his hands, stood back and asked, "Leroy, how is your hearing now?"

"I don't know," Leroy answered. "It isn't until next Thursday."

<J>~<O>~<K>~<E>~<S>~<of>~<the>~<W>~<E>~<E>~<K>

From: Douglas Dudash

**A LOT OF JOKES ABOUT BLONDE FEMALES FLOAT AROUND THE INTERNET BUT SOME MAY BE SURPRISED THAT THERE IS A WHOLE GROUP OF JOKES ABOUT MEN THAT MANY DO NOT SEE. ENJOY THIS OTHER SIDE OF THE COIN.**

One day my housework-challenged husband decided to wash his Sweatshirt. Seconds after he stepped into the laundry room, he shouted to me, 'What setting do I use on the washing machine?'

'It depends,' I replied. 'What does it say on your shirt?'

He yelled back, 'ALABAMA !'

And they say blondes are dumb....

-----  
A couple is lying in bed. The man says, 'I am going to make you the happiest woman in the world...'

The woman replies, 'I'll miss you..... '.

-----  
'It's just too hot to wear clothes today,' Jack says as he stepped out of the shower..'Honey, what do you think the neighbors would think if I mowed the lawn like this?'

'Probably that I married you for your money,' she replied.

-----  
Q: What do you call an intelligent, good looking, sensitive man?

A: A rumor

-----  
Dear Lord,

I pray for Wisdom to understand my man; Love to forgive him; and Patience for his moods.

Because, Lord, if I pray for Strength, I'll beat him to death.

AMEN

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Q: Why do little boys whine?

A: They are practicing to be men.

-----  
Q: What do you call a handcuffed man?

A: Trustworthy. .

-----  
Q: What does it mean when a man is in your bed gasping for breath and calling your name?

A: You did not hold the pillow down long enough.

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Q: Why do men whistle when they are sitting on the toilet?

A: It helps them remember which end to wipe..

-----  
Q: How do you keep your husband from reading your e-mail?

A: Rename the email folder 'Instruction Manuals'

-----  
While creating husbands, God promised women that good and ideal husbands would be found in all corners of the world.....

.....then He made the earth round.

<J>~<O>~<K>~<E>~<S>~<of>~<the>~<W>~<E>~<E>~<K>

From: "Bob Bolgeo"  
[bbolgeo@aol.com](mailto:bbolgeo@aol.com)

**ELDERLY WATCHING TV**

The longer you've been together, the funnier this becomes.

An elderly couple were at home watching TV.

Phil had the remote and was switching back and forth between a fishing channel and the porn channel.



Sally became more and more annoyed and finally said, "For God's sake, Phil... leave it on the porn channel...you know how to fish!"

<J>~<O>~<K>~<E>~<S>~<of>~<the>~<W>~<E>~<E>~<K>

From: "Tom Carpenter" <tjej@epbf.com>

**50 SHADES OF GREY FOR SENIORS**

Back and forth . . . . Back and forth . . . .

In and out . . . . In and out . . . .

A little to the right . . . . A little to the left . . . .

She could feel the sweat on her forehead . . . .Between her breasts . .

And, trickling down the small of her back .

She was getting near to the end.

He was in ecstasy . . . . With a huge smile on his face as his wife moved . . .

Forwards then backwards. . . . Forward then backward. . . .Again . . . . And again . .

Her heart was pounding now . . . . Her face was flushed . . . .

She moaned . . . . Softly at first, then began to groan louder . . . .

Finally . . . . Totally exhausted . . . .she let out a piercing Scream . . . .

"OK, OK, you smug bastard. So I can't parallel park. You do it!"

<J>~<O>~<K>~<E>~<S>

**SEX ADVICE**

I couldn't help but overhear two guys in their mid-twenties while sitting at the bar last night.

One of the guys says to his buddy: "Man you look tired."

His buddy says, "Man I'm exhausted. My girlfriend and I have sex all the time. She's after me 3 and 4 times a day, I just don't know what to do."

A fellow about my age (70+), sitting a couple of stools down, also overheard the conversation. He looked over at the two young men and with the wisdom of years says: "Marry her. That'll put a stop to that shit."

<YOU>~<>~<JUST>~<>~<CAN'T>~<>~<MAKE>~<>~<THIS>~<>~<STUFF>~<>~<UP!>

**YOU JUST CAN'T MAKE THIS STUFF UP!**

From: A Friend

**CALIFORNIA ADDS 4 STATES TO TRAVEL BAN FOR LAWS IT SAYS DISCRIMINATE AGAINST LGBTQ COMMUNITY**

By Carma Hassan, CNN, Updated 5:50 PM ET, Fri June 23, 2017

<http://www.cnn.com/2017/06/23/us/california-travel-ban/index.html>

**Alabama, South Dakota and Texas passed legislation that may prevent LGBT parents from adopting or fostering children**

**The ACLU of Northern California applauds the additions to the banned travel list**

**(CNN)California has issued a ban on state-funded and state-sponsored travel to four more states that it says have laws discriminating against LGBTQ people.**

**The travel ban was first put into effect January 1 when state measure AB 1887 became law. The law says California is "a leader in protecting civil rights and preventing discrimination" and should not support or finance "discrimination against lesbian, gay, bisexual, and transgender people."**

**The travel ban list also includes states that California believes don't protect religious freedoms and states that it says use religious freedom as a basis of discrimination.**

**"Our country has made great strides in dismantling prejudicial laws that have deprived too many of our fellow Americans of their precious rights. Sadly, that is not the case in all parts of our nation, even in the 21st century," California Attorney General Xavier Becerra said in a statement Thursday.**

**Why the ban?**

**Kansas, Mississippi, North Carolina, and Tennessee were the original states banned by AB 1887, but Becerra added Alabama, Kentucky, South Dakota and Texas on Thursday, citing what he called new discriminatory legislation enacted against the LGBTQ community in those states.**

**Alabama, South Dakota, and Texas all recently passed legislation that could prevent LGBT parents from adopting or fostering children and Kentucky passed a religious freedom bill that would allow students to exclude LGBTQ classmates from campus groups.**

**"While the California DOJ works to protect the rights of all our people, discriminatory laws in any part of our country send all of us several steps back," Becerra said. "That's why when California said we would not tolerate discrimination against LGBTQ members of our community, we meant it."**

**The law bans state-funded or state-sponsored travel by employees of state agencies and departments as well as members of boards, authorities, and commissions.**

**SUPPORT FOR THE LIST**

**The ACLU of Northern California and Rick Zbur with Equality California applauded the state's decision to widen the ban.**

**"These discriminatory laws in Texas, North Carolina, South Dakota, and other states are completely out of step with the values that make California the vibrant economic powerhouse that it is," Zbur said. "[I]t is imperative that California continue to denounce those actions publicly and financially."**

There are exceptions to the ban, however. For example, if travel is required to maintain grant funding or licensure, or for auditing and revenue collection purposes.

