

The July 12th, 2017 Edition of THE REVENGE HUMP DAY!

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Welcome to the July 12th, 2017 Edition of THE REVENGE HUMP DAY!

LibertyCon has come and gone and I am still recovering. I am taking Eliquis for Atrial Fibrillation and one of the side effects is thin skin and extreme bruising. I took a tumble in my hotel room late on Friday night and really scrapped up my arms. Boy, did that little tumble take a toll on my arms. But I am starting to heal now and the bruising is starting to diminish. It was really great to see all of my old friends at the convention and from all reports, everyone seemed to have a great time. But it was a bit sad for me this year. I have been acting as the Art Show Auctioneer since LibertyCon started 30 years ago. But I am getting old and it is extremely wearing on me every year. So this was my last year and I am passing the torch off to Fritz Fotovich for next year. But Ann Robards, head of the LibertyCon Art Show, said I went out with a bang and raised slightly over \$7,900 for Charity. Not bad for an old fart.

I could go on and on about how good I thought that LibertyCon 30 went off, but I thought that I would take a different tact this time. The first article in this week's missive will be your responses to this year's LibertyCon. To say the least, I am really pleased with all of your feedback on how the staff and management did this year.

So on that "happy 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

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LIBERTYCON 31

From The LibertyCon Facebook page

The Board of Directors and Staff of LibertyCon would like to thank everyone who came to our show, LibertyCon 30.

Putting on this show is a year long labor of love and we all work hard to provide a convention experience everyone can enjoy. We love doing this and we do it for YOU!

It's not a party unless folks show up. It's not a great party unless folks have an amazing time.

We had a sold out show and it appears everyone had an amazing time!

We're gonna rest for a few days, maybe, and then we'll get back to work. We'll let you all know about the when and where of LC31 as soon as we lock that contract down.

We're looking forward to seeing you all again!

Again, we thank YOU ALL!

Have a safe and happy 4th of July!

COMMENTS

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Mark H Wandrey - Best con I've ever attended, and I go back to my first con more than 35 years ago at Norwescon in Tacoma.

This was my 4th LibertyCon, and won't be my last. Here's hoping you find a better home, everyone (including you guys), deserve it.

Mark H Wandrey - Hey LC, I have a suggestion. Most of us identify friends, especially new ones, via social media. One long time online friend met me at the con this year, and he had attached to his badge, a little picture of his facebook avatar. If it was possible, off...See More

Doug Dandridge - Great Con. It was my fourth as well. My first ever was Dragon Con the year before. Been a reader all my life, but never realized there was such a nationwide network of cons. LC is an especially welcoming event, and I hope it will remain so if it grows to a much larger con. With the people in charge I'm sure it will.

Robby Hilliard - Amazing, once again. Thank you all for your hard work! And thank you also to all of the amazing fans and pros! See you next year!

Robert Boyer - I love LibertyCon. I hope you consider the convention center across from the Marriott. If I understand, you can customize the size of what you need there. Please think about it.

Glenn Baggott - HAD A BLAST. I love helping out on staff and my Kids D&D games as well Trivial pursuit game. Love my Libertycon family. Already planning for next year. Also thank you art staff for making my first showing as painless and smooth as possible. It was a pleasure to deal with them.

Debi Chowdhury - I had a fantastic and can't wait to try to do a masquerade adult next year.

Les Johnson - I missed seeing all my LibertyCon friends this year and look forward to coming back in 2018!

Sharon Rice-Weber - Hugs and love to all! Amazing con as always!

Toni Weisskopf - Had a great time again--thank you one and all!

Frank Kalisz- We had a great time. Thank you!

Jane VentersDike - You rock as always

Julian W Thompson - Thank Ya'll.

Joann Cavitt Parsons - When can I get 2018 membership?

Tom Rogneby - Had a wonderful time. Thanks to the staff for everything they do. Thanks to the presenters for sharing their experience and knowledge so freely.

Jonna Hayden - I had a blast. Thank you so much for your hard work. This is now my home convention, even though I live in Oregon. You guys rock. ??

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Ian McMurtrie - This was my second Libertycon. For someone who is screamingly introverted, please accept my heartfelt congratulations on a wonderful experience each time. I will be back to Libertycon.

Dorothy Grant - THANK YOU for throwing the best darn party in the whole convention circuit! We just show up; you put in all the work and the cat-herding to make this awesome year after year. Here's to you guys! Enjoy your rest, and just let us know where and when to show up to rock out next year!

Jenna Spackledust - This was my third LibertyCon and it has become my favorite con of the year (my only "don't miss.") Thank you for all your work... already looking forward to next year's!!

Patty McIntosh - Mize You guys are the VERY BEST - enjoy it more every year and can't wait to come back next year. Thank you for all your hard work. <3

Michelle Swinarski - I hear this is a wonderful con. Hopefully next year I will get to come with Steve.

Patricia Gilliam - Thank you! This was my first LibertyCon, and I'm looking forward to next time!

Charita Braker - Wonderful con, always! We plan on bringing the 13-year old grandson next year. All ages have a blast!!

Buddy Allen Family - without the disfunction! Thanks for a great weekend!

Stephanie Baxter - Nah, we put the fun in dysfunctional:)

Yvonne Arton Jacobs - Thank y'all for all the hard work! Great family vacation for us.

Nadine Miller - Thanks to you, the staff, and the volunteers for all your hard work.

Dawn Paris - Y'all are wonderful. LC is our one getaway in the year.

Tim Lee - Had a great time thanks for all the hard work! See you next year!

Ed Woody - Thank you everyone who helped out this year! I had a great time and really enjoyed seeing everything!

Hans Schantz - Had a great time - thanks!

Terry Maggert - My favorite week of the year.

Tammie Darden - I had a great time.

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From Gary Shelton's Facebook comment July 2, 2017

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Congrats to my friend Sharon Rice-Weber. As I pass the LibertyCon Spades Champion title to her. Well played Games. All Hail the New Spades Champion! Prepare the targets for next time!

Comment From Sharon Weber: Thank you, Gary Shelton! May I uphold the title as well as you! But really, I'm not worthy! Hugs!

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Fro Dan Hollifield's Facebook posting on July 5, 2017

Uncle Timmy,

My first LibertyCon was #17, Since then I have attended #20 to #30 accompanied by my wife, to whom I was not married during #17. Sometime about # 26, I got the chance to reconnect with my oldest step-daughter after losing track of her following my divorce from her biological mother in 1990 or so. Without LibertyCon, I would have no chance to meet with my daughter or her family every year. Chattanooga is roughly halfway between our respective homes. I get the chance to see her, her husband, her kids, my grand children, and this year my youngest great grandson. All because you and your family created this wonderful event 30 years ago.

You have brought me great joy through LibertyCon, and Brandy is living up to your legacy in every way. You have every right to be proud of what your family has created and what they continue to gift fandom with, year after year. Sir, I am proud to know you, and proud to be a LibertyCon recurring member. LibertyCon has become a family to me, and to my family. You done good, Bro. Be proud. And please accept a big hug from me. Mere words cannot express the joy that I have when at LibertyCon. You have made something that will last for ages after you and I are both gone into that undiscovered country.

I want my great grandchildren to go to LibertyCon and tell their kids "It's time for the ice cream social. Y'all behave and we'll be on time..."

THANK YOU SO VERY MUCH DAN! YOU DON'T KNOW HOW MUCH I APPRECIATE YOUR KIND WORLDS. UT

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From: DrakeNews #98

<SNIP>

I've mentioned being just back from Libertycon. I don't go to many conventions, but this is one I'll often go to if I'm free. (It frequently conflicts with the family week at the beach, though; when it does, the beach wins.)

This year was particularly fun. Libertycon isn't exactly a Baen convention, but Toni was the toastmistress and Dave Weber, John Ringo, and I (all Baen headliners) were there, as well as many other Baen writers. (Eric Flint and Larry Correia have both been GoH here in the past.) I've never seen any overtly ideological programming, but it's fair to say that the

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general tenor is conservative; it attracts many veterans (myself included) and serving military personnel.

The main thing, however, is that people are nice. I've never seen anybody being attacked for what they write or how they write it (as I've been attacked at a Boskone, for example). There are a lot of families with children present, as well.

I was scheduled for a reading. I use such events as a chance for people to chat with me: I read a short piece, normally a chunk of rough draft from whatever I'm working on at the time (now I'm between books) and then take questions on whatever anybody wants to ask me.

The reading was at 10 pm. I'd had it moved back as a favor to a couple other Baen writers (and I wanted to catch their panel also). 10 pm is my bedtime, and I'd gotten up at 4 am for my flight besides. I wasn't sure anybody would show up, and I feared that I was going to be half asleep myself.

The room was genuinely SRO (it wasn't a huge room, but that was fifty-odd people). Folks were attentive and interested. It was the best event of its kind that I've ever had at a convention.

In the course of the weekend, I had several people tell me that listening to me helped them understand their veteran fathers (and in one case, her grandfather) better. That makes me feel good, but I'm also sorry that there aren't more people out there telling the truth as they see it about being in hard places. Because that's all that I do.

The Libertycon experience drove home a lesson that I already knew: people should be nice to other people. I'm sure I was in a minority of the attendees who'd voted for Hillary (I wasn't thrilled about the choice, but I did), but nobody got in my face about my political choices. At Libertycon it's possible to disagree with other people and everybody remain polite and courteous.

That should be the norm for civilized discourse. I hope all of you will go out and practice it, and I will try to do so also.

--Dave Drake

THANK YOU DAVID. THAT IS HIGH PRAISE COMING FROM YOU FOR SOMETHING WE LOVE DOING. LIBERTYCON IS A LABOR OF LOVE WHERE WE GET TO HANGOUT WITH OUR FRIENDS. FRIENDS LIKE YOU. TIM

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FIFTH TENNESSEE VALLEY INTERSTELLAR WORKSHOP UNVEILS AGENDA, KEY SPEAKERS FOR SYMPOSIUM SET FOR OCT. 3-6 IN HUNTSVILLE, ALABAMA

From: Les Johnson, les.johnson@tviw.us, July 6, 2017

The Tennessee Valley Interstellar Workshop, in partnership with Starship Century and Tau Zero Foundation, has expanded its fifth symposium to four very full days of panels, workshops, and seminars. A comprehensive schedule of events for TVIW 2017, set for Oct.

3-6 at the Embassy Suites in Huntsville, Alabama, is now available:

<https://tviw.us/2017-schedule>

The 2017 symposium's theme is "Step By Step: Building a Ladder to the Stars." TVIW will unite aerospace technologists, communicators, psychologists, and other visionaries whose work could vitally impact the future of humanity's interstellar adventure.

AGENDA HIGHLIGHTS

Launching the symposium Tuesday Oct. 3 will be a series of seminars on human exploration of space, conflict in space, and an introduction to laser propulsion, plus a tour of United Launch Alliance assembly and integration facilities. Symposium attendees are invited to a reception at 6 p.m. CST that evening in the Embassy Suites ballroom, hosted by science fiction publisher and TVIW sponsor Baen Books.

Wednesday, Oct. 4, will showcase the Breakthrough Starshot Initiative, an ambitious project leading to a first launch, within the next generation, of an interstellar spacecraft to Alpha Centauri. The afternoon session will kick off the first of the symposium's more than 30 peer-reviewed plenary talks, working tracks, Sagan meetings, and discussion groups. An art show and reception will be held at 6 p.m. in the hotel ballroom.

Plenary talks, working tracks and discussion groups will continue Thursday, Oct. 5. That evening, symposium attendees will visit the U.S. Space & Rocket Center, where internationally renowned astrophysicist Dr. Andrew Siemion, a lecturer and researcher at the University of California-Berkeley, will speak on the subject "The Search for Ourselves Among the Stars."

Among panel speakers Friday, Oct. 6 will be Congressman John Culberson(R-Texas), chair of the House Commerce, Justice, Science and Related Agencies Appropriations Subcommittee, NASA's funding source; Lt. General Steven Kwast, commander and president of Air University, the U.S. Air Force's primary center for professional military education, at Maxwell Air Force Base in Montgomery, Alabama; Paul McConnaughey, associate director of NASA's Marshall Space Flight Center in Huntsville; and Pete Worden, executive director of Breakthrough Starshot and former director of NASA's Ames Research Center. Panelists will discuss the steps needed for humanity to become an interstellar species. Additional presentations will include discussion about steps attendees may take to further the goals of TVIW and its partner organizations – taking us to the stars.

KEY SYMPOSIUM SPEAKERS

Speakers for the Oct. 4 Starship Century sessions include Worden; James Benford, sail system director for Breakthrough Star Shot and president of Microwave Sciences Inc.; Robert Fugate, retired senior scientist for the Air Force Research Laboratory and creator of the U.S. Department of Defense's Starfire Optical Range; David Messerschmitt, author and professor emeritus of electrical engineering and computer sciences at the University of California-Berkeley; and Kevin L.G. Parkin, systems director for Breakthrough Star Shot and founder of Parkin Research LLC.

On Oct. 5, Tau Zero Foundation will present Marc Millis, Tau Zero founder, veteran NASA physicist and author of *Frontiers of Propulsion Science*, a scholarly compendium on

propellantless drives and faster-than-light flight; and Jeff Greason, Tau Zero board chairman and chief executive officer of Agile Aero, to discuss the nonprofit foundation's goals to develop practical interstellar transportation technologies, vehicles and missions.

TVIW speakers on Oct. 6 will include Congressman Culberson; Lt. Gen. Kwast; NASA physicist Slava Turyshev, who will discuss a mission to study exoplanets using the sun's gravity field to focus light from distant targets; and additional speakers from NASA's Glenn Research Center, NASA's Marshall Space Flight Center, NASA's Jet Propulsion Laboratory, Rochester Institute of Technology, Wichita State University, the University of Alabama in Huntsville, and Clemson University.

MORE ABOUT TVIW

Conceived in 2011 by NASA physicist and author Les Johnson, physicist and author Greg Matloff, and engineer and entrepreneur Robert Kennedy, TVIW (www.tviw.us) was incorporated in 2014 by a board of five interstellar futurists. To bring the symposium to Huntsville, TVIW partners with interstellar starship development symposium Starship Century (<http://www.starshipcentury.com>) and Tau Zero Foundation (<https://tauzero.aero>).

TVIW sponsors include science fiction publisher Baen Books (<http://www.baen.com>) -- "The Heart of Science Fiction," proudly supporting TVIW since 2013; Digital Oilfield Solutions (<http://www.digitaloilfieldsolutions.co.uk>); MontTech, Inc.; and a number of private supporters.

Learn more about TVIW 2017 online, and connect via social media:

Web: <https://tviw.us>

Facebook: <https://www.facebook.com/TNValleyInterstellarWorkshop>

Twitter: <https://twitter.com/tviwus>

YouTube: <http://youtube.com/tviw>

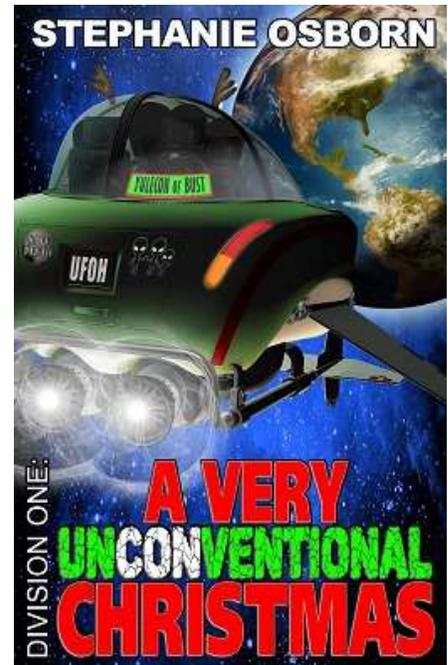
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CHROMOSPHERE PRESS ANNOUNCES DIVISION ONE BOOK THREE FROM STEPHANIE OSBORN!

11 JULY 2017
FOR IMMEDIATE RELEASE
HUNTSVILLE, AL

Happy Christmas in July! Now available: book three in the popular Division One series, A Very UnCONventional Christmas, by award-winning author Stephanie Osborn!

It's Christmas in NYC, but for the Pan-Galactic Division One's special forces unit, Alpha Line, it's anything but a Silent Night: The Division One Agency has a mole, leaking classified information to toy manufacturers and film producers alike, and the Agents are in danger of losing their anonymity. To complicate matters, the Prime Minister of



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Lambda Andromedae III, complete with entourage, has arrived to negotiate a new trade agreement with Earth. Worse, the more paranoid Division One field agents look at Omega's recent history with the Agency and suspect they have identified the mole!

Simultaneously, the discovery of a grim countdown in the most incongruous place possible — the Christmas tree at Rockefeller Center — augers the threat of horrific events on Christmas Eve itself.

Meanwhile, Omega is struggling to adjust to her very first Christmas in the Agency, made more difficult by the recent exposure of parts of her past long hidden from her conscious mind.

Will Omega be able to refute the accusations, or will she be punished for crimes she did not commit? Will the internal conspiracy expose the Agency? Or will efforts to thwart it see Omega's partner Echo — as well as Director Fox — caught up in the accusations as well? What is the meaning of the countdown to Christmas Eve, and will any of Alpha Line survive it?

Award-winning author Osborn is a 20+-year space program veteran, with multiple STEM degrees. She has authored, co-authored, or contributed to more than 30 books. She currently writes the critically-acclaimed Displaced Detective Series, described as "Sherlock Holmes meets The X-Files," and the Gentleman Aegis Series, whose first book was a Silver Falchion winner. She "pays it forward" through numerous media including radio, podcasting and public speaking, and working with SIGMA, the science-fiction think tank. Osborn's website is <http://www.stephanie-osborn.com>.

Division One series book three, A Very UnCONventional Christmas, will be released in ebook formats on 11 July 2017, and in trade paperback format on 25 July. Additional installments in the ongoing series are anticipated later this year.