And of course, anyone can travel to any of the states on the list in a personal capacity.

CNN's Keith Allen contributed to this report.

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From: "Tim Bolgeo" [tbolgeo@epbf.com](mailto:tbolgeo@epbf.com)

## **CALIFORNIA TRAVEL BAN MAY KEEP ITS SCHOOLS OUT OF FINAL FOUR, FOOTBALL CHAMPIONSHIP**

by [SAMUEL CHI](#) 24 Jun 2017 1,982

<http://www.breitbart.com/california/2017/06/24/california-travel-ban-may-keep-its-schools-out-of-final-four-football-championship/>

California's Democratic-controlled government fought tooth-and-nail with the Trump administration about a travel ban, but has no problem [imposing one of its own](#) to forbid its employees from traveling to other states that don't share its progressive agenda.

On Thursday, California [expanded its ban list](#) to include four more states, adding Texas, Alabama, Kentucky, and South Dakota to go with Kansas, Mississippi, North Carolina, and Tennessee. These states apparently have laws that were deemed by California's leaders as hostile and discriminatory against gay and transgender people.

But the travel ban may prove highly problematic for the state's public universities competing in NCAA championships that are held all over the country and frequently hosted in the eight states that are now on the ban list—particularly Texas. The next Final Four for men's basketball championship will be held in San Antonio in April 2018. Four of the eight sites for next year's NCAA tournament first-round games are in the "banned" states—in Dallas, Nashville, Charlotte, and Wichita, Kansas.

So does that mean if, say, UCLA makes it to the Final Four, the team will have to forfeit because the Bruins are not allowed to travel to San Antonio?

Not surprisingly, the California Attorney General's office, which issued the original and additional travel ban, hasn't exactly thought this through. When contacted Friday about this particular issue, the office released a statement that says it plans to soon release "general guidance" on how to interpret the new law.

What we do know is that the ban does not apply to existing schedules already on the teams' calendars, since agreements for games—especially in football—are signed years in advance. To force these schools to back out of the games currently under contract would've exposed them to massive buyouts and potential lawsuits that the already cash-strapped state institutions cannot afford.

California has five state schools that play Division I-FBS football (USC and Stanford are private schools and therefore not subject to the travel ban): UCLA, Cal, San Jose State,

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Fresno State, and San Diego State. And these games in “banned” states are already on their future football schedules:

UCLA- at Memphis (2017)

Cal- at North Carolina (2017), at Ole Miss (2019), at TCU (2021), at Auburn (2024)

San Jose State- at Texas (2017)

Fresno State- at Alabama (2017), at Texas A&M (2020)

San Diego State- None

But while these games presumably will go on and be played, the new travel ban may force UCLA and Cal to decline football bowl invitations in the postseason, since two of the Pac-12’s bowl tie-ins are in Texas with the Alamo Bowl (San Antonio) and the Sun Bowl (El Paso). Also, the ban will greatly hamper these schools’ ability to schedule future matchups against teams in the “banned” states, with the majority of them in the south and home to powerhouse football and basketball programs. Cal, for instance, [scratched a potential](#) home-and-home basketball series with Kansas because of the ban.

Not so coincidentally, all eight “banned” states voted for President Trump in the 2016 election.

There’s another potentially catastrophic problem for California’s state sports teams. Since coaches are state employees and fall under the auspices of the travel ban, they may be prohibited from going to these eight states to recruit players or attend important camps and conferences. For example, UCLA’s 2016 football recruiting class [includes four players](#) from the “banned” states. If the Bruins’ coaches cannot go on the road to these states, they will lose such recruits in the future.

And that’s not all. Chances are that the list under California’s travel ban will only expand as the state continues its leftward drift while most of the country goes the other direction. It’s not at all unfathomable that the current number of eight might double in the not-so-distant future.

Consider that 30 states voted for President Trump in the last election, California may be just getting started.

Follow Samuel Chi on Twitter [@ThePlayoffGuru](#).

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From: “Tim Bolgeo” [tbolgeo@epbfi.com](mailto:tbolgeo@epbfi.com)

**FUZZY FIBERS COULD HELP ROCKETS TAKE THE HEAT**

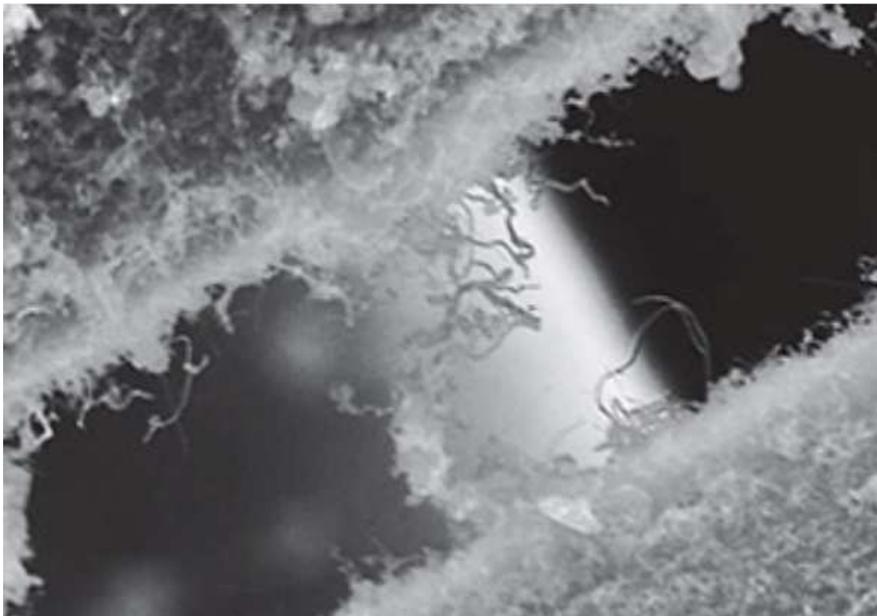
The Velcro-like threads could help tomorrow’s spacecraft engines reach Mars or beyond

By Prachi Patel | Scientific American July 2017 Issue

[https://www.scientificamerican.com/article/fuzzy-fibers-could-help-rockets-take-the-heat/?WT.mc\\_id=SA\\_SPC\\_20170622](https://www.scientificamerican.com/article/fuzzy-fibers-could-help-rockets-take-the-heat/?WT.mc_id=SA_SPC_20170622)



**Fuzzy fibers: silicon carbide nanotubes (inset) could make rocket engines more heat-resistant. Credit: Getty Images**



The insides of today's rocket engines can reach a blistering 1,600 degrees Celsius—hot enough to melt steel. And tomorrow's engines will need to be even more scorching. Hotter engines are more fuel-efficient, produce more thrust and can carry larger loads—all key for Mars-bound spacecraft and advanced aircraft.

**Fuzzy fibers: silicon carbide nanotubes could make rocket engines**

**more heat-resistant. Credit: Ajayan Research Group Rice University**

**In the quest for rocket materials that can tolerate more heat, engineers have been trying to devise tough, lightweight composites made of silicon carbide fibers, a small fraction of the**

width of a human hair, embedded in a ceramic material. Silicon carbide can withstand 2,000 degrees C—the temperature of the hoped-for hotter engines. Today's composites are made by layering woven mats of silicon carbide fibers and filling the space between them with a porous ceramic. But existing composites can crack under the high pressures that occur in engines because the fibers slip against one another and pull out of the ceramic.

In a possible breakthrough, scientists at Rice University and the NASA Glenn Research Center have developed “fuzzy” silicon carbide fibers whose surfaces resemble a microscopic version of Velcro. The fibers, described recently in *Applied Materials & Interfaces*, would be less likely to slip or pull out of a surrounding ceramic medium because their fuzzy tangles lock them together.

To make these threads, the researchers first grew curly carbon nanotubes that stick out from the silicon carbide surface like ringlets of hair. Then they dipped the fibers in an ultrafine silicon powder and heated them, which converts the carbon nanotubes into silicon carbide fibers. The team tested the fuzzy fibers' strength by embedding them in a transparent, rubbery polymer—and found these composites to be four times as strong as those made with smooth threads. NASA research engineer and study co-author Janet Hurst says the team now wants to test the new, curly fibers in a ceramic medium. They also want to make fibers with a fuzzy boron nitride nanotube coating because it is strong and shields the fibers from damaging oxygen exposure.

Silicon carbide fibers are strong along their length but can snap across their width under high pressure. Yet the new fibers should resist breakage because their soft fuzz helps to dissipate the strain by distributing it, says Steven Suib, director of the Institute of Materials Science at the University of Connecticut, who was not involved in the new research. This article was originally published with the title "Hot Rockets"

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## DEVELOPING LANDING TECH FOR SPACE

by Staff Writers, Pasadena CA (JPL) Jun 23, 2017

[http://www.spacedaily.com/reports/Developing\\_Landing\\_Tech\\_for\\_Space\\_999.html](http://www.spacedaily.com/reports/Developing_Landing_Tech_for_Space_999.html)

Canyons, craters and cracked ice fields on other worlds might be hiding exciting scientific discoveries. But how do we get spacecraft to land on dangerous, uneven terrain?

A new NASA video explains how cutting-edge technologies could help. A system called the CoOperative Blending of Autonomous Landing Technologies (COBALT) is being developed in the Mojave Desert, with participation from several partners, including NASA's Jet Propulsion Laboratory in Pasadena, California.

JPL's contribution is a computer vision program called the Lander Vision System (LVS). It allows rockets to analyze a site during landing and match it with a pre-loaded terrain map.

COBALT combines LVS with hardware from NASA's Langley Research Center in Hampton, Virginia: a laser-guided device called Navigation Doppler Lidar, which measures velocity as the rocket matches its position with the LVS terrain map. Both technologies have been integrated onto a Xodiac rocket developed by Masten Space Systems.



**A rocket flying several landing technologies was recently flown in the Mojave Desert. These flight tests, coordinated by NASA, are helping to develop technology for precise landings in uneven terrain. Image Credit: NASA/JPL-Caltech.**

**The COBALT project involves funding from several NASA programs. That includes the Flight Opportunities Program, based at Armstrong Flight Center in Edwards, California, which funded the flight on a Masten rocket.**

**The project's development was funded through NASA's Human Mission Directorate and the Space Technology Mission Directorate (STMD) Game Changing Development program.**

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**SPACEX SUCCESSFULLY LAUNCHES AND LANDS A USED ROCKET FOR THE SECOND TIME**

**The seventh at sea, and the 12th successful landing overall**

**by Sean O'Kane@sokane1 Jun 23, 2017, 3:22pm EDT**

<https://www.theverge.com/2017/6/23/15861622/spacex-falcon-9-rocket-landing-success-buglariasat>

SpaceX has successfully launched and landed a recycled Falcon 9 rocket for the second time. The rocket's first stage — the 14-story-tall core that houses the fuel and the rocket's main engines — touched down on one of the company's autonomous drone ships in the Atlantic Ocean shortly after taking off from a launchpad at nearby Cape Canaveral, Florida. It's the 12th time SpaceX has successfully landed one of these rocket stages out of 17 attempts, and the seventh time it's performed the feat at sea.

This particular rocket previously flew in January, when it was used to put 10 satellites into orbit for communications company Iridium. The rocket then landed on a drone ship in the Pacific Ocean. SpaceX retrieved the rocket and spent the next few months refurbishing it in preparation for today's launch. This afternoon, it was used to launch Bulgaria's first communications satellite for TV service provider Bulsatcom.