ISBN:

[978-0-9982888-4-0](#) (ebook)

[978-0-9982888-5-7](#) (print)

The ebooks/print books are available for preorder at:

Amazon: https://www.amazon.com/Division-One-Very-UnCONventional-Christmas-ebook/dp/B071K73MM9/ref=asap_bc?ie=UTF8

Barnes-Noble: <https://www.barnesandnoble.com/w/a-very-unconventional-christmas-stephanie-osborn/1126182634?ean=9780998288857>

Other formats, and trade paper, will be available from your favorite bookseller!

Previous books in the series include: book one, Alpha and Omega [https://www.amazon.com/Alpha-Omega-Division-Stephanie-Osborn-ebook/dp/B01MXNQTFJ/ref=asap_bc?ie=UTF8], and book two, A Small Medium At Large [https://www.amazon.com/Division-One-Small-Medium-Large-ebook/dp/B06XTQX7GZ/ref=asap_bc?ie=UTF8].

Future books in the series are planned.

[You're getting this email as a courtesy announcement because you've hosted me in the past, to talk about my books and my background as a scientist and author. Thanks for listening!]

~Stephanie Osborn, "The Interstellar Woman of Mystery"

<http://www.Stephanie-Osborn.com>

Award-winning author of the Division One, Gentleman Aegis, and Displaced Detective series

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PLANETARY STORIES 39 - FOR REAL

rom: "Shelby Vick" planetarystories@gmail.com

With my daughter Cheryl acting as my eyes and fingers, plus enormous amounts of help from many others, Planetary Stories 39 is COMPLETE!!!

Click on www.planetarystories.com/PS39cvr.html and see for yourself.

Thanxalot,SheVly

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THE "GOLDEN EYE" VIRUS

From: "Jim Woosley" Jimwoosley@aol.com

Updated: 06:36 EDT, 28 June 2017

<http://www.dailymail.co.uk/news/article-4643752/Europe-hit-new-WannaCry-virus.html>

At 09:10 PM 6/28/2017, you wrote:

<http://mobile.reuters.com/article/idUSKBN1911TD?il=0>

This note from a friend with additional information illustrates the concern:

There is a weaponized computer virus spreading at the moment that is so lethal it's scary. It looks as if some idiots may have tried to modify an already dangerous professional (NSA or similar) malware to be a ransomware and screwed it up to make it more lethal and entirely uncontrollable. You get told to pay 300 bitcoin (a huge sum by the way) but there's no way to recover the system. Once it is in it burns it to the ground. No recovery possible.

Chernobyl is currently running in manual mode with retired operators who are already riddled with cancer from the first melt-down. The fact the US news media is continuing their 'All Trump Bash All the Time' is proof they have not a fucking clue about what's important.

Repeat: Chernobyl's entire computer system is crashed and it is running in MANUAL MODE with retired operators who are the only ones who know how to keep it from melting down.

Again.

And all the computers and all the software is going to have to be replaced entirely.

It has the Ukraine shut down. They literally are sending everyone home just so they don't TOUCH their computers. The government has thrown up its hands. They're basically headed for the dark ages.

There's no present 'patch' for antivirus software. It basically laughs at it. The faster your system, the more vulnerable you become. Currently, the US has been kicking it out but it's spreading so hard and fast that may not last long.

Right now, if you send me an email with an attachment or a link I'll simply delete it.

Don't click on any link even if you know the sender and know the sender sent it.

This may be over-stating but real experts who are fighting this in real time are talking 'fire sale.' That bad.

(From a facebook friend)

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FURTHER UPDATE ON NASHVILLE FAN, ALISA RANSOM'S, PROBLEMS – ANY HELP WOULD BE APPRECIATED

From: Nancy Holland <drnancyh.holland@gmail.com>

Alisa's husband passed away on Tuesday, Jun 27, 2017.

The manager of the dance studio where Alisa and her husband, Todd, worked has set up a go fund me page to help with Todd's medical and funeral expenses. Also, Alisa is going to need legal help settling Todd's estate. Please share this link with anyone who could help, even it's \$5. Thanks!

<https://www.gofundme.com/toddp>

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Re: Little Rock Air Force Base Chapel

From: "Robert Kennedy" <robot@ultimax.com>

Timmy,

I did an energy audit of that very building (it's actually three structures now grouped into one facility number, which is #950) less than six months ago, at LRAFB. What a small world!

Greetings from Addis Ababa. 4th time in Africa in 8 months. Got sick again, too. Oy. Flying home to Tenn. starting late tonight.

Right now, I'm listening to duelling muezzin outside my window (first of the day's 5 calls to prayer, at 0455 local time). It's pitch dark outside, but the Islamic definition of daybreak is when you can tell a black three held up from a white one. The Ethiopian Orthodox church (60-80% of the country is Orthodox) does the loudspeaker thing, too, which may surprise you. So these guys compete.

Have a good LibertyCon.

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From: "Mike Waldrip" waldripk@gmail.com

Drunk at the Door

Couple Wake Up To A Drunk Guy Knocking On Their Door At 3am. Then This Happens.

A man is in bed with his wife when there is a rat-a-tat-tat on the door.

He rolls over and looks at his clock, and it's half past three in the morning. "I'm not getting out of bed at this time," he thinks, and rolls over.

Then, a louder knock follows and he hears a stirring from his wife.

"Aren't you going to answer that?" says his wife.

So he drags himself out of bed and goes downstairs. He opens the door and there is man standing at the door. It didn't take the homeowner long to realize the man was drunk.

"Hi there," slurs the stranger. "Can you give me a push?"

"No, get lost. It's half past three. I was in bed," says the man and slams the door. He goes back up to bed and tells his wife what happened and she says, "Dave, that wasn't very nice of you. Remember that night we broke down in the pouring rain on the way to pick the kids up from the baby sitter and you had to knock on that man's house to get us started again? What would have happened if he'd told us to get lost?"

"But the guy was drunk," says the husband.

"It doesn't matter," says the wife. "He needs our help and it would be the right thing to help him." So the husband gets out of bed again, gets dressed and goes downstairs.

He opens the door, and not being able to see the stranger anywhere he shouts, "Hey, do you still want a push?"

And he hears a voice cry out, "Yeah, please."

So, still being unable to see the stranger he shouts, "Where are you?"

And the stranger replies, "I'm over here, on your swing."

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ALWAYS LEARN NEW STUFF!

Longest Nerve In The Body

Did you know that in the human body there is a nerve that connects the eyeball to the anus.

It's called the Anal Optic Nerve, and it is responsible for giving people a shitty outlook on life.

If you don't believe it, pull a hair from your ass and see if it doesn't bring a tear to your eyes.

My public service is done for the day!

Keep laughing...life is too short to take too seriously....

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SMART BLOND

A blonde and a lawyer are sitting next to each other on a plane. The lawyer asks the blonde if she wants to play a game, "All you have to do is ask a question and if I get it wrong or don't know, I'll give you five dollars, then I ask you a question and if you get it wrong you pay me five dollars."

"No," she says. "I just want to sleep."

He keeps asking and she finally gives in when he says he will pay her 500 dollars, but she still only has to pay five dollars.

"What's the distance from the earth to the moon?" he asks.

She gives him 5 dollars. "What goes up the hill with four legs and comes down with five?" she asks.

He pulls out his laptop and searches it, but finds nothing. Then he emails his friends. After an hour, he still hasn't got an answer, he hands her 500 dollars. Then he asks her: "So what is the answer?"

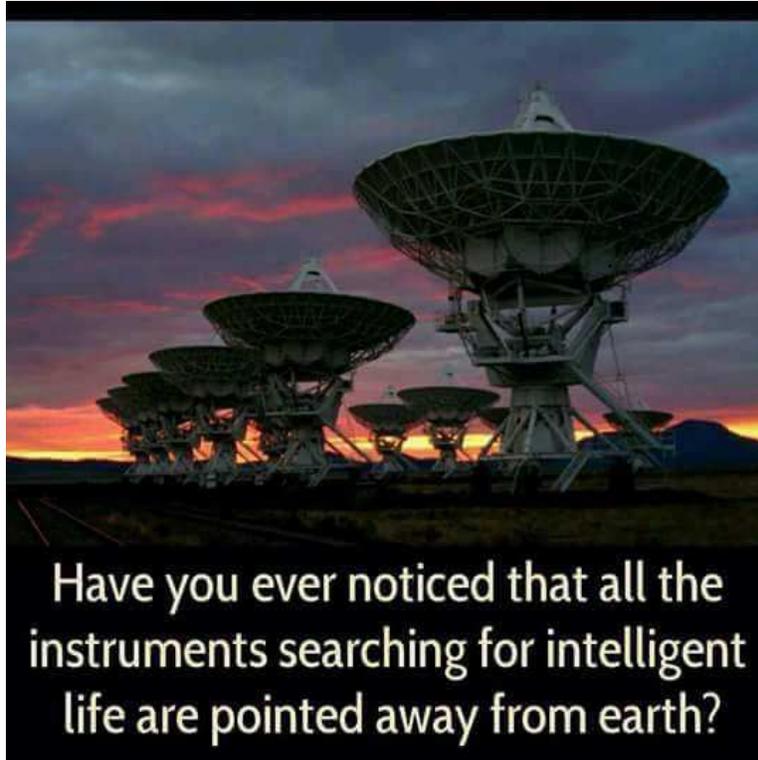
She hands him 5 dollars.

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DOGS CHANGING LIGHT BULBS

Here's how various breeds would respond to being asked to change a lightbulb.

GOLDEN RETRIEVER: The sun is shining, the day is young, we've got our whole lives ahead of us, and you're inside worrying about a stupid burned-out lightbulb?



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4TH OF JULY ACTIVITIES

- WATCHING FIREWORKS
- WATCHING FIREWORKS FROM DRONES
- FLYING DRONES THROUGH FIREWORKS
- INTERCEPTING FIREWORKS WITH DRONES
- COMPETITIONS TO HIT DRONES WITH FIREWORKS
- TEAMS COMPETE TO SHOOT DOWN EACH OTHER'S FIREWORK-ARMED DRONES
- SENTIENT FIREWORK-ARMED DRONES OVERTHROW HUMANS
- DRONES CELEBRATE INDEPENDENCE DAY

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THE BARN

Larry & Susan's barn burned to the ground. Susan called their insurance company, "Our barn just burned down. It was insured for \$50,000. How soon can we get that money to rebuild."

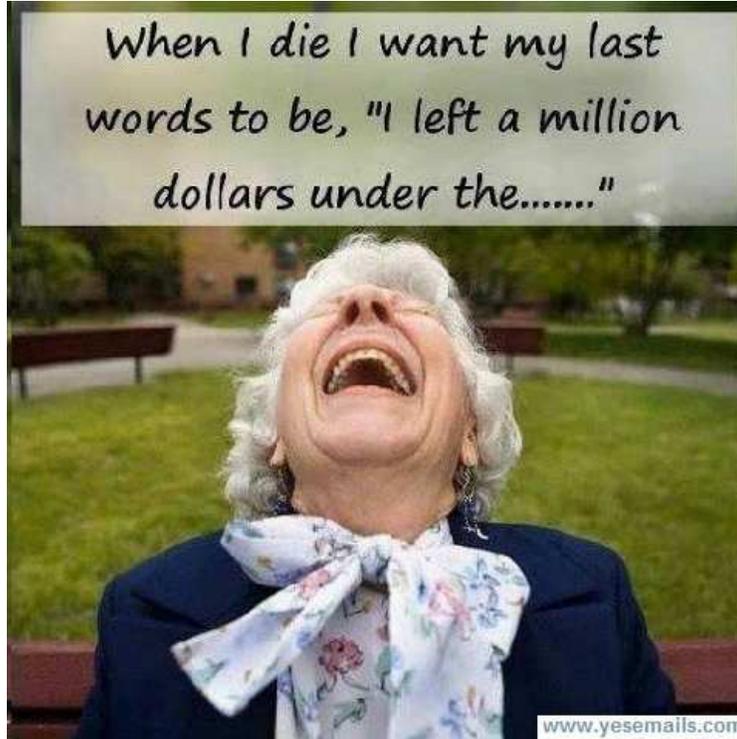
The agent said, "Whoa there. Wait just a minute, Susan, it doesn't work quite like that. We will come out and ascertain the value of the old barn. Then we will provide you with a new one of comparable worth."

Susan, paused, thought for a moment, then quietly said, "I'd like to cancel the policy on my husband!"

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



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

From: "Jerry Tollett" haleja@epbfi.com

A GOLFER'S LOVE STORY

An elderly couple were having dinner one evening when the husband reached across the table, took his wife's hand in his and said,

"Martha, soon we will be married 50 years, and there's something I have to know. In all of these 50 years, have you ever been unfaithful to me?"

Martha replied, "Well Henry, I have to be honest with you. Yes, I've been unfaithful to you on three occasions during these 50 years, but always for a good reason.

Henry was obviously hurt by his wife's confession, but said, "I never suspected. Can you tell me what you mean by 'good reasons?'"

Martha said, "The first time was shortly after we were married, and we were about to lose our little house because we couldn't pay the mortgage. Do you remember that evening I went to see the banker and the next day he notified you that the loan would be extended?"

Henry recalled the visit to the banker and said, "I can forgive you for that. You saved our home, but what about the second time?"

martha asked, "Do you remember when you were so sick, but we didn't have the money to pay for the heart surgery you needed? Well, I went to see your doctor one night and, if you recall, he did the surgery at no charge."

"I recall that," said Henry. "And you did it to save my life, so of course I can forgive you for that. Now tell me about the third time."

"All right," Martha said. "So do you remember when you ran for president of your golf club, and you needed 53 more votes?"

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

From: "Bob Bolgeo" bbolgeo@aol.com

CHOOSE A WIFE

A man wanted to get married. He was having trouble choosing among three likely candidates. He gives each woman a present of \$5,000 and watches to see what they do with the money.

The first does a total makeover. She goes to a fancy beauty salon, gets her hair done, new makeup; buys several new outfits and dresses up very nicely for the man. She tells him that she has done this to be more attractive for him because she loves him so much.

The man was impressed.

The second goes shopping to buy the man gifts. She gets him a new set of golf clubs, some new gizmos for his computer, and some expensive clothes. As she presents these gifts, she tells him that she has spent all the money on him because she loves him so much..

Again, the man is impressed.

The third invests the money in the stock market She earns several times the \$5,000. She gives him back his \$5,000 and reinvests the remainder in a joint account. She tells him that she wants to save for their future because she loves him so much.

Obviously, the man was impressed.

The man thought for a long time about what each woman had done with the money he'd given her.

Then he married the one with the biggest Boobs.

Men are like that, you know.

And on another note!!!!!!!!!!!!!!!

There is more money being spent on breast implants and Viagra today than on Alzheimer's research. This means that by 2040, there should be a large elderly population with perky boobs and huge erections and absolutely no recollection of what to do with them!

If you don't send this to five OLD friends right away there will be five fewer people laughing in the world.

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

PENIS VAN LESBIAN

***A good looking man walked into an agent's office in Hollywood and said, "I want to be a movie star." Tall, handsome, and with experience on Broadway , he had the right credentials . The agent asked, "What's your name?"**

The guy said, "My name is Penis van Lesbian."

The agent said, "Sir, I hate to tell you, but in order to get into Hollywood , you are going to have to change your name."

"I will NOT change my name! The van Lesbian name is centuries old, I will not disrespect my grandfather by changing my name. Not ever."

The agent said, "Sir, I have worked in Hollywood for years...you will NEVER go far in Hollywood with a name like Penis van Lesbian ! I'm telling you, you will HAVE TO change your name or I will not be able to represent you."

"So be it! I guess we will not do business together," the guy said and he left the agent's office.

FIVE YEARS LATER.....The agent opens an envelope sent to his office. Inside the envelope is a letter and a check for \$50,000. The agent is awe-struck, who would possibly send him \$50,000? He reads the letter enclosed...

Dear Sir,

Five years ago, I came into your office wanting to become an actor in Hollywood , you told me I needed to change my name. Determined to make it with my God-given birth name, I refused

You told me I would never make it in Hollywood with a name like Penis van Lesbian. After I left your office, I thought about what you said. I decided you were right. I had to change my name. I had too much pride to return to your office, so I signed with another agent.

I would never have made it without changing my name, so the enclosed check is a token of my appreciation.

Thank you for your advice.

Sincerely,

Dick van Dyke

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

BBQ & Beer Cooler

Southern Engineering at its Best

When you are finished BBQing, and the ice has melted, just pull the handle down & the fire goes out. Is this a great country, or what?!!



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

SEX ON MARS -Good old one

The year is 2222 and Mike and Maureen land on Mars after accumulating enough Frequent Flier miles.

They meet a Martian couple and are talking about all sorts of things. Mike asks if Mars has a stock market, if they have laptop computers, how they make money, etc.,

Finally, Maureen brings up the subject of sex ...

'Just how do you guys do it?' asks Maureen.

The Martian responds, 'Pretty much the way you do.'

A discussion ensues and finally the couples decide to swap partners for the night and experience one another. Maureen and the male Martian go off to a bedroom where the Martian strips.

He's got only a teeny, weenie member about half an inch long and just a quarter-inch thick.

'I don't think this is going to work,' says Maureen.

'Why?' he asks. 'What's the matter?'

'Well,' she replies, 'it's just not long enough to reach me!'

'No problem', he says, and proceeds to slap his forehead with his palm. With each slap of his forehead, his member grows until it's quite impressively long.

'Well,' she says, 'that's quite impressive, but it is still narrow.'

'No problem,' he says, and starts pulling his ears. With each pull, his member grows wider and wider until the entire measurement is extremely exciting to the woman.

'Wow!' she exclaims, as they fell into bed and made mad passionate love.