#### **ELON MUSK HAD WARNED THAT THE ROCKET MIGHT NOT MAKE IT BACK**

The landing wasn't easy, though. Because the rocket had to push BulgariaSat-1 to such a high orbit, the first stage experienced more force and heat during reentry than any other Falcon 9, according to a tweet from SpaceX CEO Elon Musk. Musk even warned that there was a "good chance [the] rocket booster doesn't make it back."

Shortly after the landing, though, Musk returned to Twitter to add that the rocket booster used "almost all of the emergency crush core," which helps soften the landing. It was the first time SpaceX has landed one rocket on both of its drone ships. (SpaceX keeps one in California for launches from Vandenberg Air Force Base.)

Being able to reuse parts of the Falcon 9 rocket has long been a goal for Musk. He's been trying to get the company to a point where it can reuse things like the rocket's main stage, or the payload fairing (the cone at the top), instead of building a new rocket for each new launch. Reusing rockets is a great way to bring down launch costs; previously, they were discarded after each launch, and building them from scratch costs millions of dollars.

To that end, SpaceX launched and landed a reused Falcon 9 for the first time back in March, and it also recovered that rocket's fairing — a first for the company. Then, earlier this month, SpaceX sent a used Dragon cargo capsule back to space for the first time ever.

But it's the company's strides towards sticking these rocket landings that finally made this all possible. While many of its early landing attempts were met with fiery ends, SpaceX hasn't lost a rocket in a landing attempt since early last summer. With today's success, the company has now landed eight rockets in a row dating back to that June explosion, save for a few launches where there wasn't enough leftover fuel for a landing attempt.

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#### **SPACEX DEPLOYS 10 IRIDIUM SATELLITES IN LOW EARTH ORBIT**

Jun 26, 2017 Jen DiMascio | Aerospace Daily & Defense Report

[http://aviationweek.com/space/spacex-deploys-10-iridium-satellites-low-earth-orbit?NL=AW-05&Issue=AW-05\\_20170626\\_AW-](http://aviationweek.com/space/spacex-deploys-10-iridium-satellites-low-earth-orbit?NL=AW-05&Issue=AW-05_20170626_AW-)

[05 81&sfvc4enews=42&cl=article 4&utm\\_rid=CPEN1000003019593&utm\\_campaign=10608&utm\\_medium=email&elq2=15c0f65f75d84aebacfe1358d32e5e83](https://www.fox4news.com/story/news/2017/06/25/space-x-falcon-9-launch-iridium-satellites/1060840001)



SpaceX

A SpaceX Falcon 9 rocket sent 10 Iridium satellites to low Earth orbit (LEO) at 4:26 p.m. EST on June 25 from Vandenberg AFB, California, to provide voice and data satellite communications around the globe. This launch from Space Launch Complex 4E (SLC-4E) was the second for SpaceX in three days. SpaceX then landed the first-stage booster on a barge in the Pacific Ocean.

Before the launch SpaceX CEO Elon Musk cautioned that the dronship had been moved because of extreme weather. “Will be tight,” he said. But the booster floated down for a solid landing on the barge named “Just Read the Instructions” where waves crashed into the sides.

The launch successfully deployed 10 L-band communication satellites for the IridiumNext constellation into low Earth orbit to replace the largest current commercial satellite network – in one of the largest technical upgrades to date. SpaceX will launch 75 of the constellation. Iridium will send 66 satellites into LEO along with six in-orbit spares that can be repositioned or activated as needed and keep another nine on the ground. The satellites will be positioned just 780 km from the Earth, to provide coverage from the North to South Poles. The satellites, built by France’s Thales Alenia Space and assembled by Orbital ATK in Arizona, are designed to operate despite weather interference for 12.5 years.

The constellation introduces Iridium Certus, a next-generation multi-service communications platform that will deliver broadband speed connectivity over the satellites for aviation, maritime, land mobile, Internet of Things and government organization. Iridium says it Certus will support full internet or even high-definition video. It will also enable the

Aireon space-based Automatic Dependent Surveillance-B global aircraft surveillance and flight-tracking system on a hosted payload that was built by Harris Corp.

After a delay to the launch of the first 10 satellites, due in part to the September 2016 on-pad explosion that destroyed the Israeli Amos-6 satellite, SpaceX is now making up for lost time. The entire constellation is scheduled to be deployed by the middle of next year.

“We’re looking at a spectacular pace of new satellites entering service that nobody has done since Iridium, the first time around,” said Iridium CEO Matt Desch – referring back to the constellation launched during the 1990s that Next will replace.

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## NASA'S SUPERSONIC X-PLANE PROJECT PASSES KEY MILESTONE

[David Szondy](#) June 26, 2017

<http://newatlas.com/nasa-supersonic-x-plane-milestone/50221/>



Illustration of NASA’s planned Low Boom Flight Demonstration aircraft as outlined during the project’s Preliminary Design Review (Credit: NASA/Lockheed Martin)

Those still nostalgic about the Concorde can take heart because a new era of supersonic flight just came a step closer. NASA says that its [Quiet Supersonic Transport \(QueSST\)](#) project has passed its preliminary design review (PDR), opening the way for design and construction of the Low Boom Flight Demonstration (LBFD) X-plane.

Reviving civilian supersonic passenger travel isn't simply a matter of finding someone to put up the money to build a fleet of Concorde Mark IIs. There are many technical problems that need to be solved before airliners capable of traveling faster than the speed of sound

can once again take to the skies. The most significant is finding a way to reduce or eliminate the window-cracking sonic booms that confined Concorde solely to oversea flight paths.

In February 2016, NASA gave the green light to the QueSST project, which tasked Lockheed Martin and its subcontractors under a US\$20 million contract to take a set of NASA [feasibility studies](#) on how to make supersonic aircraft safe to fly over land and turn it into preliminary designs for a manned demonstrator aircraft that would use new fuselage, wing, and engine designs to create a supersonic "heart beat" or soft thump rather than the booms of present supersonic airplanes.

On Friday, senior experts and engineers from Lockheed and NASA concluded that the QueSST design has reached the point where it can fulfill the Lbfd X-plane's mission objectives. In addition to being able to fly supersonic without the boom, the single-engine manned plane must be able to fly over populated areas, so the NASA, the FAA, and other regulators can determine if over land flights are practical and to help in updating regulations on supersonic flight that still remain frozen in the 1970s.

So far, the QueSST preliminary design has been subjected to supersonic wind tunnel tests at NASA's Glenn Research Center in Cleveland and is going on to static inlet performance test and a low-speed wind tunnel test at NASA's Langley Research Center in Hampton, Virginia, to help finalize the design. The project team will now begin soliciting proposals to build the Lbfd demonstrator with contracts to be awarded in early 2018. Flight tests are scheduled for as early as 2021.

"Managing a project like this is all about moving from one milestone to the next," says David Richwine, manager for the preliminary design effort under NASA's Commercial Supersonic Technology Project. "Our strong partnership with Lockheed Martin helped get us to this point. We're now one step closer to building an actual X-plane."

Source: [NASA](#)

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From: "Bill Green" [wilgreen@gmail.com](mailto:wilgreen@gmail.com)

The link below gives estimated timing of this Summer's Solar Eclipse as it passed close to where you may be.

#### ASTRONOMY PICTURE OF THE DAY

Discover the cosmos! Each day a different image or photograph of our fascinating universe is featured, along with a brief explanation written by a professional astronomer.

<https://apod.nasa.gov/apod/ap170619.html>

I LIVE JUST NORTH OF CHATTANOOGA, TENNESSEE, NEAR SODDY DAISY, TENNESSEE. AS LUCK WOULD HAVE IT I AM IN THE OPTIMUM TRACK ON AUGUST 21, 2017, TO OBSERVE THE ECLIPSE IN AUGUST. UT

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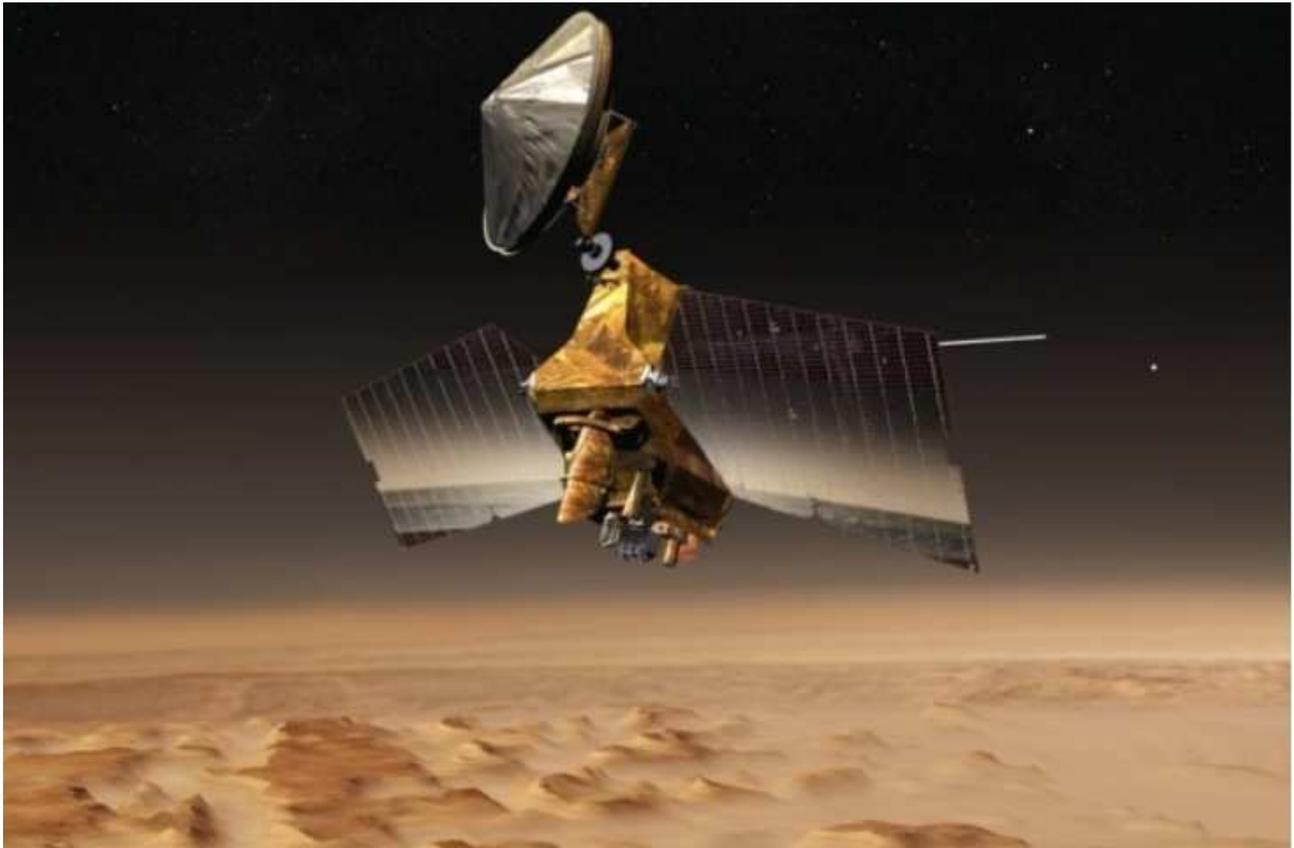
From: "Chris Cowan" [cowanc1028@earthlink.net](mailto:cowanc1028@earthlink.net)

**WILL MARS GO MUTE? NASA'S AGING ORBITERS MAY NOT LAST LONG ENOUGH TO SUPPORT FUTURE EXPLORATION**

The space agency does not have a replacement in the works to take over their vital role of relaying communications

By Leonard David on June 23, 2017

[https://www.scientificamerican.com/article/time-is-running-out-for-nasa-to-plan-its-next-mars-orbiter-experts-say/?WT.mc\\_id=send-to-friend](https://www.scientificamerican.com/article/time-is-running-out-for-nasa-to-plan-its-next-mars-orbiter-experts-say/?WT.mc_id=send-to-friend)



NASA's aging Mars Reconnaissance Orbiter is the most data-productive spacecraft circling the Red Planet. Earlier this year it cruised through its 50,000th orbit since arriving in March 2006. Credit: NASA/JPL

A cry for help has come from planetary scientists pleading for a Next Mars Orbiter—or NeMO for short. Researchers say the spacecraft fleet currently orbiting the Red Planet are aging and there are no replacements in the works, imperiling future Mars landers, rovers and even possible human missions that will depend on orbiters to talk to Earth. “We are at a turning point in Mars exploration,” says Casey Dreier, director of space policy at The Planetary Society. “NASA declares itself on a ‘Journey to Mars,’ but it can’t even invest in the most basic infrastructure to ensure that goal moves forward.”