The next day the couples rejoin their other partners and go their separate ways. As they walked along, Mike asks, 'Well, was it any good?'

'I hate to say it,' says Maureen, 'but it was wonderful. How about you?'

'It was horrible,' he replies. 'All I got was a headache. She just kept slapping my forehead and pulling my ears.'

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

**A real woman is a man's best friend.
She will never stand him up and never let him down.
She will reassure him when he feels insecure
And comfort him after a bad day.
She will inspire him to do things he never thought he could
do;
to live without fear and forget regret.
She will enable him to express his deepest emotions and
give in to his most intimate desires.
She will make sure he always feels as though
he's the most handsome man in the room
and will enable him to be the most confident,
sexy, seductive and invincible...
No wait...SORRY.
I'm thinking of whiskey. It's whiskey that does all that shit.
Never mind.....**

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

From: "Jim Woosley" Jimwoosley@aol.com

Best Meme Ever

<https://twitter.com/ColumbiaBugle/status/883771499336749056>

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

YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Tim Bolgeo" tbolgeo@epbfi.com

TRUMP EPA TO DUMP 'WOTUS'; FREES 247 MILLION ACRES OF FARMLAND

by CHRISS W. STREET 28 Jun 2017, Newport Beach, CA

<http://www.breitbart.com/california/2017/06/28/trump-epa-to-dump-wotus-control-over-247-million-acres-of-farmland/>

Ron Sachs/CNP/MediaPunch/IPX

The Environmental Protection Agency (EPA) announced Tuesday, to the delight of rural America, that the Trump administration is moving to rescind the Obama era's "Waters of the United States" (WOTUS) regulatory rule.

WOTUS gave the federal government effective authority over water use on 247 million acres of American farmland.



EPA Administrator Scott Pruitt, together with Secretary of the Army for Civil Works Douglas Lamont, signed a proposed regulatory rescission of WOTUS. As soon as the proposed rule change can be published in the Federal Register, under Docket ID No. EPA-HQ-OW-2017-0203, the public will have a 30-day comment period to "review and revise" the definition of "waters of the United States."

The EPA took to Twitter at #WOTUS to call its action a significant step to return power to states and provide regulatory certainty to the nation's farmers and businesses. The EPA added that its decision is consistent with the Executive Order signed by President Trump on February 28, aimed at "Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the 'Waters of the United States' Rule."

The Obama administration's WOTUS regulatory expansion cleverly redefined the term "navigable waters" to include "intermittent streams." Environmental activists hailed the WOTUS's expansion of federal jurisdiction over land and water use as an essential common-sense-rule to protect water for wildlife and drinking water supplies for 117 million Americans.

But the American Farm Bureau Foundation warned that a plain-reading of WOTUS meant that federal regulatory control could be asserted over any land surface that had ever experienced rain flow, had been flooded, or had irrigation ditches. Farmers argued that the federal regulatory redefinition could usurp state control of water use for America's entire 247,417,282 acres used in row-crop cultivation.

The basis for federal jurisdiction over "navigable waters" lies in the U.S. Constitution's Commerce Clause [Article 1, Section 8], which gives the federal government extensive authority to regulate interstate commerce. The U.S. Supreme Court ruled in the landmark case of *Gibbons v. Ogden* (1824), that federal law has precedence in licensing vessels that moved in and out of U.S. ports.

The Commerce Clause was expanded with the passage of the "Rivers and Harbors Appropriation Act of 1899," which forbid building any unauthorized obstruction to the nation's "navigable waters" and gave enforcement powers to the U.S. Army Corps of Engineers.

President Nixon tremendously expanded the Commerce Clause with the passage of the Clean Water Act of 1972, which was supposed to create a national policy that would protect America's public drinking water supply from contamination.

There currently are 18 federal lawsuits in various U.S. District Courts and about 22 federal appeals court petitions in various districts over WOTUS. The U.S. Court of Appeals for the Sixth Circuit issued a nationwide stay on October 9, 2015 against WOTUS's enforcement under the Clean Water Act. The case was quickly appealed and the Supreme Court decided to take the case just days before the Trump inauguration Day

California's U.S. House Majority Leader Kevin McCarthy released the following statement:

The Waters of the U.S. rule was a ridiculous usurpation of power by the EPA—so ridiculous that bipartisan majorities in the House and Senate voted to overturn the rule last year. The federal government has no right to regulate intermittent streams, creeks, and ponds, especially when that water is on private property. The Trump Administration's decision today to withdraw this rule makes things right by getting Washington out of what it had no right to be involved with in the first place.

Republican Speaker of the House Paul Ryan (R-WI) issued the following statement:

The West has finally won in the battle over the Obama administration's WOTUS rule. This regulation would have been a disaster for the West and rural communities across the country, giving Washington near-total control over water resources. The livelihoods of American farmers, ranchers, and entrepreneurs were at stake. I applaud the Trump administration for siding with American jobs and rescinding this harmful rule.

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

YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Mike Waldrip" waldripk@gmail.com

VIDEO: DANNY MACASKILL'S WEE DAY OUT

posted by Jason Kottke Oct 12, 2016

<http://kottke.org/16/10/danny-macaskills-wee-day-out>

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

CNN: TRUMP'S WRESTLING MEME MAY BE RACIST, ANTISEMITIC

by JOEL B. POLLAK 3 Jul 2017

<http://www.breitbart.com/big-journalism/2017/07/03/cnn-trump-wrestling-meme-racist-antisemitic/>



CNN is fighting back after President Donald Trump tweeted a spoof video on Sunday showing him wrestling the network to the ground. On Sunday, network commentators described the video as a form of incitement; on Monday, the network reported that the video raised “questions” about “racism, bigotry, and violence ... [and] antisemitism.”

Appearing on The Lead, CNN correspondent Tom Foreman cited the Anti-Defamation League (ADL) — a left-wing organization often critical of the Trump administration — and

its finding that the Reddit user who claimed to have created the wrestling video had posted offensive content in the past.

Foreman noted that the White House had not revealed where it found the video, except to say that it was not on Reddit. (This author remembers seeing the video on Twitter before Trump tweeted it.)

The ADL released a statement on Monday, stating that it had studied the posts by the Reddit user in question, HanAssholeSolo (the ADL declined to provide the full name), concluding that he or she “is like many other online bigots who use platforms like Reddit to anonymously share their hateful words and images.”

The ADL continued:

For more than a year, this Reddit user has violated the platform’s terms of service by posting the type of hate against Muslims, African-Americans, Jews and others that has become all too common both online and offline, according to ADL’s analysis, available here. In fact, the individual posted an image collage of CNN journalists and employees labeling them with a Star of David and writing, “Something strange about CNN...can’t quite put my finger on it...” [original link]

“We have been analyzing the online activities of this individual and found a consistent record of racism, anti-Semitism and bigotry for more than a year on Reddit,” said Jonathan A. Greenblatt, ADL CEO. “This individual traffics in online hatred and at times violent rhetoric, has created an image labeling CNN journalists with Stars of David and has written about stabbing Muslims among other violent rhetoric.

“When those on the fringes of society feel their messaging is getting mainstream attention, that should raise alarms for all Americans across the political spectrum that reject hatred and bigotry,” Greenblatt added. “We must condemn these extremists and keep them on the margins of our society.”

Last November, Greenblatt led the charge to smear former Breitbart News executive chairman Steve Bannon as an antisemite, until he was compelled to back down from the claim, given the complete lack of evidence to support it. Greenblatt was also forced to retract the claim that Breitbart News was “the premier” website for the “alt-right.” (Greenblatt backed down when questioned by Breitbart News, but the statement remains on the ADL’s website.)

The ADL’s analysis makes a convincing case that HanAssholeSolo — whose identity remains a mystery — is a bigot. But neither the ADL nor CNN provides any evidence that President Trump sourced the video from that user, or that he even knew the source, or the source’s posting history.

There is nothing in the wrestling video itself — which is based on a staged fight several years ago between Trump and World Wrestling Entertainment owner Vince McMahon — that is racist, antisemitic, or otherwise bigoted.

THIS IS RACIST? OH COME ON AND LIGHTEN UP. UT

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**CNN 'NEW DAY': CNN PROMISED NOT TO IDENTIFY PRO-TRUMP REDDIT USER IF HE APOLOGIZED; "A NICE THING"**

Posted By Ian Schwartz, On Date July 5, 2017

[https://www.realclearpolitics.com/video/2017/07/05/cnn\\_new\\_day\\_cnn\\_promised\\_not\\_to\\_identify\\_pro-trump\\_reddit\\_user\\_if\\_he\\_apologized\\_a\\_nice\\_thing.html](https://www.realclearpolitics.com/video/2017/07/05/cnn_new_day_cnn_promised_not_to_identify_pro-trump_reddit_user_if_he_apologized_a_nice_thing.html)

**CNN 'New Day': CNN Promised Not To Identify Pro-Trump Reddit User If He Apologized; "A Nice Thing"**

Posted By Ian Schwartz

On Date July 5, 2017

**CNN 'New Day': CNN Promised Not To Identify Pro-Trump Reddit User If He Apologized; "A Nice Thing"**

On Wednesday's edition of CNN's New Day, hosts Chris Cuomo and Alisyn Camerota addressed the apology the network was able to get from the Reddit user behind the gif of President Trump wrestling a CNN image superimposed on WWE founder Vince McMahon. Trump tweeted out the gif and received widespread condemnation from the mainstream media.

<SNIP>

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

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

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

**PRESIDENT TRUMP OFFERS TO HELP DEATHLY ILL BABY BRITAIN THINKS SHOULD "DIE WITH DIGNITY"**

**JULY 3, 2017, POLITICSSOCIAL MEDIATRUMP72 COMMENTS2 MIN READ**

<https://milo.viannopoulos.net/2017/07/trump-charlie-gard/>

In a tweet this morning, President Donald Trump stated his desire to help a terminally ill British baby.

As reported previously, Charlie Gard's parents would like to bring him – using crowdsourced funds – to the United States to partake in an experimental treatment they believe could save his life.

The European Court of Human Rights, however, has ruled against the parents' wishes, siding with doctors in stating that Gard – who, according to Sky News, suffers from a rare genetic condition and brain damage – should "die with dignity" in a British hospital.

Their belief is that Gard is suffering and the experimental treatment in the U.S. is unlikely to change that.

And so, Gard's life machine was set to be turned off on Friday.

However, as The Daily Mail reports, the hospital later relented and announced it would leave Gard on the machine for a few more days.

As the situation gained international attention, Pope Francis spoke out and expressed his support for Gard's parents and their wishes to accompany him to the United States for treatment.

Now, President Donald Trump has added his voice to the mix.

"If we can help little #CharlieGard, as per our friends in the U.K. and the Pope, we would be delighted to do so," he wrote on Twitter this morning.

**TAKE THE TIME TO READ THE COMMENT CONCERNING THIS STORY. THEY SHOW BOTH THE GOOD AND THE BAD OF SOCIAL MEDIA. IT IS AMAZING TO ME HOW PETTY AND MEAN SPIRITED SOME LEFT LEANING PEOPLE ARE IN THEIR COMMENTS. UT**

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

### **35 ST. LOUIS-AREA CONVENIENCE STORE OWNERS INDICTED FOLLOWING FEDERAL RAIDS**

Rachel Sudduth, Online News Producer, Posted: May 31, 2017 3:26 PM EDTBy

<http://www.kmov.com/story/35558288/35-st-louis-area-convenience-store-owners-indicted-following-federal-raids>

A federal grand jury has indicted 35 store owners on federal conspiracy charges for trafficking contraband cigarettes, distributing controlled substances and money laundering.

According to reports, the suspects conspired for more than 2 years to buy contraband cigarettes in St. Louis, a low tax market, while transporting and distributing them in Chicago, Illinois, and New Jersey, which are high tax markets.

The store owners are accused of using several convenience stores that they operated to create the appearance of legal cigarette purchases.

Illegal profits from the contraband cigarette sales were laundered through accounts associated with the stores.

Synthetic drugs, K-2, was sold every day from a handful of the convenience stores. Authorities said the store owners manufactured synthetic drugs themselves by importing chemicals from China.

"The collaboration with our federal and local law enforcement partners is the key to breaking criminal enterprises in this area," said Special Agent in Charge James M. Gibbons of HSI Chicago.

"Synthetic drugs that are sold as purportedly legal substitutes for cannabis and stimulants, such as cocaine and methamphetamine, are neither legal nor safe," said James P. Shroba, Special Agent in Charge of the DEA St. Louis Division. "These substances were never intended for human consumption and only serve to satisfy the avarice of the seller."

If convicted, the defendants face a maximum of five to 20 years in prison and the possibility of a \$1 million dollar fine.

This case was investigated by Homeland Security Investigations, Drug Enforcement Administration, Internal Revenue Service – Criminal Investigation, Federal Bureau of Investigation, Illinois State Police, Illinois Department of Revenue and Alcohol and Tobacco Tax and Trade Bureau.

<SNIP>

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

**EXCLUSIVE: STUDY FINDS TEMPERATURE ADJUSTMENTS ACCOUNT FOR 'NEARLY ALL OF THE WARMING' IN CLIMATE DATA**

**MICHAEL BASTASCH, 11:21 PM 07/05/2017**

<http://dailycaller.com/2017/07/05/exclusive-study-finds-temperature-adjustments-account-for-nearly-all-of-the-warming-in-climate-data/>

A new study found adjustments made to global surface temperature readings by scientists in recent years “are totally inconsistent with published and credible U.S. and other temperature data.”

“Thus, it is impossible to conclude from the three published [global average surface temperature (GAST)] data sets that recent years have been the warmest ever – despite current claims of record setting warming,” according to a study published June 27 by two scientists and a veteran statistician.

The peer-reviewed study tried to validate current surface temperature datasets managed by NASA, NOAA and the UK’s Met Office, all of which make adjustments to raw thermometer readings. Skeptics of man-made global warming have criticized the adjustments.

Climate scientists often apply adjustments to surface temperature thermometers to account for “biases” in the data. The new study doesn’t question the adjustments themselves but notes nearly all of them increase the warming trend.

Basically, “cyclical pattern in the earlier reported data has very nearly been ‘adjusted’ out” of temperature readings taken from weather stations, buoys, ships and other sources.

In fact, almost all the surface temperature warming adjustments cool past temperatures and warm more current records, increasing the warming trend, according to the study’s authors.

“Nearly all of the warming they are now showing are in the adjustments,” Meteorologist Joe D’Aleo, a study co-author, told The Daily Caller News Foundation in an interview. “Each dataset pushed down the 1940s warming and pushed up the current warming.”

“You would think that when you make adjustments you’d sometimes get warming and sometimes get cooling. That’s almost never happened,” said D’Aleo, who co-authored the study with statistician James Wallace and Cato Institute climate scientist Craig Idso.

Their study found measurements “nearly always exhibited a steeper warming linear trend over its entire history,” which was “nearly always accomplished by systematically removing the previously existing cyclical temperature pattern.”

“The conclusive findings of this research are that the three [global average surface temperature] data sets are not a valid representation of reality,” the study found. “In fact, the magnitude of their historical data adjustments, that removed their cyclical temperature patterns, are totally inconsistent with published and credible U.S. and other temperature data.”

Based on these results, the study’s authors claim the science underpinning the Environmental Protection Agency’s (EPA) authority to regulate greenhouse gases “is invalidated.”

The new study will be included in petitions by conservative groups to the EPA to reconsider the 2009 endangerment finding, which gave the agency its legal authority to regulate carbon dioxide and other greenhouse gases.

Sam Kazman, an attorney with the Competitive Enterprise Institute (CEI), said the study added an “important new piece of evidence to this debate” over whether to reopen the endangerment finding. CEI petitioned EPA to reopen the endangerment finding in February.

“I think this adds a very strong new element to it,” Kazman told TheDCNF. “It’s enough reason to open things formally and open public comment on the charges we make.”

Since President Donald Trump ordered EPA Administrator Scott Pruitt to review the Clean Power Plan, there’s been speculation the administration would reopen the endangerment finding to new scrutiny.

The Obama-era document used three lines of evidence to claim such emissions from vehicles “endanger both the public health and the public welfare of current and future generations.”

D’Aleo and Wallace filed a petition with EPA on behalf of their group, the Concerned Household Electricity Consumers Council (CHECC). They relied on past their past research, which found one of EPA’s lines of evidence “simply does not exist in the real world.”

Their 2016 study “failed to find that the steadily rising atmospheric CO2 concentrations have had a statistically significant impact on any of the 13 critically important temperature time series data analyzed.”

“In sum, all three of the lines of evidence relied upon by EPA to attribute warming to human GHG emissions are invalid,” reads CHCC’s petition. “The Endangerment Finding itself is therefore invalid and should be reconsidered.

Pruitt’s largely been silent on whether or not he would reopen the endangerment finding, but the administrator did say he was spearheading a red team exercise to tackle climate science.

Secretary of Energy Rick Perry also came out in favor of red-blue team exercises, which are used by the military and intelligence agencies to expose any vulnerabilities to systems or strategies.

Environmental activists and climate scientists largely panned the idea, with some even arguing it would be “dangerous” to elevate minority scientific opinions.

“Such calls for special teams of investigators are not about honest scientific debate,” wrote climate scientist Ben Santer and Kerry Emanuel and historian and activist Naomi Oreskes.

“They are dangerous attempts to elevate the status of minority opinions, and to undercut the legitimacy, objectivity and transparency of existing climate science,” the three wrote in a recent Washington Post op-ed.

“Frankly, I think you could do a red-blue team exercise as part of reviewing the endangerment finding,” Kazman said.

Though Kazman did warn a red team exercise could be a double-edged sword if not done correctly. He worries some scientists not supportive of the idea could undermine the process from the inside and use it to grandstand.

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

By your friend and mine, the illustrious Mad Mike

[https://twitter.com/Gun\\_Shots/status/883428692822638592](https://twitter.com/Gun_Shots/status/883428692822638592)

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

## **TEXAS COOKIE STORE EMPLOYEE WHO BOUGHT COP'S ORDER TEMPORARILY SUSPENDED**

Fox News, Published July 07, 2017

<http://www.foxnews.com/us/2017/07/07/texas-cookie-store-employee-who-bought-cops-order-temporarily-suspended.html>

A worker at a cookie store in Texas was temporarily suspended for purchasing an order for a police officer.

An employee of Great American Cookies in Texas was temporarily suspended after he bought a police officer's order.

The employee was working at Katy Mills Mall Sunday when an on-duty cop visited the store and completed an order. Seeing the police officer's badge, the young employee decided to purchase the officer's order with his own money.

After the officer thanked the employee and walked away, the family in line behind him grew angry that the employee would not buy their order after buying the cop's.

The employee's mother shared what happened on Facebook.

The employee was told on Monday that he would have to “bring all of his ‘stuff’” to a meeting with the store’s management Tuesday, where he was allegedly told that the “upper managers want him fired.”

The mother wrote that his manager refused to fire him because he was an “excellent worker” and “did nothing wrong.” But the employee was then told he would be suspended for one week following his shift.

Biju George, VKC Refreshments, the owner and operator of Great American Cookies at Katy Mills Mall, released the following statement to the Houston Chronicle:

"On behalf of Great American Cookies Katy Mills, we owe the employee an apology. It was never an issue that he purchased a brownie for a police officer, but rather the events that unfolded with another customer in line at the time. However, after further review, we realize that the employee was in fact in the right and we continue to reach out to him and his mom to issue an apology. The corrective action and suspension was reversed immediately and we hope to connect with him today."

"Great American Cookies proudly supports Law Enforcement, First Responders and all who serve our country," David Kaiser, executive vice president at Great American Cookies, said via email to the Chronicle on Thursday. "Though our stores are independently managed and operated, when the situation first arose, we reached out to the franchisee to ensure that the situation was addressed and handled appropriately."

The mother’s Facebook post argued that Great American Cookies “FAILED on this one,” and said “Thankfully my son said he would do it again in a heartbeat.”

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

YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Martin L King" [kingjr\\_martin@yahoo.com](mailto:kingjr_martin@yahoo.com)

### California's New Law Could Halt Live Author Book Signings

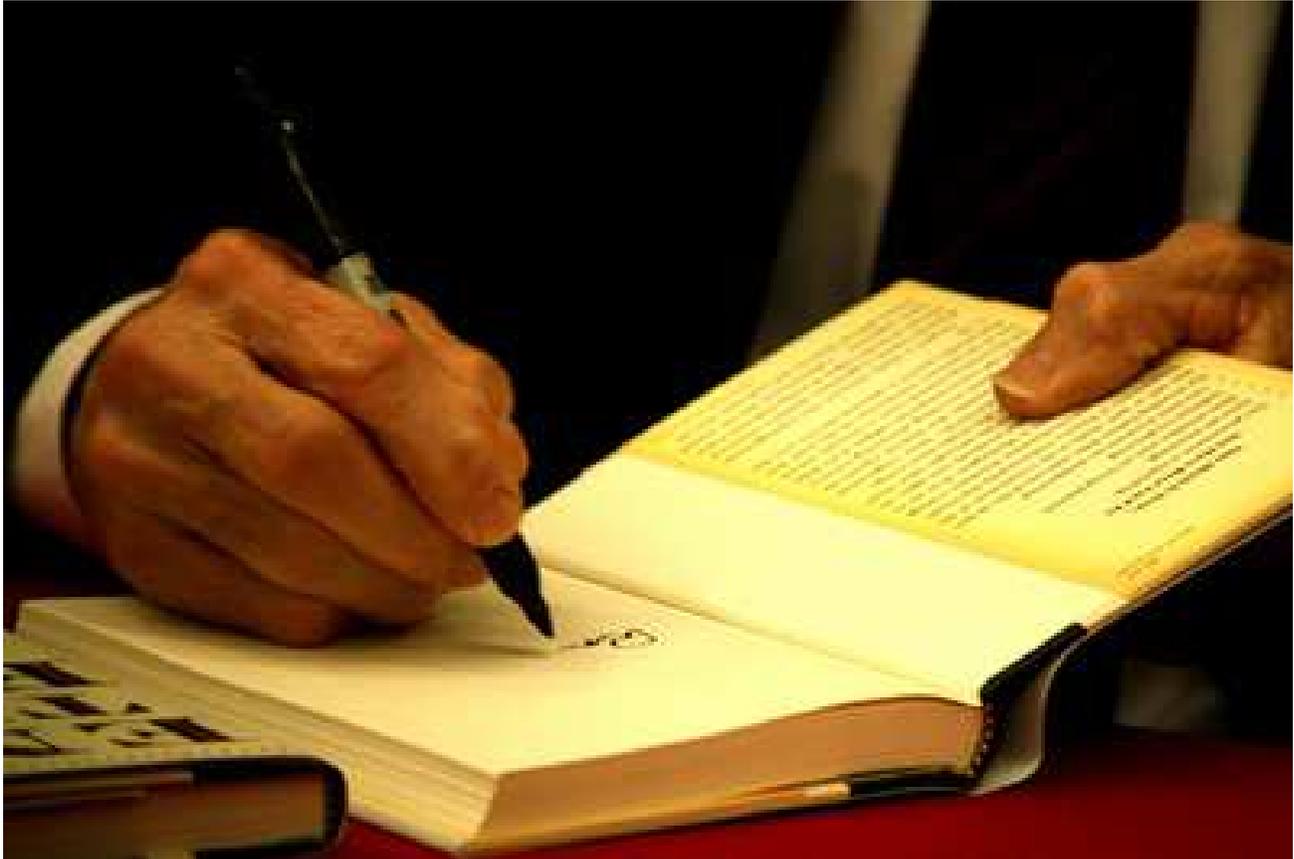
P. Gardner Goldsmith, @gardgoldsmith, June. 30. 2017

[http://www.mrctv.org/blog/new-ca-law-could-stop-live-author-book-signings-seriously?mkt\\_tok=eyJpIjoiTIRabE1UUTRaR1ZsTnpjMCIslInQiOiJUODB1aDIIaG9CaThEaXBtQkxZc0tMUW41dGJSbzU0RDhmSFZwa2NyWnc4QmpaVHJGbkdVcHh4aVEyeW5jaWRDaGFxMFwvRjRpWWINY1FYaW9cL2NcL1J6bG45eGIWQTRNT0phQXcyTkZ2TkpoSm1EdU5RWmc2a3d0MExySWdvNjg0emd3KzB4UzNMYmVVEtKZ2aTDFwVnc9PSJ9](http://www.mrctv.org/blog/new-ca-law-could-stop-live-author-book-signings-seriously?mkt_tok=eyJpIjoiTIRabE1UUTRaR1ZsTnpjMCIslInQiOiJUODB1aDIIaG9CaThEaXBtQkxZc0tMUW41dGJSbzU0RDhmSFZwa2NyWnc4QmpaVHJGbkdVcHh4aVEyeW5jaWRDaGFxMFwvRjRpWWINY1FYaW9cL2NcL1J6bG45eGIWQTRNT0phQXcyTkZ2TkpoSm1EdU5RWmc2a3d0MExySWdvNjg0emd3KzB4UzNMYmVVEtKZ2aTDFwVnc9PSJ9)

So, I’m a writer. Hopefully, that comes through not only in the fact that I’m setting caveman fingers to keys, and you’re reading the results, but also in the quality of what I write, the idea that it has value. I write non-fiction on political economics and ethics. But what some folks don’t know is that I also write scripts, short stories, novels, and novellas. As a result, I’ve become familiar with how publishing works, and have become friends with a number of terrific authors.

Many of those truly fantastic writers don’t have the backing of big-name publishing houses. Some sign with small “indie” publishers, while others split from the old guard and self-publish. And what every author, even the well known who have the backing of promotional

departments, will tell you is that personal, hand-to-hand and word-of-mouth connections are what sells books.



As a consequence of this, making appearances -- at conventions and at book signings offered by local booksellers – is not only essential for authors to exist in the pro field, but the crowds these events generate are also important for the bookstores to stay in business.

But, on January 1, an amendment to a California law kicked into effect that makes it virtually impossible for authors and booksellers to conduct “book signings” the way they once did. And only the folks of the Pacific Legal Foundation, hired by an indie bookseller based in San Francisco, are fighting it.

The amendment, which is intended to stem the tide of “unlicensed” movie and sports memorabilia (it won’t, because a black market already exists), lassos books, authors, and booksellers in the legal rope as well, and requires booksellers to conform to all kinds of mandates written by politicians, or face hundreds of thousands of dollars in fines.

As Bill Petrocelli, plaintiff and co-owner of Book Passage, based in San Francisco, told 5KIPX:

“This law is so draconian it’s hard to believe anyone could comply... It requires incredibly voluminous record-keeping. If we had to do everything this law requires, it would bankrupt us.”

And as Pacific Legal Foundation attorney Anastasia Boden notes, the list of mandates is long and tedious. Here is what California requires of booksellers who want to sell autographed books, including books sold at author appearances in their stores, or books autographed by the authors, then left for the public to browse and buy at their leisure. Store owners must:

- 1 Note the purchase price and date of sale.
2. Specify whether the item is part of a limited edition.
3. Note the size of the edition, anticipate any future editions.
4. Disclose whether the seller is bonded.
5. Divulge any previous owner's name and address.
6. If the book was signed in the presence of the seller, specify the date and location of the signing, and identify a witness to the autograph.

This is not a joke. In fact, not only do the booksellers have to be prognosticators who try to predict if there will be future editions, it's safest to make sure the witness to the signing is not an employee of the bookseller. That means the bookseller will ask customers to sign as witnesses. Think of it: as customers attend book signings, they will themselves end up signing legal documents.

And all of these records must be kept for seven years. As Ms. Boden also astutely observes:

Failure to disclose any of the required details, or to keep the certificate for the full seven years, results in outrageous penalties. Even an inadvertent omission can subject a seller to actual damages, plus a civil penalty of up to 10 times the damages, plus court costs, plus reasonable attorney's fees, plus expert witness fees, plus interest. Professional plaintiff's lawyers must be chomping at the bit. If Bill (Petrocelli) sold just 100 signed copies of a \$30 book, but six years later, couldn't locate the records noting the size of the edition, he'd be liable for (at minimum) \$30,000. Bill sells tens of thousands of signed books each year. The statute was written at the behest of actors like Mark Hamill, who are trying to decrease the trade in fraudulent autographed memorabilia and second-hand autograph sellers.

But there are already common law statutes in place against fraud. Additionally, unless a verbal or written contract prohibiting resale has been agreed to at the moment a fan buys a celebrity autograph, then the piece of memorabilia becomes the buyer's property, and he or she should be able to do with it as he or she wishes. It's not the place of the state to police every baseball card or star photo trade made by a kid or an adult.

The practical outcome of this law will be disastrous for writers, bookstore owners, and readers. Authors will find it more difficult to sell their books in person, and book signings in California will end or go black market.

Petrocelli and Pacific Legal are suing for an injunction on First Amendment grounds, arguing that authors have a right to sell written documents as they see fit, without having to conform to prior restraints by politicians, and on Fourteenth Amendment grounds that

the law does not “equally protect” buyers from online sellers the way it “protects” buyers from brick and mortar stores.

As an author, I, like many of my friends, will watch this case closely. We expect a decision in a few weeks.

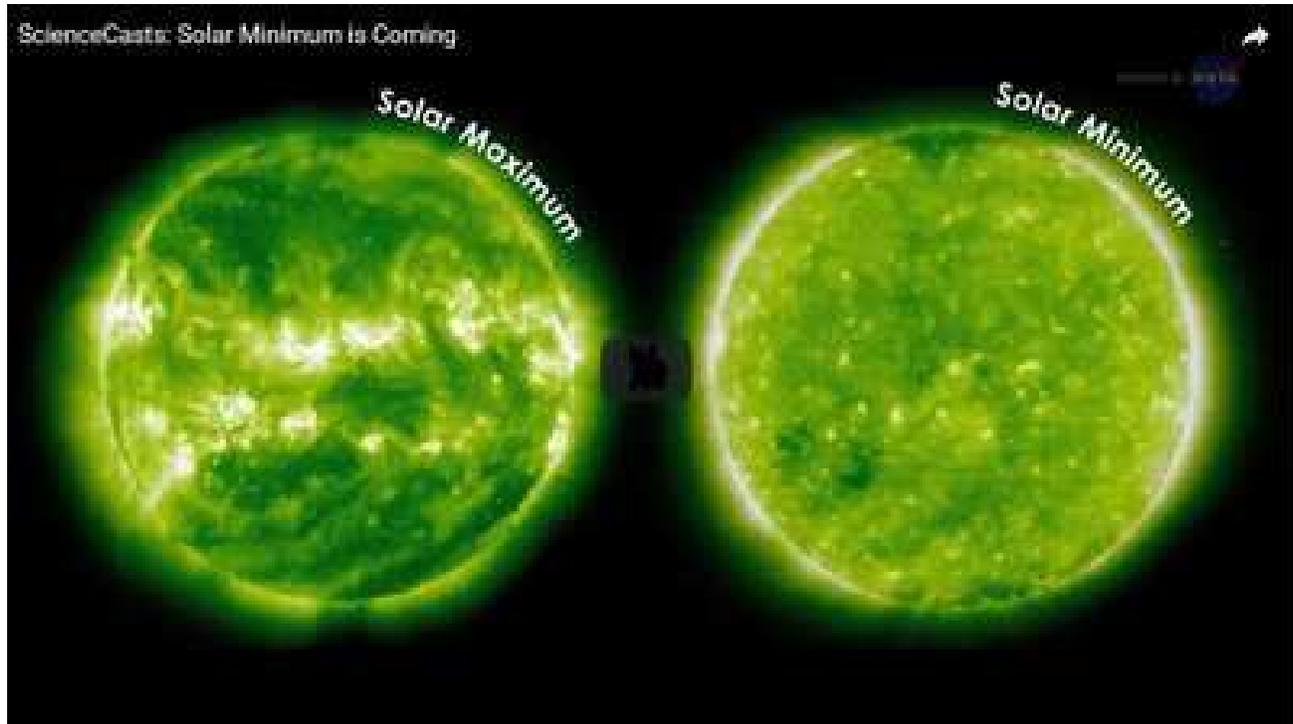
Its outcome could decide whether we do more or less business in California, and whether or not the book industry is burdened by even more political mandates in a supposedly “free” country.

CAN ANY OF YOU OUT THERE SAY ‘THE UNINTENDED CONSEQUENCES OF THE LAW?’  
UT WILL THE LAST CONSERVATIVE WHO LEAVES CALIFORNIA PLEASE TURN OUT THE LIGHTS. UT

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

VIDEO: SOLAR MINIMUM IS COMING



Video Length: 3:46

Intense solar activity such as sunspots and solar flares subsides during solar minimum, but that doesn’t mean the sun becomes dull. Solar activity simply changes form.

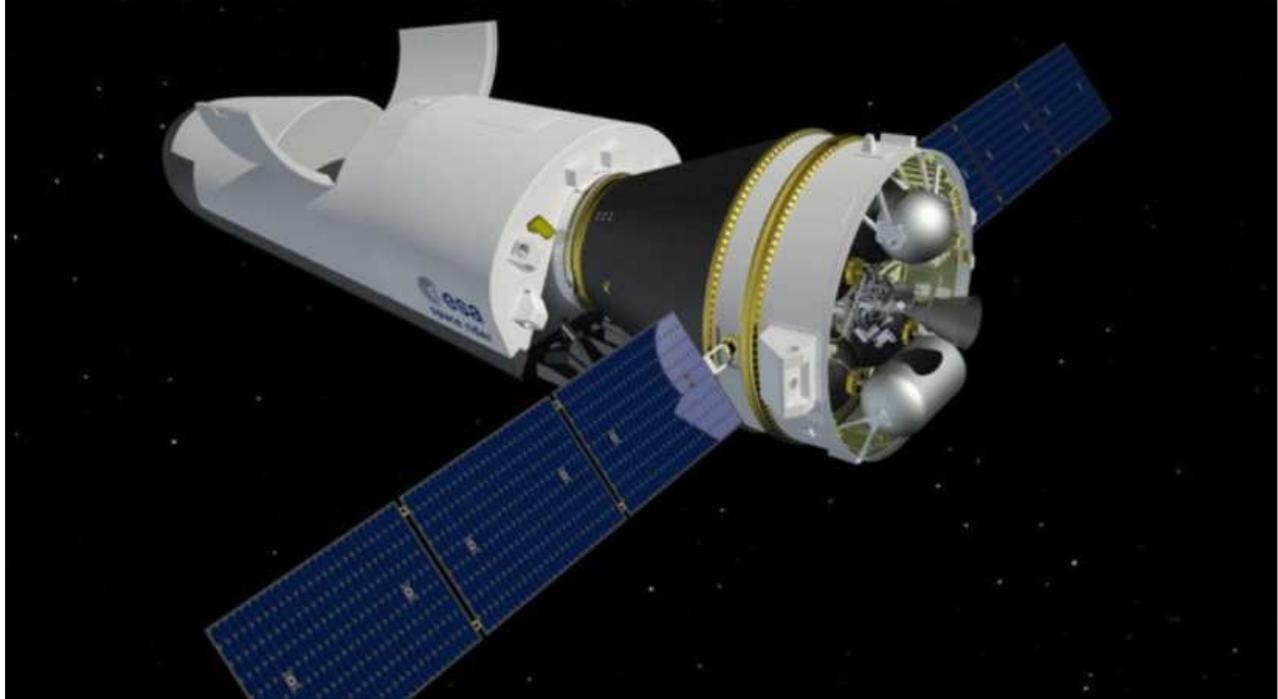
<https://science.nasa.gov/science-news/sciencecasts/solar-minimum-is-coming>

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## **ESA PLANS TO PRIVATIZE ROBOTIC SPACE PLANE BY 2025**

By Rob Coppinger, SpaceNews | June 26, 2017 12:43pm ET

<https://www.space.com/37309-esa-privatize-space-plane-2025.html>



**ESA's robotic Space Rider vehicle aims to provide Europe with an affordable, independent and reusable space transportation system for routine access and return from low orbit. Credit: ESA**

**LE BOURGET, FRANCE — Although Europe's Space Rider reusable space plane is three years or so from its debut, the European Space Agency (ESA) is already making plans to privatize the unmanned orbital vehicle.**

**By 2025, ESA officials said, Space Rider could be operating commercially, flying science payloads and bringing them back to Earth for roughly \$4,200 per pound (\$9,200 per kilogram).**

**Arianespace, the Evry, France-based launch services provider, would likely serve as Space Rider's operator, offering industry and government customers the opportunity to fill the space plane's 1,760-lb. (800 kg) payload capacity with microgravity science, materials testing, telecommunications and robotics demonstrations.**

**Space Rider is being developed by Thales Alenia Space and Lockheed Martin under the direction of the Italian Aerospace Research Centre, Cira. Funding for the program's design phase was approved in December by ESA's 22 member states.**

**A 2020 test flight would see Space Rider launch atop Arianespace's Vega-C rocket (which makes its own debut in 2019) and land on a runway on one of the Atlantic's Azores islands, Santa Maria.**

During operational flights, Space Rider will orbit 250 miles (400 kilometers) above the Earth for a few months at the time, opening its payload bay doors to expose experiments to the space environment. Customers will pay roughly \$4,200 per pound (\$9,200 per kg) to fly their payloads on Space Rider, according to Giorgio Tumino, ESA's Space Rider and Vega rocket development program manager.