NeMO's most pressing duty, in many eyes, is to take the baton from veteran NASA spacecraft—the 2001 Mars Odyssey as well as the Mars Reconnaissance Orbiter (MRO), which has been on duty since March 2006—that are at risk of expiring of old age. If they are gone, Earth will be mute to all missions sent to Mars in coming years. And even if they hang on, their technology is becoming outdated. NeMO could offer, for instance, broadband Earth–Mars laser communications—a big plus to handle the projected communications traffic outpouring from the Red Planet down the line.

If equipped with radar, NeMO could also serve as a water-witching orbiter. It could scan Mars and map out subsurface pockets of water ice and even assist in X-marking a safe and sound landing zone for astronauts where they can draw on water for oxygen-sustaining needs as well as for concocting rocket fuel. Some scientists also call for NeMO to showcase new solar-electric ion thrusters and advanced solar arrays. With such capacities, the Mars orbiter is ripe for extra assignments such as helping to return precious samples from Mars to Earth or sauntering over and investigating Phobos and Deimos, the planet's two moons.

For NASA, there is uncertainty about how NeMO fits into the grand scheme of Mars exploration, and at what cost. Indeed, the proposed 2018 fiscal year space agency budget asks for \$19.1 billion for all things civil space. It includes funding for future Mars missions but does not call out NeMO by name. Asked about the situation, Jim Green, director of the Planetary Science Division at NASA Headquarters says only, “We’re continuing to study our options for long-range support of communication for our rovers and landed assets on Mars.”

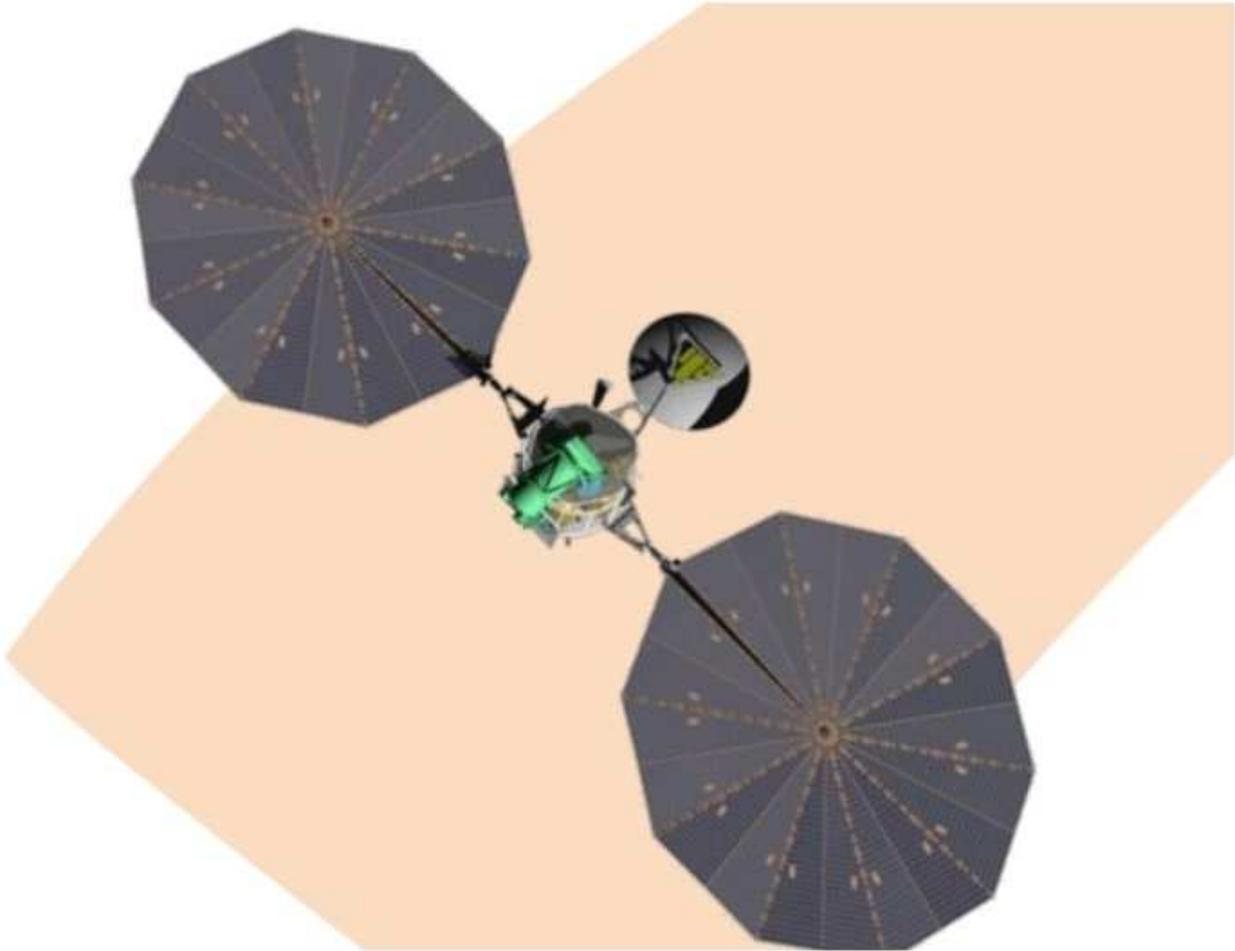
What is the interplanetary price tag of a new Mars orbiter? It depends. The low-end version would have the spacecraft confined to relaying communications. Things escalate dollar-wise if it will also make science observations and if it comes factory-loaded with new technologies to perform a larger to-do list of tasks. And any funds allocated to NeMO from the NASA budget must contend against other wish list items such as a mission to Jupiter's moon Europa to search for life, not to mention human exploration of the moon or Mars.