"This cost is usually only to go into orbit, but in this case [with Space Rider] it is to go and come back to Earth," Tumino told SpaceNews here. "We really believe there is a market, a niche, that will drive this. We have already done preliminary studies, analyses, and we see that it [Space Rider] is a very convenient tool."

Tumino said Arianespce, as the commercial partner for the Vega rocket, will likely operate Space Rider as well.

Space Rider, at an expected 13 feet to 16 feet (4 to 5 meters) in length, will be about half the size of the U.S. Air Force's X-37B unmanned orbital space plane. X-37B completed its fourth classified mission in May, landing at NASA's Kennedy Space Center just shy of a two-year stay in orbit.

After Space Riders's first mission in 2020, it would fly five more missions spaced six to 12 months apart, according to Tumino. During these first few years of operations, a decision would be made about how many Space Riders to build for commercial operations; Arianespace, he said, might decide to operate a fleet of them.

During development, a full-scale Space Rider model will be dropped in 2019 from an atmospheric balloon or helicopter to test the vehicle's parafoil landing system.

Space Rider is based on ESA's successful suborbital re-entry test vehicle, the Intermediate Experimental Vehicle (IXV). In 2015, the IXV flew halfway around the planet in 100 minutes before parachuting into the Pacific Ocean for recovery.

This story was provided by SpaceNews, dedicated to covering all aspects of the space industry.

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## **WORLD'S LARGEST WIND TURBINE WOULD BE TALLER THAN THE EMPIRE STATE BUILDING**

Massive, flexible blades would bend with storm winds like the palm trees that inspired them

By Annie Sneed on June 26, 2017

[https://www.scientificamerican.com/article/world-rsquo-s-largest-wind-turbine-would-be-taller-than-the-empire-state-building/?WT.mc\\_id=SA\\_ENGYSUS\\_20170629](https://www.scientificamerican.com/article/world-rsquo-s-largest-wind-turbine-would-be-taller-than-the-empire-state-building/?WT.mc_id=SA_ENGYSUS_20170629)

Wind energy is soaring in the U.S.; the nation's renewable energy capacity has more than tripled in the past nine years, and wind and solar power are largely responsible. Now businesses want to harness even more wind energy, at a cheaper price—and one of the best ways to lower cost is to build bigger turbines. That's why an alliance of six institutions led by researchers at the University of Virginia are designing the world's largest wind turbine at 500 meters tall—almost a third of a mile high, and about 57 meters taller than the Empire State Building.



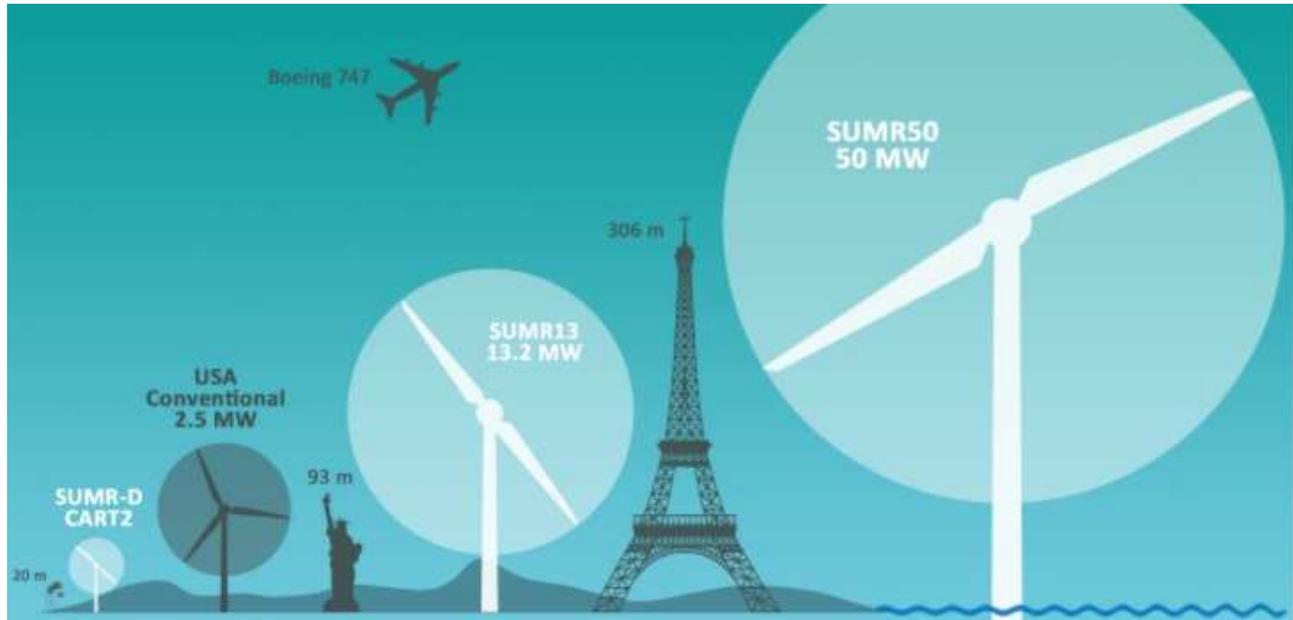
**Credit: Wolfgang Kaehler Getty Images**

**Turbines are already noticeably larger than they were 15 or 20 years ago. Size varies, but today's typical wind farm towers stand around 70 meters tall, with blades about 50 meters long. Their power output depends on size and height, but it generally ranges between one and five megawatts—on the upper end, that's enough to power about 1,100 homes. "There's this motivation to go to larger wind turbines, and the reason is pretty much economics," explains John Hall, an assistant professor of mechanical and aerospace engineering at the University at Buffalo, S.U.N.Y. One reason giant turbines are more cost-effective is that wind blows stronger and more steadily at greater altitudes. Thus, "you capture more energy" with a taller structure, says Eric Loth, project leader of the massive turbine project, which is funded by the U.S. Department of Energy's Advanced Research Projects Agency–Energy (ARPA–E).**

**Another reason wind experts say bigger is better: longer turbine blades also catch the wind more efficiently, and taller towers enable lengthier blades. A turbine's power is directly related to its "swept area"—the circular area covered by the blades' rotation—explains Christopher Niezrecki, a professor of mechanical engineering and director of the Center for Wind Energy at the University of Massachusetts Lowell. And this relationship is not linear—if blade length doubles, a system can produce four times as much energy, Niezrecki explains. He notes that bigger turbines also have a lower "cut-in" speed, the wind speed at which they can start generating energy.**

**Loth's team wants to design a 50-megawatt system with blades 200 meters long, much larger than today's wind turbines. If the researchers succeed, they believe the turbine would be 10 times more powerful than existing equipment. But the scientists do not intend**

to simply supersize conventional designs; they are fundamentally changing the turbine structure. The ultralarge machine will have two blades instead of the usual three, lowering the weight of the structure and cutting costs. Loth says that reducing the number of blades would ordinarily make a turbine less efficient, but his team is using an advanced aerodynamic design that he says largely makes up for those losses.



Concept of SUMR project. Credit: Chao Qin

The team also envisions these gigantic structures standing at least 80 kilometers offshore, where winds tend to be stronger and where people on land cannot see or hear them, according to Loth. But powerful storms hit such places—off the U.S. east coast in the Atlantic Ocean, for example—so Loth’s team faced the quandary of creating something massive that is also relatively lightweight and still resilient in the face of hurricanes. To tackle the problem, the researchers looked to one of nature’s own design solutions: palm trees. “Palm trees are really tall but very lightweight structurally, and if the wind blows hard, the trunk can bend,” Loth says. “We’re trying to use the same concept—to design our wind turbines to have some flexibility, to bend and adapt to the flow.”

In the team’s design the two blades are located downwind of the turbine’s tower, rather than upwind as they are on traditional turbines. The blades also change shape with the wind’s direction, similar to a palm tree. “When the blades bend back at a downwind angle, you don’t need to build them as heavy or strong, so you can use less material,” Loth explains. This design also lessens the possibility that strong winds will bend a spinning blade toward its tower, potentially knocking the whole structure down [Video]. “The blades will adapt to high speeds and start to fold in, so there are less dynamic forces on them,” Loth says. “We’d like our turbines to be able to handle higher than 253-kilometer-per-hour winds” in nonoperating conditions. Above a wind speed of 80 to 95 kilometers per hour the system would shut down and the blades would bend away from the wind, so they could withstand violent gusts, Loth adds.

The 500-meter turbine still faces challenges—there are good reasons no one has yet built one close to this size: “How do you make 200-meter blades? How do you put them together? How do you erect such a tall tower? Cranes only go so high. And with offshore wind, [there

are] additional complications,” Niezrecki says. The team’s design includes a segmented blade that could be assembled from pieces on site, but Niezrecki notes the wind industry has not quite figured out how to segment the blades just yet. “There are lots of research questions to be addressed,” he says. “It’s definitely high risk, but there’s also potential for high reward as well. I don’t think those problems are insurmountable.” Hall also questions whether such a massive turbine is the optimal size. “We are figuring out that bigger is better. The question is, how much bigger? We need to find that sweet spot,” he says. “We’re going to learn a lot from this project.”

Loth and his team have yet to test a prototype; they are currently designing the turbine’s structure and control system, and this summer they are building a model much smaller than the real thing—about two meters in diameter. Next summer they plan to construct a larger version with two 20-meter-long blades, which will produce less than a megawatt of power and will be tested in Colorado. Loth himself is not 100 percent certain his team’s mammoth turbine will become a reality but he is sure it is worth trying. “This is a very new concept, so [there are] definitely no guarantees it will work,” he says. “But if it does, it will revolutionize offshore wind energy.”

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### SPACEX HAD TWO SUCCESSFUL LAUNCHES IN ONE WEEKEND AND HAS NEW TITANIUM FINS ABLE TO HANDLE INDEFINITE NUMBER OF FLIGHTS WITH NO SERVICE

Brian Wang | June 27, 2017

<https://www.nextbigfuture.com/2017/06/spacex-had-two-successful-launches-in-one-weekend-and-has-new-titanium-fins-able-to-handle-indefinite-number-of-flights-with-no-service.html>

TWEET: Elon Musk, 4:56 PM - 25 Jun 2017, ?@elonmusk  
New titanium grid fins worked even better than expected. Should be capable of an indefinite number of flights with no service.



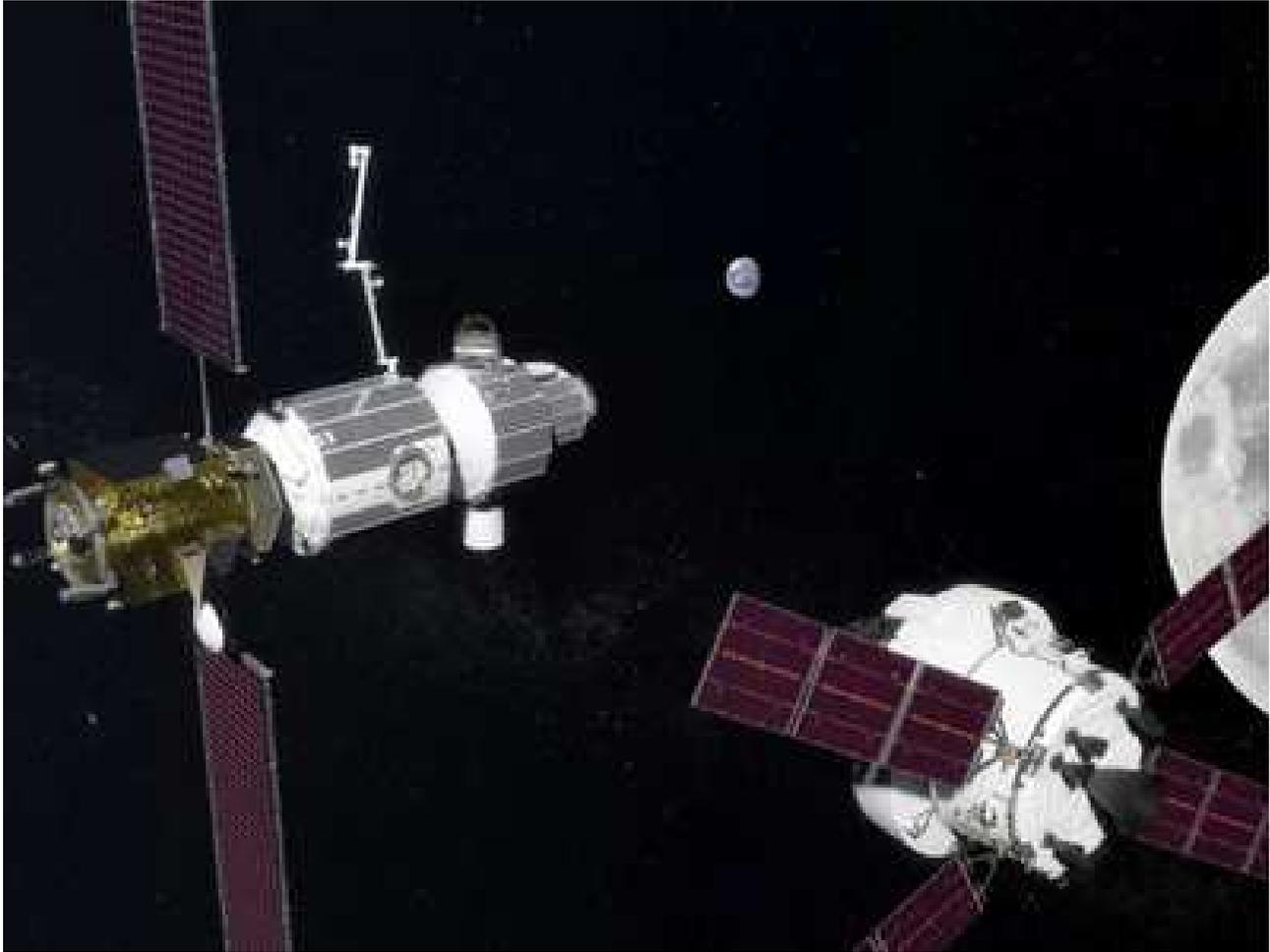
Spacex had two successful launches this past weekend and successfully recovered the first stages of each launch.

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### MOON STATION COULD USE TECH FROM SCRAPPED ASTEROID MISSION, NASA SAYS

By Irene Klotz, Space.com Contributor | June 30, 2017 12:27pm ET

[https://www.space.com/37357-moon-station-electric-propulsion-tech.html?utm\\_source=sd-newsletter&utm\\_medium=email&utm\\_campaign=20170703-sdc](https://www.space.com/37357-moon-station-electric-propulsion-tech.html?utm_source=sd-newsletter&utm_medium=email&utm_campaign=20170703-sdc)



An artist's rendering of a deep space gateway that would orbit the moon and provide a launching point for human missions to Mars. Credit: NASA

NASA is salvaging technology developed under a canceled asteroid rendezvous and relocation mission for a new initiative to build a lunar orbiting base. The base would eventually serve as a hangar for assembling spacecraft heading to Mars.

The lunar-orbiting outpost, called the Deep Space Gateway, has replaced the Obama administration's Asteroid Redirect Mission (ARM) as an interim step in NASA's long-term goal to send astronauts to Mars. ARM would have sent a robotic spacecraft to an asteroid to grab a large boulder and relocate it into a high lunar orbit for eventual visits by U.S. astronauts.

The controversial ARM program officially died with President Donald Trump's proposed budget request for the fiscal year beginning Oct. 1. But NASA is salvaging ARM's key technologies, including high-powered solar-electric propulsion, to use for the gateway and other projects, agency officials and other experts said at a hearing for the House Committee on Science, Space and Technology yesterday (June 29). [NASA's Mars Plan May Include Yearlong Mission to the Moon]

"Electric propulsion can offer the ability to move large masses through space with minimum fuel usage," said Bill Gerstenmaier, NASA's associate administrator for human exploration and operations. "It has significant advantages over other forms of propulsion, most notably efficiency."

In addition, fuel used in an electric power system is storable, doesn't boil away and can be easily resupplied, Gerstenmaier said.

Dozens of commercial and military satellites, as well as NASA's Dawn science probe to the asteroid belt, use electric propulsion today, but the power generated for their maneuvering thrusters is low, according to the panel of experts who spoke at the hearing. The majority of spacecraft utilize chemical propulsion systems, which add a significant amount of mass for fuel tanks. Electric propulsion systems are far lighter to launch.

NASA is aiming to develop 12.5-kilowatt electric thrusters for the multipurpose Deep Space Gateway, a combination research station, lunar operations base and assembly outpost for Mars-bound spacecraft. That's about 40 percent more powerful than currently available systems, Gerstenmaier said.

"With advanced electric propulsion, we will have the ability to move habitat systems to various orbits around the moon," he said. "We can support crewed science operations from the module in various lunar orbits. ... The module is not stuck in one place."

Electric propulsion systems in the 50- to 100-kilowatt level may be needed to get crews to Mars faster than is possible with conventional chemical propulsion. This would shorten the amount of time astronauts are exposed to dangerous radiation and the amount of food and other supplies they would need for the trip, according to the panel members.

Electric propulsion has already proven its worth on commercial satellites, culminating in the 2015 launch of the world's first all-electric spacecraft, said Mitchell Walker, chairman of the American Institute of Aeronautics and Astronautics' Electric Propulsion Technical Committee, who also presented testimony during the hearing.

"The enormous propellant-mass savings achieved with electric propulsion allows two all-electric satellites to launch on one smaller, less expensive launch vehicle," Walker said.

This year, India and China launched their first electrically propelled satellites, and Japan is scheduled to fly its first all-electric spacecraft in 2021, Walker said, adding that Europe and Russia are investing in the technology as well.

Industry projects show 50 to 75 percent of all future geostationary spacecraft are expected to use electric propulsion, he said.

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## SKUNK WORKS HINTS AT SR-72 DEMONSTRATOR PROGRESS

Jun 6, 2017 Guy Norris | Aerospace Daily & Defense Report

[http://aviationweek.com/defense/skunk-works-hints-sr-72-demonstrator-progress?NL=AW-05&Issue=AW-05\\_20170630\\_AW-](http://aviationweek.com/defense/skunk-works-hints-sr-72-demonstrator-progress?NL=AW-05&Issue=AW-05_20170630_AW-)

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Lockheed Martin

DENVER, Colorado—Four years after revealing plans to develop a Mach 6 strike and reconnaissance aircraft, Lockheed Martin says hypersonic technologies are now sufficiently mature to enable progress towards a flight demonstrator.

The company's secretive Skunk Works unit has been working since at least the early 2000s on the basic building blocks for an operational hypersonic vehicle and in 2013 revealed to Aviation Week it was developing a scaled demonstrator for the SR-72, a proposed successor to the U.S. Air Force's long-retired Mach 3 SR-71 Blackbird spy plane. However, details on any subsequent progress have been scarce since this initial plan was unveiled.

“We’ve been saying hypersonics is two years away for the last 20 years, but all I can say is the technology is mature and we, along with Darpa and the services, are working hard to get that capability into the hands of our warfighters as soon as possible,” says Rob Weiss, Lockheed Martin’s executive vice president and general manager for Advanced Development Programs.

Speaking to Aviation Week on the sidelines at the AIAA Aviation 2017 forum here, Weiss cautions, “I can’t give you any timelines or any specifics on the capabilities. It is all very sensitive. Some of our adversaries are moving along these lines pretty quickly and it is important we stay quiet about what is going on. We can acknowledge the general capability that’s out there, but any program specifics are off limits.”

However, Weiss hints that work on a combined cycle propulsion system and other key advances needed for a viable hypersonic vehicle are reaching readiness levels sufficient for incorporation into some form of demonstrator. Following critical ground demonstrator tests from 2013 through 2017, Lockheed Martin is believed to be on track to begin development of an optionally piloted flight research vehicle (FRV) starting as early as next year. The FRV is expected to be around the same size as an F-22 and powered by a full-scale, combined cycle engine.

While no specific details have been revealed, it is known that Lockheed Martin and Aerojet Rocketdyne have been teamed since 2006 on work to integrate an off-the-shelf turbine with a scramjet to power an aircraft with a combined cycle propulsion system from standstill to Mach 6 plus. The development built on work begun earlier under the Air Force/Darpa HTV-3X reusable hypersonic demonstrator, which was cancelled in 2008 but went a step further to integrate a high-speed turbine engine. The HTV-3X concept was an outgrowth of Darpa’s Falcon program, which included development of small launch vehicles, common aero vehicles and a hypersonic cruise vehicle.

“The combined cycle work is still occurring and obviously a big breakthrough in the air-breathing side of hypersonics is the propulsion system,” Weiss adds. “So this is not just on combined cycle but on other elements of propulsion system.”

The technology of the “air breather has been matured and work is continuing on those capabilities to demonstrate that they are ready to go and be fielded,” he adds.

Depending on progress with the FTV, which would fly in the early 2020s, Lockheed Martin has previously said the follow-on step would be development of a full-scale, twin-engine SR-72. Built to roughly the same proportions as the SR-71, the larger vehicle would enter flight test in the late 2020s.

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## **VOLVO PLANS TO GO ELECTRIC, TO ABANDON CONVENTIONAL CAR ENGINE BY 2019**

**CEO reiterates target of selling one million electric cars and hybrids by 2025**

By William Boston, July 5, 2017 12:00 a.m. ET

<https://www.wsj.com/articles/volvo-to-phase-out-conventional-car-engine-1499227202>

Volvo plans for all new models from 2019 to be either fully electric or hybrid, the company announced Wednesday. But will other car makers follow, and what does this mean for the industry?

For Volvo the internal combustion engine has run its course.

In the face of competition from upstarts like Tesla Inc., which begins production this week of its new mass-market Model 3 electric battery-powered family car, the Chinese-owned automotive group on Wednesday said all new Volvo models from 2019 would be either fully electric or a hybrid.

Volvo is the first major auto maker to abandon the technology that has powered the industry for more than a century. Hakan Samuelsson, president and chief executive of Volvo Cars, said in a statement that the move “marks the end of the solely combustion engine-powered car,” reiterating his target of selling one million electric cars and hybrids by 2025. “When we said it, we meant it. This is how we are going to do it.”

Volvo also said it would launch five new electric and hybrid vehicles between 2019 and 2021. Two of the new models would be built by Polestar, the performance-car unit that Volvo is spinning off as a “separately branded electrified global high performance car company.” Volvo Cars would build the other three models. No further details were available.

All major auto makers are preparing for a shift to electric vehicles, but the challenge for the industry is to get the timing right because of the industry’s typically long product cycles that involve years of research and development before a vehicle rolls off the assembly line.

Auto executives talk about an impending “tipping point” when the costs of some electric car models are expected to fall below the cost of the conventional version of the same vehicle type. When that happens, industry executives and analysts say momentum could shift quickly in favor of electric cars.

Industry analysts estimate that rising costs of developing combustion engines that meet ever-stricter emissions regulations could make some electric models more affordable as soon as 2025. With a starting price of around \$35,000, the Tesla Model 3 that launches this week is only slightly more expensive than BMW AG's 3-Series sedan with a gasoline or diesel engine.

Volvo's decision to accelerate the move to go electric could help it in light of a potential stock listing. Volvo, a Swedish luxury car maker that was founded in 1927, was bought by Ford Motor Co. in 1999. Ford sold the company to Geely Holding Group, a Chinese investment company, in 2010.

Struggling when Geely acquired it, Volvo has achieved a significant turnaround and is building its first manufacturing plant in the U.S.

Geely's wager is paying off. Volvo reported a 67% increase in net profit to 7.5 billion Swedish kronor (\$880 million) in 2016 on revenue of 180.7 billion kronor, up 10% from the previous year. The Swedish company's global sales grew 6% to 534,332 vehicles last year. That put it on track to achieving its sales target of 800,000 vehicles by 2020.

The U.S. was Volvo's fastest-growing market last year, posting an 18% increase in sales to 82,726 vehicles, driven by the popular XC90 luxury sport-utility vehicle.

Volvo declined to comment on speculation about an initial public offering, saying a listing was an option.

European auto makers that have relied on diesel engines because of their fuel economy and low carbon dioxide emissions have seen their stock prices discounted as investors worry about the growing number of municipal authorities that threaten to ban diesel vehicles from driving in their cities.

By contrast, Tesla, which only makes electric cars, sold around 84,000 cars last year, but its market value has surpassed those of Ford, General Motors Corp and BMW, which sell millions of cars each year.

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## **GIANT 'DELAWARE-SIZE' ICEBERG SET TO BREAK OFF ANTARCTICA**

Fox News, Published July 05, 2017

<http://www.foxnews.com/science/2017/07/05/giant-delaware-size-iceberg-set-to-break-off-antarctica.html>

The Larsen C ice shelf is seconds/minutes/hours/days away from breaking off from Antarctica. When it does — if it hasn't by the time you've finished reading this — it will become one of the largest icebergs on record.

Scientists have been monitoring the crack in the ice shelf for two years, since they first observed that it was growing at a significant rate. As of January, it was 111 miles long and tearing away from the mainland at a rapidly growing rate.

Hurry up and read this, before it's too late.



File photo - An aerial view of the rift in the Larsen C seen in an image from the Digital Mapping System over the Antarctica Peninsula, Antarctica, on November 10, 2016. (NASA's Goddard Space Flight Center/Handout via REUTERS)

**GREAT BARRIER REEF'S EYE-POPPING \$42B VALUE MAKES IT CRITICAL, REPORT SAYS**  
The crack grew by 11 miles last month alone, leaving only eight miles remaining. On July 5, it had grown another five miles, according to the European Space Agency, whose CryoSat satellite has been monitoring the ice shelf's collapse.

Three more miles and the now-125-mile crack will reach the ocean. When it does, it will separate from the continent and become an iceberg of historic proportions.

“Using information from CryoSat, we have mapped the elevation of the ice above the ocean and worked out that the eventual iceberg will be about 190 meters (623 feet) thick and contain about 1155 cubic kilometers (277 cubic miles) of ice,” said Noel Gourmelen of the University of Edinburgh.

“We have also estimated that the depth below sea level could be as much as 210 meters (656 feet).”

Scientists say the iceberg will be titanic — roughly the size of Delaware — and could melt at a rapid rate, causing sea levels to rise. Its location could also pose a hazard to maritime traffic.

“[W]e are not sure what will happen,” said Anna Hogg of the University of Leeds. “It could, in fact, even calve in pieces or break up shortly after. Whole or in pieces, ocean currents could drag it north, even as far as the Falkland Islands.

If so it could pose a hazard for ships in Drake Passage.”

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**ANCIENT ROMANS MADE WORLD'S 'MOST DURABLE' CONCRETE. WE MIGHT USE IT TO STOP RISING SEAS.**

By Ben Guarino July 4

[https://www.washingtonpost.com/news/speaking-of-science/wp/2017/07/04/ancient-romans-made-worlds-most-durable-concrete-we-might-use-it-to-stop-rising-seas/?tid=pm\\_pop&utm\\_term=.00d63b70c761](https://www.washingtonpost.com/news/speaking-of-science/wp/2017/07/04/ancient-romans-made-worlds-most-durable-concrete-we-might-use-it-to-stop-rising-seas/?tid=pm_pop&utm_term=.00d63b70c761)



Drilling at a marine structure in Portus Cosanus, Tuscany, in 2003. (J.P. Oleson)

Two thousand years ago, Roman builders constructed vast sea walls and harbor piers. The concrete they used outlasted the empire — and still holds lessons for modern engineers, scientists say.

A bunch of half-sunken structures off the Italian coast might sound less impressive than a gladiatorial colosseum. But

underwater, the marvel is in the material. The harbor concrete, a mixture of volcanic ash and quicklime, has withstood the sea for two millennia and counting. What's more, it is stronger than when it was first mixed.

The Roman stuff is “an extraordinarily rich material in terms of scientific possibility,” said Philip Brune, a research scientist at DuPont Pioneer who has studied the engineering properties of Roman monuments. “It's the most durable building material in human history, and I say that as an engineer not prone to hyperbole.”

By contrast, modern concrete exposed to saltwater corrodes within decades.

The mystery has been why the ancient material endured. “Archaeologists will say they have the recipe,” said Marie Jackson, an expert in ancient Roman concrete at the University of Utah. (Pliny the Elder once wrote an ode to concrete “that as soon as it comes into contact with the waves of the sea and is submerged becomes a single stone mass, impregnable to the waves.”) But it's not the complete picture: It's one thing to assemble the ingredients, another to know how to bake the cake.

To that end, Jackson and her colleagues peered into the microscopic structures of concrete samples, extracted from the sea walls and piers as part of a project called

the Roman Maritime Concrete Study. “This rocklike concrete is behaving, in many ways, like volcanic deposits in submarine environments,” Jackson said.

Where modern concrete is designed to ignore the environment, Roman concrete embraces it. As the scientists report in a study published Monday in the journal *American Mineralogist*, Roman concrete is filled with tiny growing crystals. The crystals, like tiny armor plates, may keep the concrete from fracturing.

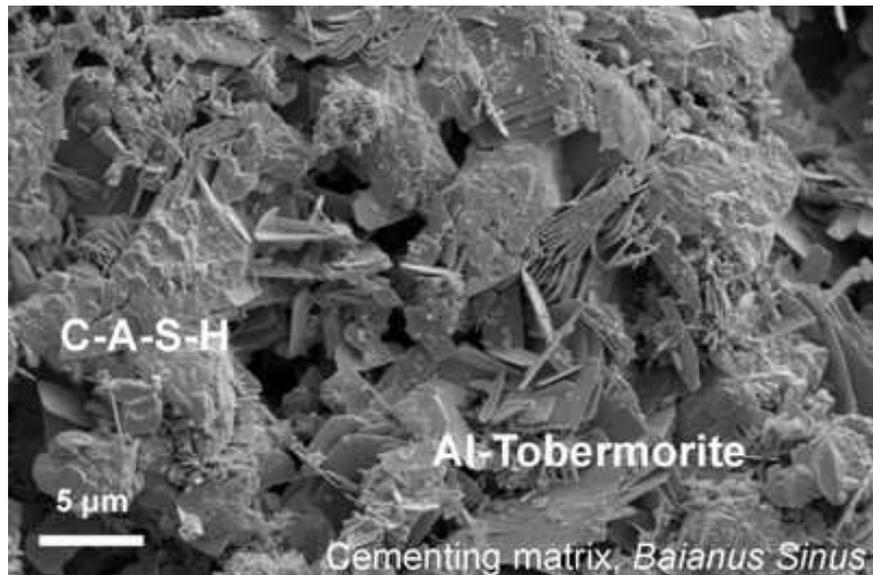
The scientists subjected the concrete samples to a battery of advanced imaging techniques and spectroscopic tests. The tests revealed a rare chemical reaction, with aluminous tobermorite crystals growing out of another mineral called phillipsite. Brune, who was not involved with the study, called the work a “significant accomplishment.” He likened it to the scientists biting into a cake of mysterious flavor and determining that the baker used organically sourced dark chocolate.

In this instance, the key ingredient proved to be seawater. As seawater percolated within the tiny cracks in the Roman concrete, Jackson said, it reacted with the phillipsite naturally found in the volcanic rock and created the tobermorite crystals.

“Aluminous tobermorite is very difficult to produce,” she said, and requires very high temperatures to synthesize small amounts. Cribbing from the ancient Romans might lead to better production of tobermorite, which is prized for its industrial applications, she noted.

Crystals of Al-tobermorite growing within the Roman concrete. (Marie Jackson)

The Romans mined a specific type of volcanic ash from a quarry in Italy. Jackson is attempting to recreate this durable concrete using San Francisco seawater and more abundant volcanic rocks. She has several samples sitting in ovens and jars in her lab, which she will test for evidence of similar chemical reactions.



If her effort is successful, the concrete could yet have a role to play in human history — “if one was indeed interested in making sea walls” and “forced to protect shoreline environments,” Jackson said. (In one 2014 study, a team of European climate scientists predicted that, if the next 90 years follow the trend of the past 30, the cost of constructing barriers to hold back the sea might rise to as high as \$71 billion per year. The alternative, coastal flooding, could do trillions of dollars in damage annually.)

Modern sea walls require steel reinforcements; a future in which “large relic walls of twisted steel” dot the coast would be “very troubling,” Jackson said. The Romans didn’t use steel. Their reactive concrete was strong enough on its own.

“It's not just a historical curiosity,” Brune said. “It may yet have a part to play.”

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## **FAST DISPLACEMENT HULL MAKES FOR PARSIMONIOUS HYBRID SUPERYACHT**

Scott Collie July 3, 2017

<http://newatlas.com/heesen-hybrid-yn17850-superyacht/50329/>



**The 50-meter Heesen Home superyacht**

There's nothing quite like traveling the world and experiencing new cultures, but even the most intrepid explorers occasionally feel homesick. Heesen Yachts has set out to eliminate homesickness by letting the well-heeled take their home (or one of them, at least) along on their travels. The YN17850 Home superyacht is designed as a luxurious 164-ft (50-m) hybrid retreat for the fuel-conscious billionaire.

Although superyacht owners are unlikely to be concerned by the price of fuel, Heesen has worked to make sure the Home sips at its diesel instead of swigging. Power comes from a pair of 600-kW (805-hp) engines, which are smaller than you'd expect from a yacht of this size, made possible in part by the efficient Fast Displacement Hull design from Van Oossanen Naval Architects.

Along with the diesel engines, the Home has a pair of water-cooled electric shaft motors making a combined 254 kW (340 hp) of power. Top speed is more than 16.3 knots (19 mph, 30 km/h) in diesel only mode, and a handy nine knots (10 mph, 16.6 km/h) in "silent cruising mode." Having the option to run on combined diesel and electric power makes this the world's first Fast Displacement yacht with hybrid power.