## **CRITICAL FUNCTIONS**

NeMO has three critical functions, says Scott Hubbard of the Department of Aeronautics and Astronautics at Stanford University. He was NASA's first “Mars czar,” a title he earned in restructuring the space agency's Mars agenda in 2000 in the wake of back-to-back Red Planet mission failures. First of all, he says, it must replace the aging communications infrastructure put into place years ago at Mars. If not, “all the future data and future exploration plans are at significant risk.” Second, a high-resolution imager to replace the MRO's High-Resolution Imaging Science Experiment (HiRISE) will be crucial to select safe and appealing landing sites for future scientific and human exploration landings.

Finally, another NeMO task that should be included, Hubbard says, is a provision to return samples of Red Planet dirt that could be collected and cached by the so-called Mars 2020 rover set to launch in three years. The engineering solution may be for NeMO to use solar-electric propulsion to turn around and fly back to Earth hauling an entire separate spacecraft that carries the goods from Mars, he says, or it could tote a special-purpose entry vehicle that's topped off with Mars regolith and rock for drop-off here at home. Others have suggested that returning Mars samples would require an entirely separate spacecraft, or series of spacecraft, on the order of a “flagship mission” costing around \$2 billion.

“That’s nonsense,” Hubbard says. If requirements are set properly, and the science community and NASA centers engaged in the effort restrain their appetites, Mars sample return can be affordable, he concludes.



Conceptual sketch of a Next Mars Orbiter (NeMO). Credit: NASA/JPL-Caltech/Charles Whetsel/Robert Lock

Yet with all these possible features and functions, some experts say NeMO is at risk of becoming a “Christmas tree” spacecraft. That is, a mission that is arguably weighed down with too many ornaments and limping limbs while sucking up more and more development dollars.

## CONCEPT STUDIES

NASA has already made some progress toward NeMO. Back in April 2016 the agency requested ideas from U.S. industry about a new Mars orbiter for potential launch in the 2020s. The space agency wanted that spacecraft to provide advanced communications and imaging as well as robotic science exploration in support of NASA’s plans to send astronauts to the vicinity of the Red Planet or its moons sometime during the 2030s.

Later in 2016 NASA picked five U.S. aerospace firms to carry out concept studies for a prospective Mars orbiter mission. Those contract winners—The Boeing Co.; Lockheed Martin Space Systems; Northrop Grumman Aerospace Systems; Orbital ATK; and Space Systems/Loral—took four months to appraise the need for Mars telecommunications and global high-resolution imaging as well as assess possible added scientific instruments, optical communications and the use of solar-electric propulsion. But NASA has not yet awarded a contract to actually move forward with any of these concepts. “I think there’s broad consensus that something is needed,” says Guy Beutelschies, director of deep-space exploration for Lockheed Martin. “But the mechanics of getting that into the NASA budget, funded and moving forward into a real procurement are unclear.”

Yet the space agency is running out of time. The soonest a mission could be ready is probably 2022, and a decision to target that date would need to come soon. “If they want to do a Mars 2022 orbiter..., it’s going to take about four years or so, specifically if they want to inject a lot of new technology,” he says. The orbits of Earth and Mars align every two years, providing a biennial opportunity to launch spacecraft to the Red Planet. “The worry is that if they don’t have something out this year, then they may have to slip it to the 2024 opportunity,” Beutelschies notes.



NASA’s Mars 2020 rover is slated to collect core samples for a possible later spacecraft mission to haul those specimens back to Earth for intensive analysis. Credit: NASA/JPL-Caltech

## SHALLOW ICE

If NASA is serious about human exploration of Mars, then science measurements from a NeMO are essential, says Alfred McEwen, director of the Planetary Image Research Lab at the University of Arizona in Tucson and principal investigator of MRO’s HiRISE. NeMO could find resources like shallow ice at low latitudes, he suggests, and could study whether there are special regions of Mars astronauts should avoid contaminating such as locations

with recurring slope lineae. Those are narrow, dark-toned streaks that go down steep Martian slopes, which could be water tracks of salty brines, and potentially home to Martian life.

Hurling humans to Mars means cutting through a thicket of questions and, in turn, that means more reconnaissance, says Rick Davis, assistant director for science and exploration in NASA's Science Mission Directorate. Having NeMO outfitted with powerful synthetic aperture radar would enable it to spot ice at depth and help plan tapping that resource for use by future Mars crews, he explains. "What we don't know is where the water is and whether it's in veins or fields," Davis says. "There are big knowledge gaps, and you need more resolution than what we've had to date."

## **TROUBLING PATH OF DECLINE**

The lack of plans for NeMO is just one of a number of problems threatening NASA's desire to dispatch humans to Mars. The Aerospace Safety Advisory Panel (ASAP), a committee that reports to NASA and Congress, noted in its 2016 annual report that the space agency's humans-to-Mars plans are in yellow condition—meaning the panel is not confident that important issues or concerns are being addressed adequately by NASA. The safety group recommended to the agency the establishment of a Mars Mission Program Office and/or designation of a "Mars czar" that could facilitate needed studies and make sure limited funds are being spent on the appropriate technical challenges. "NASA has made some progress in defining the journey to Mars, but in the opinion of the panel, current plans lack substantive risk reduction, technology maturation and advanced systems development to achieve the stated goals," the ASAP report explains. Moreover, the group said establishing a Mars Program Office could facilitate these efforts.

"We are essentially riding on the investments made in the previous decade," Dreier says. Earlier this month the public space advocacy group issued a review of NASA's Mars program, stressing that "not all is well with the future of Mars exploration." Furthermore, the space advocacy group claimed the space agency's robotic program for the Red Planet is on a "troubling path of decline...and decisions must be made now in order to stop it." Dreier is co-author of the report, titled *Mars in Retrograde: A Pathway to Restoring NASA's Mars Exploration Program*. Among its recommendations, the document suggests NASA should immediately commit to a Mars telecommunications and high-resolution imaging orbiter to replace rapidly aging assets currently in orbit. "You would think that making the case for a new orbiter would be easy," Dreier says, "but so far NASA has been unable or unwilling to commit to starting one for launch in the early 2020s."

All in all, Dreier says the big takeaway about Mars and the space agency, in his view, is clear: NASA built an extraordinary program of Mars exploration in the first decade of this century. The level of investment shrank in the 2010's to the point where there is only a single mission in development as part of the Mars program: the Mars 2020 rover. That wheeled robot is scripted to fetch samples to be returned to Earth by a mission that has yet to be blueprinted or even approved, he notes.