With a maximum fuel capacity of 45,000 liters (11,888 US gal) and fuel consumption of 98 l/hour (25 gal/hr) in diesel mode or 45 l/hour (12 gal/hr) in hybrid mode, the Home has a max cruising range of 6,840 km (4,250 mi). According to Heesen, that's a handy 805 km (500 mi) more than the owner originally demanded.

Aside from what's happening under the skin, the Home is also a very pretty piece of design on the outside. The slick profile is the work of Frank Laupman of Omega Architects, who has given the boat a vertical bow and long, sweeping spray rails, while the floor-to-ceiling glass windows make for an airy interior.

Inside, designer Cristiano Gatto has worked to make the cabin feel bright and sophisticated with matte two-tone finishes throughout. There's space for 12 passengers in the six cabins, with four separate decks including the top sundeck. Gatto told Boat International the owner demanded a white, grey, silver and burgundy color palette, while freestanding furniture features throughout.

The rooftop sundeck is home to a (presumably well-stocked) bar, and there's a spa on board as well. Given there's space for 12 guests, there's also an area for dining and entertaining. After all, what good floating home doesn't have a dedicated area for dinner parties on the high seas.

Having put the Home through its first sea trials, Heesen has handed it over to the owner, but it will be on display at the Monaco Yacht Show between September 27 and 30.

Source: Heesen Yachts

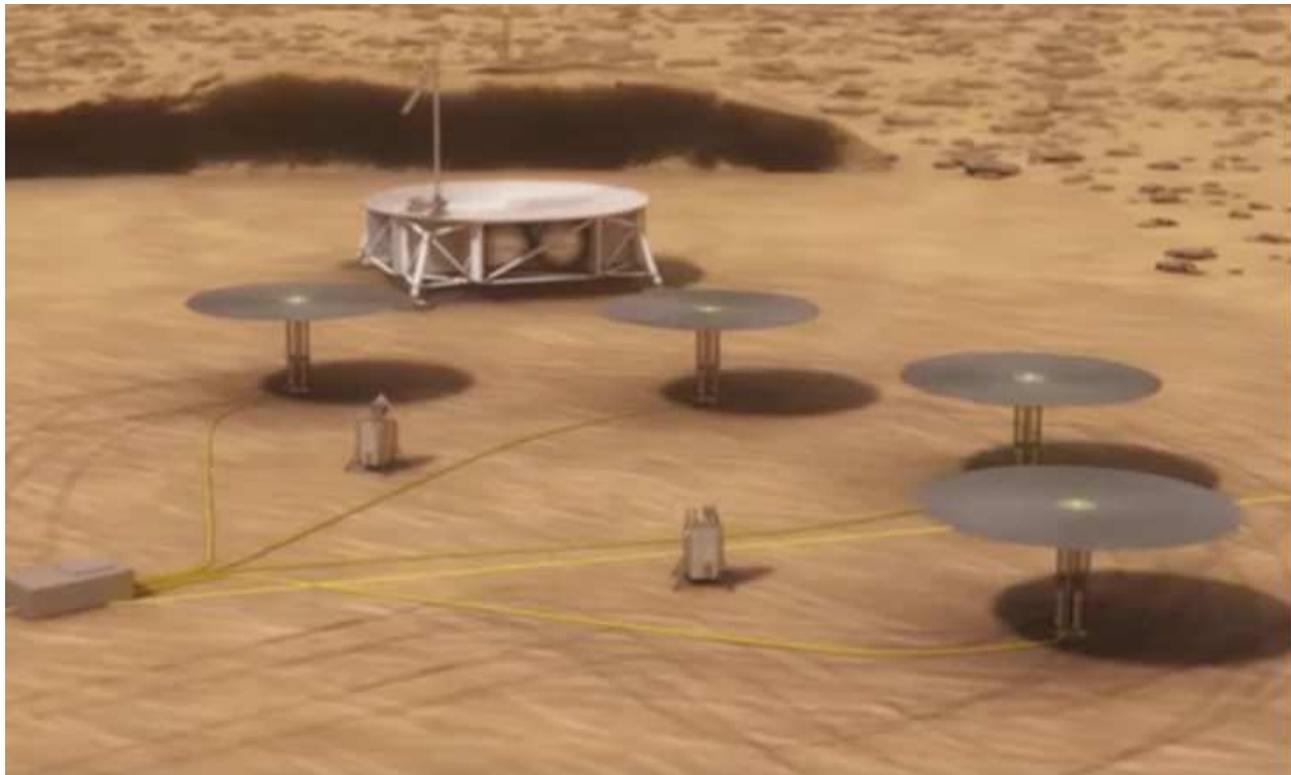
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## NASA SEEKS NUCLEAR POWER FOR MARS

After a half-century hiatus, the agency is reviving its reactor development with a test later this summer

By Irene Klotz, SPACE.com on June 30, 2017

<https://www.scientificamerican.com/article/nasa-seeks-nuclear-power-for-mars/>



Four fission-based modular nuclear power stations are shown in this artist's concept of a NASA outpost on Mars. Credit: NASA

As NASA makes plans to one day send humans to Mars, one of the key technical gaps the agency is working to fill is how to provide enough power on the Red Planet's surface for fuel production, habitats and other equipment. One option: small nuclear fission reactors, which work by splitting uranium atoms to generate heat, which is then converted into electric power.

NASA's technology development branch has been funding a project called Kilopower for three years, with the aim of demonstrating the system at the Nevada National Security Site near Las Vegas. Testing is due to start in September and end in January 2018.

The last time NASA tested a fission reactor was during the 1960s' Systems for Nuclear Auxiliary Power, or SNAP, program, which developed two types of nuclear power systems. The first system — radioisotope thermoelectric generators, or RTGs — taps heat released from the natural decay of a radioactive element, such as plutonium. RTGs have powered dozens of space probes over the years, including the Curiosity rover currently exploring Mars.

The second technology developed under SNAP was an atom-splitting fission reactor. SNAP-10A was the first — and so far, only — U.S. nuclear power plant to operate in space. Launched on April 3, 1965, SNAP-10A operated for 43 days, producing 500 watts of electrical power, before an unrelated equipment failure ended the demonstration. The spacecraft remains in Earth orbit.

Russia has been far more active developing and flying spacecraft powered by small fission reactors, including 30 Radar Ocean Reconnaissance Satellites, or RORSAT, which flew between 1967 and 1988, and higher-powered TOPAZ systems. TOPAZ is an acronym for Thermionic Experiment with Conversion in Active Zone.

## **NUCLEAR POWER REVIVAL**

NASA has funded several nuclear power technology efforts in the 50 years since SNAP, but financial, political and technical issues stymied development. Three years ago, the agency's Game Changing Development program backed Kilopower, with the goal of building and testing a small fission reactor by Sept. 30, 2017, the end of the current fiscal year. The project is costing about \$15 million.

"It'll be the first time that we operate a fission reactor that could be used in space since [the] 1960s SNAP program," said Lee Mason, who oversees power and energy storage technology development at NASA's Glenn Research Center in Cleveland.

The tests in September are designed to validate Kilopower's design and performance. After that, NASA would be ready to proceed with developing a higher-fidelity system for testing on Mars or elsewhere, Mason said.

The test reactor, which is about 6.5 feet tall (1.9 meters), is designed to produce up to 1 kilowatt of electric power, but to keep costs down, the test unit does not include a full array of Stirling engines to convert energy generated by the fission process into heat. Thermal simulators will be used for the balance of the engines to verify the reactor's power output, Mason said in an interview with Space.com.

NASA's interest in fission resurfaced after a 2010 study that looked at options for RTG systems. "At that point, we were trying to find a small fission reactor that could provide similar power output as the radioisotope power systems," Mason said.

NASA engineers figure human expeditions to Mars will require a system capable of generating about 40 kilowatts of power, which is about what is needed for "about eight houses on Earth," according to the agency. Curiosity's RTG was designed to supply about 125 watts — less energy than what is needed to power a microwave oven — though power levels fall as the radioactive plutonium decays.

Solar power is another option, but that would restrict power generation to regions that are exposed to enough sunlight to charge batteries. Inside the moon's Shackleton Crater, for example — a prime candidate for lunar sorties due to its water resources — it is completely dark. The sunniest spots on Mars receive only about one-third the amount of sunlight as Earth does.

"If you want to land anywhere, surface fission power is a key strategy for that," Michelle Rucker, an engineer at NASA's Johnson Space Center in Houston, said during a presentation in December to NASA's Future In-Space Operations working group.

Fission reactors also can continue working in adverse weather conditions, such as Mars' ubiquitous dust storms.

"We've landed some really cool things on Mars and they've had some pretty remarkable power systems ... but they're not going to cut it for human missions," Mason said during last month's Humans to Mars Summit in Washington, D.C.

The biggest power requirement for future human expeditions is running the equipment to produce fuel, air and water, plus running the habitat and recharging batteries for rovers and science equipment. NASA envisions sending four or five small fission reactors, each capable of generating about 10 kilowatts of power, to Mars, Mason said at the Humans to Mars Summit.

The units would be launched cold and activated once they reach their destinations.

"They're not operating at launch, whereas once you fuel an RTG, it's operating, and you have to process the thermal output," Mason said. "The reactors also have a very low radiological inventory at launch — less than 5 curies — so it's benign ... There are no fission products until the reactor is turned on, and that's when there will be some radiation."

Partners in the Kilopower project include NASA's Glenn Research Center, the Department of Energy, Los Alamos National Lab and the Y12 National Security Complex, which supplies the reactor's uranium.

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## **WORLD'S LARGEST REDOX FLOW BATTERY BEING BUILT IN UNDERGROUND SALT CAVERNS**

Michael Irving July 9, 2017

<http://newatlas.com/brine4power-largest-redox-flow-battery/50405/>

Just last week, Tesla announced it was building the world's largest lithium-ion battery in Australia, but a German energy company looks set to nab the overall title of biggest battery. Ewe Gasspeicher GmbH is building a redox flow battery in underground salt caverns with enough output to supply a day's worth of power to 75,000 homes.

A redox flow battery stores electrical energy in liquid electrolytes. Inside the electrochemical cell, two liquids — a positive catholyte and a negative anolyte — are separated by a membrane that allows ions to pass through. When the battery is charging

from a power source, electrons are added to the anolyte and released from the catholyte, and that process is reversed while discharging. Charged molecules of each electrolyte are pumped from the cell down into storage tanks, where the energy can be stored for several months.



The world's biggest redox flow battery, brine4power, will be built at the Jemgum gas storage facility in Germany (Credit: Ewe Gasspeicher)

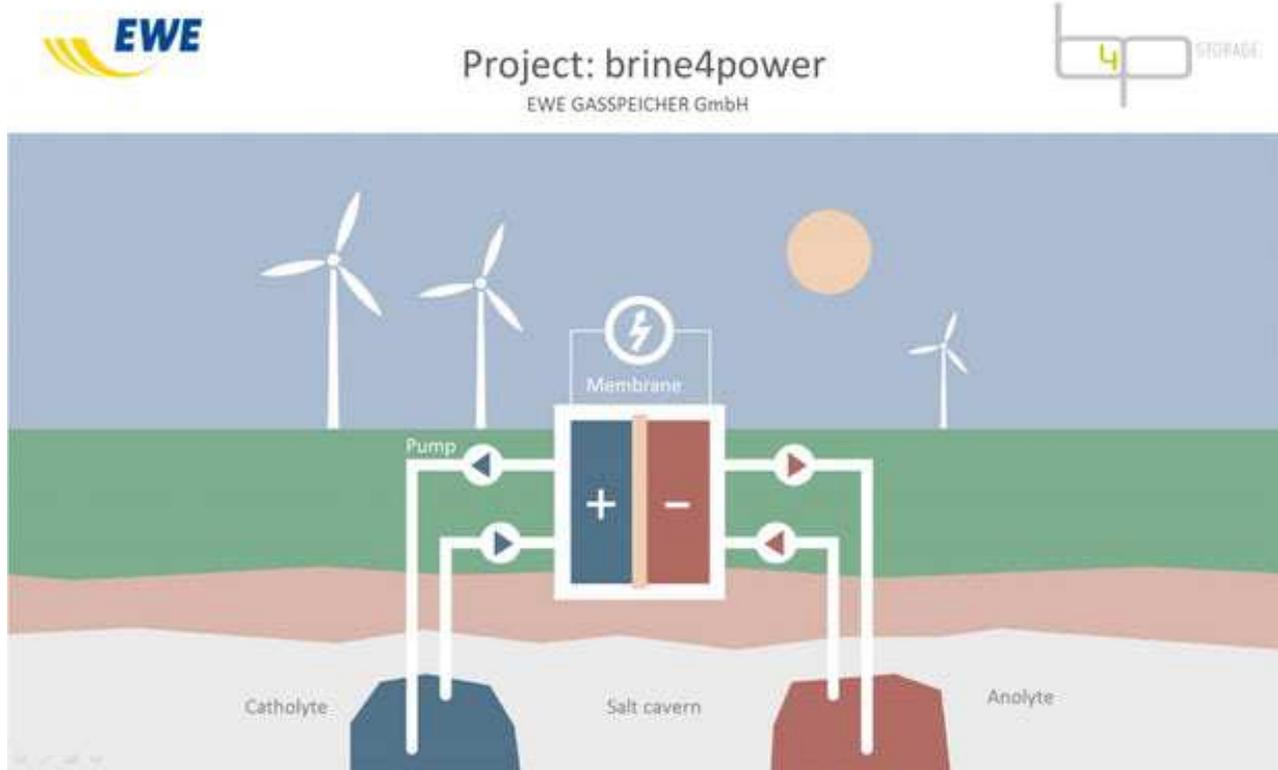
Ewe Gasspeicher's battery, called brine4power, is based on a system developed by the Friedrich Schiller University in Jena, which uses saltwater electrolytes with recyclable polymers as the active molecules. Those materials, the team says, are far more environmentally friendly than the heavy metal/sulfuric acid mix that other redox flow electrolytes are often made of.

The brine4power system will be set up in the Jemgum gas storage facility to make use of two huge underground salt caverns, which are currently used to store natural gas. Each of these cavities has a volume of 100,000 m<sup>3</sup> (3.5 million cu ft), giving the battery a capacity of up to 700 MWh and output of up to 120 MW.

"If everything works, this may fundamentally change the storage market, i.e. the market for control energy," says Peter Schmidt, Managing Director of Ewe Gasspeicher GmbH. "The amount of electricity this kind of storage facility contains – consisting of two medium-sized caverns – is sufficient to supply a major city such as Berlin with electricity for an hour. It means that we will have built the world's largest battery. In contrast to other energy storage facilities that convert the electrical current into other energy carriers – for example into compressed air – we are storing the electricity directly with brine4power."

But before the salt caverns are used, the brine4power system will first be trialed on-site at Jemgum using large plastic containers on the surface. The company says these will be

operational by the end of 2017, with a full underground battery up and running in about six years' time.



The brine4power system will be built using electrolytes made of saltwater and recyclable polymers, stored in huge salt caverns underground (Credit: Ewe Gasspeicher)

"We need to carry out some more tests and clarify several issues before we can use the storage principle indicated by the University of Jena in underground caverns," says Ralf Riekenberg, head of the brine4power project. "However, I expect that we will have an operating cavern battery by about the end of 2023."

Source: Ewe Gasspeicher, brine4power

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## NEW CERAMIC BRINGS HYPERSONIC TRAVEL CLOSER TO REALITY

David Szondy July 9, 2017

<http://newatlas.com/author/david-szondy/>

A team of scientists from Britain and China have developed a new ceramic material that could one day make hypersonic air travel a reality. The ceramic carbide coating can withstand the high temperatures of flying at over five times the speed of sound without the degradation experienced by similar materials.



Artist's concept of a hypersonic aircraft (Credit: NASA)

Engineering isn't simply a matter of coming up with a good idea and slapping the bits together before flipping the "on" switch. In many cases, it's a long, frustrating search to find the materials needed to build the device. Look, for example, at a smartphone with all its compact intricacy and try to imagine making one without any of the sophisticated plastics used in its design. If you could build one at all, it would be the size of a suitcase and scarcely portable.

The same is true in aerospace engineering. The idea of hypersonic flight has been around for a long time, but building an aircraft or missile that could make velocities of at or above Mach 5 (3,800 mph, 6,125 km/h) – think two hours from New York to London – requires materials that are still in the experimental stage. This is because the impact of the air at such speeds generates temperatures of as high as 3,000° C (5,400° F).

Even if this doesn't melt or warp wing edges, nose tips, turbine blades and other components, it will certainly cause them to degrade in short order due to oxidation and ablation. This causes the surface layers of metals to evaporate in part, making them weaker and more prone to scouring and pitting.

The team from the University of Manchester and Central South University in China is working on a new class of ultra-high temperature ceramics (UHTCs) that are less susceptible to oxidation and ablation, giving them more resilience and longer life. The key is a new carbide coating that the scientists claim is 12 times better than current UHTCs, like zirconium carbide (ZrC).

The new ceramic was made by the Powder Metallurgy Institute at Central South University and evaluated at Manchester. It's produced by means of Reactive Melt Infiltration (RMI), which involves the penetration of elements including zirconium, boron, and titanium into a

matrix made of a composite of different types of carbon. Normally, high temperature on ceramics drives off protective elements and leaves the remaining ceramic vulnerable to degradation, but RMI makes the ceramic much harder and extremely resistant to surface degradation at hypersonic temperatures.

"Current candidate UHTCs for use in extreme environments are limited and it is worthwhile exploring the potential of new single-phase ceramics in terms of reduced evaporation and better oxidation resistance," says Professor Ping Xiao, Professor of Materials Science at Manchester. "In addition, it has been shown that introducing such ceramics into carbon fiber-reinforced carbon matrix composites may be an effective way of improving thermal-shock resistance."