"Though its science instruments will generate more data than any previous surface mission, [the Mars 2020 rover] will depend on an orbital relay network that will be nearly 20 years old to return this invaluable data," Dreier says. In regards to NeMO, as Dreier sees it, "we can fix this, but we need to start this mission now. We roll the dice otherwise."

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From: "Jim Woosley" [Jimwoosley@aol.com](mailto:Jimwoosley@aol.com)

## **WAL-MART TO VENDORS: GET OFF AMAZON'S CLOUD**

By Jay Greene and Laura Stevens Published June 21, 2017 Cloud Innovations Dow Jones Newswires

<http://www.foxbusiness.com/features/2017/06/21/wal-mart-to-vendors-get-off-amazons-cloud.html>

The battle between the King Kong and Godzilla of retail has moved into the cloud. Wal-Mart Stores Inc. (WMT) is telling some technology companies that if they want its business, they can't run applications for the retailer on Amazon.com Inc.'s (AMZN) leading cloud-computing service, Amazon Web Services, several tech companies say.

Amazon's rise as the dominant player in renting on-demand, web-based computing power and storage has put some competitors, such as Netflix Inc., in the unlikely position of relying on a corporate rival as they move to the cloud.

Wal-Mart, loathe to give any business to Amazon, said it keeps most of its data on its own servers and uses services from emerging AWS competitors, such as Microsoft Corp.'s Azure (MSFT)

Wal-Mart uses some tech vendors' cloud apps that run on AWS, said Wal-Mart spokesman Dan Toporek. He declined to say which apps or how many, but acknowledged instances when Wal-Mart pushed for AWS alternatives.

The solution for health care reform is in the cloud, says fmr. Apple CEO Sculley "It shouldn't be a big surprise that there are cases in which we'd prefer our most sensitive data isn't sitting on a competitor's platform," he said, adding that it's a "small number."

An Amazon spokeswoman referred to Wal-Mart's moves as attempts to "bully" tech suppliers. "Tactics like this are bad for business and customers," the spokeswoman said. Snowflake Computing Inc., a data-warehousing service, was approached by a Wal-Mart client about handling its business from the retailer, Chief Executive Bob Muglia said. The catch: Snowflake had to run those services on Azure.

"They influence their vendors, which has influence on us," Mr. Muglia said of Wal-Mart.

The San Mateo, Calif., company had been developing an Azure offering, and "Wal-Mart has expedited our work," said Mr. Muglia, a former senior Microsoft executive. Snowflake won the business from Wal-Mart's client.

Other large retailers also have requested, as Wal-Mart did, that service providers move away from AWS, according to technology vendors that work with retailers.

Retailers "are all very particular, and some are more particular than others," said Kevin Howard, CEO of Adroit Worldwide Media Inc., a retail-technology provider that works with sensitive data including automated inventory tracking and provides pricing-content management. "There are retailers that have specifically requested that we sit on Azure," he said, declining to name them.

Amazon said a number of retailers it competes with use AWS, such as GameStop Corp.

Wal-Mart and Amazon have sparred for years. Last week, Amazon sent shockwaves through the grocery industry -- one of Wal-Mart's biggest businesses -- by announcing a \$13.7 billion deal to buy Whole Foods Market Inc. That came after Wal-Mart in recent years slashed grocery prices in part to staunch an Amazon's online incursion into the business. More recently, Amazon lowered its Prime membership fee by nearly half for people who obtain government assistance, targeting a Wal-Mart stronghold.

Their cloud battle takes aim at the financial advantage AWS gives Amazon. The company's global retail business operates on thin margins, but they are offset by the enormous profits AWS generates. In the first quarter, AWS posted \$890 million in operating income, accounting for 89% of overall operating income, even as AWS's \$3.66 billion in net sales accounted for just 10% of the company's total.

The notion AWS supports Amazon's retail business is incorrect, the spokeswoman said, citing the company's operating profit in its North American retail business.

While Wal-Mart's efforts aren't likely to staunch AWS's growth, it could boost rivals.

"People jump through hoops to do business with Wal-Mart all the time," said Robert Hetu, an analyst with the research firm Gartner Inc. "That should absolutely accelerate the competition from Azure."

It has, Microsoft said. "The nudge from Wal-Mart has been pretty consistent," said Judson Althoff, executive vice president in charge of Microsoft's global sales to business customers.

Microsoft had been the primary provider of cloud infrastructure to Jet.com Inc., the online retailer Wal-Mart bought for \$3.3 billion last September. The retail giant named Jet's founder as its e-commerce chief. Today, Wal-Mart is among the largest users of Azure, Mr. Althoff said.

The fight helped it get cloud business from the data-analytics company Nielsen Co., he added. "That's a direct customer that came because of Wal-Mart," Mr. Althoff said.

Alphabet Inc. declined to say whether Google Cloud (GOOGL), the No. 3 cloud-infrastructure provider, has benefited from the spat between Wal-Mart and Amazon.

Lofty Labs, a software-development firm in Fayetteville, Ark., worked with a retail-analytics consulting company to build cloud-based forecasting tools for Wal-Mart. To win the business, Lofty Labs had to develop the application for Azure.

"That was a deal breaker," Lofty Labs President Casey Kinsey said. The service is the only one Lofty Labs ever developed to work on Azure. "Everybody knows that Wal-Mart will not play ball with you if you use AWS."

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From: "Tom Carpenter" [tje@epbfi.com](mailto:tje@epbfi.com)

VIDEO: THE PARIS CLIMATE AGREEMENT WON'T CHANGE THE CLIMATE

*The June 28th, 2017 Edition of THE REVENGE HUMP DAY!*

*Page 26 of 26*

Presented by [BJORN LOMBORG](#), Jan 16, 2017

The Paris Climate Agreement will cost at least \$1 trillion per year, and climate activists say it will save the planet. The truth? It won't do anything for the planet, but it will make everyone poorer--except politicians and environmentalists. Bjorn Lomborg explains.

<https://www.prageru.com/courses/environmental-science/paris-climate-agreement-wont-change-climate>

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