The research was published in Nature Communications.

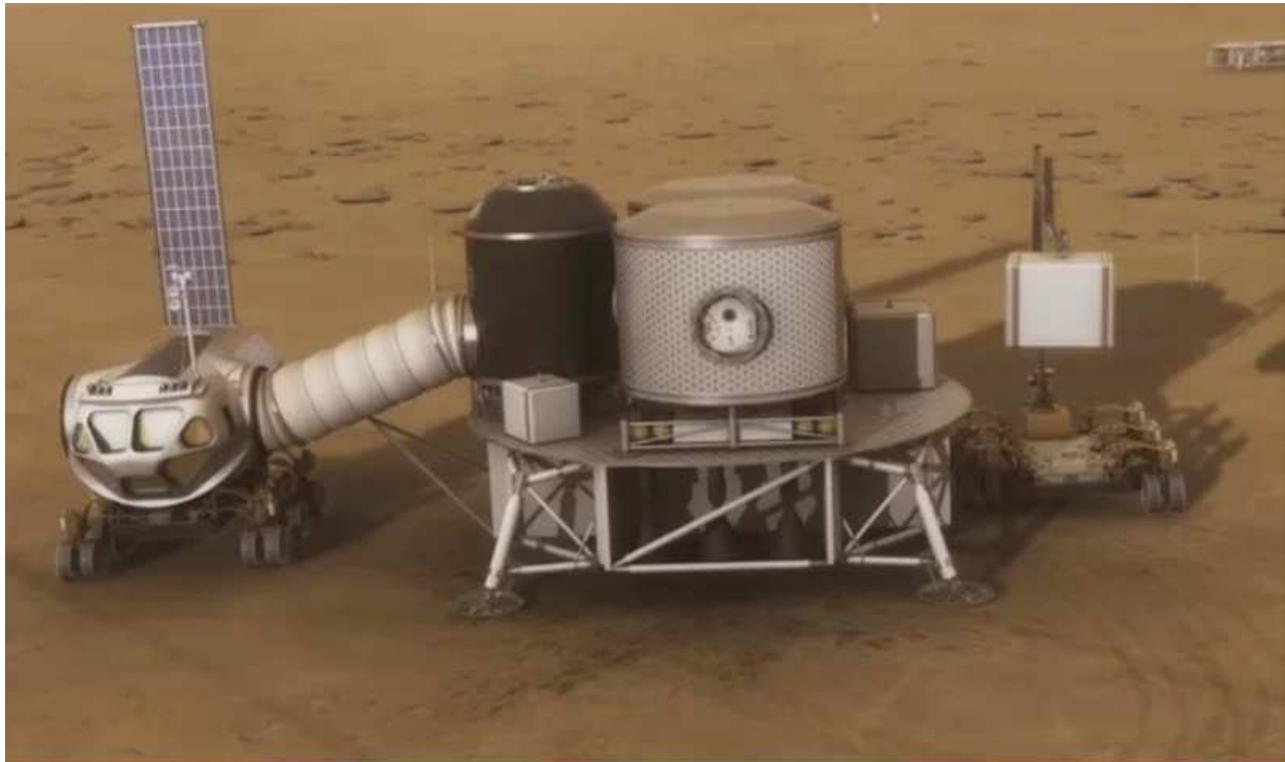
Source: University of Manchester

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### RED PLANET HOUSING: NASA AWARDS \$200,000 IN 3D-PRINTED HABITAT CHALLENGE

By Nola Taylor Redd, Space.com Contributor | July 10, 2017 07:00am ET

[https://www.space.com/37427-nasa-mars-habitat-challenge-phase-two-winners.html?utm\\_source=sd-newsletter&utm\\_medium=email&utm\\_campaign=20170710-sdc](https://www.space.com/37427-nasa-mars-habitat-challenge-phase-two-winners.html?utm_source=sd-newsletter&utm_medium=email&utm_campaign=20170710-sdc)



An artist's illustration of a Mars habitat and vehicle. To help generate ideas about how to build housing on the Red Planet, NASA is hosting the 3D-Printed Habitat Challenge. Credit: NASA

Human travelers to Mars will require shelter from the harsh environment. To help generate ideas for how to build those Martian habitats, NASA recently awarded over \$200,000 to citizen inventors working to create 3D-printable structures from recyclable materials and simulated Martian soil.

The teams are competing in NASA's [3D-Printed Habitat Challenge](#), which is now in its second phase. The latest milestone required participants to print a structural beam that would undergo bend testing, with scores based on the use of recycled material or material like that found on Mars, and on the maximum load that the beam could support.

"These competitors are working to advance critical systems needed for human space exploration," Lex Akers, dean of the Caterpillar College of Engineering and Technology at Illinois' Bradley University, said in a [statement](#) from NASA. Bradley University has partnered with [NASA's Centennial Challenges program](#) to run the 3D-Printed Habitat Challenge. [[How Will a Human Mars Base Work? NASA's Vision in Images](#)]

Today in Space – July 11: Abandoned Skylab Returns to Earth

"We are on the edge of developing new, innovative and disruptive ideas that could change our future. This type of work will allow us to explore new ideas as we partner in creating solutions for our world and beyond," Akers said.



A 3D-printed beam by team MoonX of South Korea, which won first place in the Phase 2: Level 2 competition of NASA's 3D-Printed Habitat Challenge. For this level, teams had to 3D print a structure for bend testing. Credit: Courtesy of team MoonX

**BUILDING GREEN HABITATS**

While shelters will likely be crucial to [human exploration of other worlds](#), launching them from Earth presents two main challenges, NASA said. First, the habitat must fit inside a rocket payload fairing; that limits the potential size of the habitat or requires that it be shipped in pieces. Second is the additional mass that must be launched, adding cost to a mission.

One potential solution is to send autonomous robots to deep-space destinations like Mars to construct habitats before human settlers arrive; relying on local resources and recycled material to produce the habitat pieces would then reduce the launch cost, according to NASA.

"Recyclable plastics were used in the top three scoring teams' [projects], indicating that a thermoplastic concrete material may be viable for [3D printing habitats on Mars](#)," said Rob Mueller, senior technologist for advanced projects development at the Swamp Works laboratory at NASA's Kennedy Space Center in Cape Canaveral, Florida, and a subject matter expert for the competition.

Thermoplastics are plastic polymers that become moldable when heated. According to Mueller, they could be obtained from discarded packing materials, or even created on Mars using the Red Planet's atmosphere and soil.

Although the methods may seem out of this world, Mueller said they could also be used on Earth planet using discarded trash, providing a boon to areas where access to conventional building materials is limited or affordable housing is needed.



Team Form Forge of Oregon State University, Corvallis, 3D printed this beam for NASA's 3D-Printed Habitat Challenge. Credit: Courtesy of team Form Forge

The first-place team was Moon X Construction of Seoul, South Korea (international teams were not eligible for prize money). In second place was Form Forge of Oregon State University, Corvallis, which was awarded \$67,465. In third place was Foster+Partners from Branch Technology of Chattanooga, Tennessee, which won \$63,783; that team also won first place in the previous sub-challenge.

In fourth place was the University of Alaska Fairbanks, which was awarded \$35,573. In

fifth place was the CTL Group Mars of Skokie, Illinois, which was awarded \$34,202. In sixth place was Robocon of Singapore, another international team. A seventh team, from

Pennsylvania State University, competed but did not meet the structural requirements for a cash award.

The 3D-Printed Habitat Challenge is divided into three phases. Phase 1, the Design Competition, was completed in 2015. Phase 2, [the Structural Member Competition](#), consists of three sub-competitions and focuses on the material technologies needed to create structural components. The just-completed segment is the second sub-competition. Phase 3, the On-Site Habitat Competition, will focus on automated 3D-printing systems that could autonomously construct a complete habitat.

With the second part of Phase 2 down, the teams will now work on Phase 2: Level 3, which requires them to 3D-print a dome structure and provide samples for crush testing. Qualification is based on performance in previous levels. The event will be open to the public on Aug. 25 and 26.

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## NASA CREATES A BIZARRE MARS ROVER CONCEPT THAT LOOKS LIKE THE BATMOBILE

By: [Nidhi Goyal](#) | July 6th, 2017

[http://www.industrytap.com/nasa-creates-bizarre-mars-rover-concept-looks-like-batmobile/43061?utm\\_source=Industry+Tap&utm\\_campaign=7d0c09ae01-Industry+Tap+Volume+4217+10+2017&utm\\_medium=email&utm\\_term=0\\_05d6224fe0-7d0c09ae01-44103165](http://www.industrytap.com/nasa-creates-bizarre-mars-rover-concept-looks-like-batmobile/43061?utm_source=Industry+Tap&utm_campaign=7d0c09ae01-Industry+Tap+Volume+4217+10+2017&utm_medium=email&utm_term=0_05d6224fe0-7d0c09ae01-44103165)



NASA's new Mars rover concept vehicle by Tech Insider on YouTube

NASA has revealed a Mars rover concept that looks like the Batmobile. The concept vehicle is designed to inspire interest in the Red Planet.

Although the rover will never travel to the Red Planet, it was created to educate the public on NASA's Mars exploration efforts. It is designed to accommodate four astronauts and has its own detachable laboratory. The vehicle will be displayed at the Kennedy Space Center Visitor Complex for promoting the complex's "Summer of Mars" program.

Here are some of its salient features:

- \* The rover is battery powered, with power supplied by solar panels.
- \* It can achieve a max speed of 96 to 112 kmh (60 to 70 mph).The vehicle is 28 feet (8.5m) long, 13 feet (4m) wide, and 11 feet (3.4m) tall
- \* The estimated weight of the vehicle is 5,000 pounds (2,250kg)
- \* The rear area is a detachable lab while the front area is a cockpit for scouting
- \* The Rover is made entirely of carbon fiber and aluminum
- \* It has six wheels that measure 50 inches (1.3m) tall and 30 inches (75cm) wide

THERE IS A GREAT VIDEO OF THE PROTOTYPE VEHICLE AT THE WEBSITE.

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From: "Martin L King" [kingjr\\_martin@yahoo.com](mailto:kingjr_martin@yahoo.com)

THE CRISIS OF INTEGRITY-DEFICIENT SCIENCE

Paul Driessen, Posted: Jul 08, 2017 12:01 AM

[https://townhall.com/columnists/pauldriessen/2017/07/08/the-crisis-of-integritydeficient-science-n2352114?utm\\_source=thdaily&utm\\_medium=email&utm\\_campaign=nl&newsletterad=](https://townhall.com/columnists/pauldriessen/2017/07/08/the-crisis-of-integritydeficient-science-n2352114?utm_source=thdaily&utm_medium=email&utm_campaign=nl&newsletterad=)

In just the past week: Duke University admitted that its researchers had falsified or fabricated data that were used to get \$113 million in EPA grants – and advance the agency's air pollution and "environmental justice" programs. A New England Journal of Medicine article and editorial claimed the same pollutants kill people – but blatantly ignored multiple studies demonstrating that there is no significant, evidence-based relationship between fine particulates and human illness or mortality.

In an even more outrageous case, the American Academy for the Advancement of Science's journal Science published an article whose authors violated multiple guidelines for scientific integrity. The article claimed two years of field studies in three countries show exposure to neonicotinoid pesticides reduces the ability of honeybees and wild bees to survive winters and establish new populations and hives the following year. Not only did the authors' own data contradict that assertion – they kept extensive data out of their analysis and incorporated only what supported their (pre-determined?) conclusions.



**The epidemic of agenda-driven science by press release and falsification has reached crisis proportions.**

**Some 90% of these innovative neonic pesticides are applied as seed coatings, so that crops absorb the chemicals into their tissue and farmers can target only pests that feed on the crops. Neonics largely eliminate the need to spray with old-line chemicals like pyrethroids that clearly do harm bees. But neonics have nevertheless been at the center of debate over their possible effects on bees, as well as ideological opposition in some quarters to agricultural use of neonics – or any manmade pesticides.**

**Laboratory studies had mixed results and were criticized for overdosing bees with far more neonics than they would ever encounter in the real world, predictably affecting their behavior and often killing them. Multiple field studies – in actual farmers' fields – have consistently shown no adverse effects on honeybees at the colony level from realistic exposures to neonics. In fact, bees thrive in and around neonic-treated corn and canola crops in the United States, Canada, Europe, Australia and elsewhere.**

**So how did the Dr. Ben Woodcock, et al. Center for Ecology and Hydrology (CEH) field studies reach such radically different conclusions? After all, the researchers set up 33 sites in fields in Germany, Hungary and England, each one with groups of honeybee or wild bee colonies in or next to oilseed rape (canola) crops. Each group involved one test field treated with fungicides, a neonic and a pyrethroid; one field treated with a different neonic and fungicides; and one “control” group by a field treated only with fungicides. They then conducted multiple data analyses throughout the two-year trial period.**

**Their report and Science article supposedly presented all the results of their exhaustive research. They did not. The authors fudged the data, and the “peer reviewers” and AAAS journal editors failed to spot the massive flaws. Other reviewers (here, here and here) quickly found the gross errors, lack of transparency and misrepresentations – but not before the article and press releases had gone out far and wide.**

Thankfully, and ironically, the Woodcock-CEH study was funded by Syngenta and Bayer, two companies that make neonics. That meant the companies received the complete study and all 1,000 pages of data – not just the portions carefully selected by the article authors. Otherwise, all that inconvenient research information would probably still be hidden from view – and the truth would never have come out.

Most glaring, as dramatically presented in a chart that's included in each of the reviews just cited, there were far more data sets than suggested by the Science article. In fact, there were 258 separate honeybee statistical data analyses. Of the 258, a solid 238 found no effects on bees from neonics! Seven found beneficial effects from neonics! Just nine found harmful impacts, and four had insufficient data.

Not one group of test colonies in Germany displayed harmful effects, but five benefitted from neonics. Five in Hungary showed harm, but the nosema gut fungus was prevalent in Hungarian beehives during the study period; it could have affected bee foraging behavior and caused colony losses. But Woodcock and CEH failed to mention the problem or reflect it in their analyses. Instead, they blamed neonics.

In England, four test colony groups were negatively affected by neonics, while two benefitted, and the rest showed no effects. But numerous English hives were infested with Varroa mites, which suck on bee blood and carry numerous pathogens that they transmit to bees and colonies. Along with poor beekeeping and mite control practices, Varroa could have been the reason a number of UK test colonies died out during the study – but CEH blamed neonics.

(Incredibly, even though CEH's control hives in England were far from any possible neonic exposure, they had horrendous overwinter bee losses: 58%, compared to the UK national average of 14.5% that year, while overwinter colony losses for CEH hives were 67-79% near their neonic-treated fields.)

In sum, fully 95% of all the hives studied by CEH demonstrated no effects or benefitted from neonic exposure – but the Science magazine authors chose to ignore them, and focus on nine hives (3% of the total) which displayed harmful impacts that they attributed to neonicotinoids.

Almost as amazing, CEH analyses found that nearly 95% of the time pollen and nectar in hives showed no measurable neonic residues. Even samples taken directly from neonic-treated crops did not have residues – demonstrating that bees in the CEH trials were likely never even exposed to neonics.

How then could CEH researchers and authors come to the conclusions they did? How could they ignore the 245 out of 258 honeybee statistical data analyses that demonstrated no effects or beneficial effects from neonics? How could they focus on the nine analyses (3.4%) that showed negative effects – a number that could just as easily have been due to random consequences or their margin of error?

The sheer number of “no effect” results (92%) is consistent with what a dozen other field studies have found: that foraging on neonicotinoid-treated crops has no effect on honeybees. Why was this ignored?

Also relevant is the fact that CEH honeybee colonies near neonic-treated fields recovered from any adverse effects of their exposure to neonics before going into their winter clusters. As "super organisms," honeybee colonies are able to metabolize many pesticides and detoxify themselves. This raises doubts about whether any different overwintering results between test colonies and controls can properly be ascribed to neonics. Woodcock, et al. should have discussed this, but failed to do so.

Finally, as The Mad Virologist pointed out, if neonics have negative impacts on bees, the effects should have been consistent across multiple locations and seed treatments. They were not. In fact, the number of bee larval cells during crop flowering periods for one neonic increased in response to seed treatments in Germany, but declined in Hungary and had no change in England. For another neonic, the response was neutral (no change) in all three countries. Something other than neonics clearly seems to be involved.

The honest, accurate conclusion would have been that exposure to neonics probably had little or no effect on the honeybees or wild bees that CEH studied. The Washington Post got that right; Science did not.

US law defines "falsification" as (among other things) "changing or omitting data or results, such that the research is not accurately represented in the research record." Woodcock and CEH certainly did that here; the AAAS and Science failed to do basic fact-checking before publishing the article; the media parroted the press releases; and anti-pesticide factions rushed to say "the science is settled" against neonics.

The AAAS and Science need to retract the Woodcock article, apologize for misleading readers, and publish an article that fully, fairly and accurately represents what the CEH research and other field studies have actually documented. They should ban Woodcock and his coauthors from publishing future articles in Science. They should also issue press releases explaining all these actions.

Failure to do so would mean falsification and fraud have replaced integrity at the highest levels of once-respected American institutions of scientific investigation and advancement.

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**ABSOLUTELY & TOTALLY POLITICALLY INCORRECT & AS FAR TO THE LEFT AS YOU CAN GO!**

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

**HUNTSVILLE TERRORISM SUSPECT TO GET BOND WITH CONDITIONS; NEW HEARING SET**

WAFF 48 Digital Staff, Posted: 07/07/2017 6:07 PM  
<http://m.waff.com/waff/db/330702/content/zAc16eFe>

**HUNTSVILLE, AL (WAFF) - A Madison County judge has determined that terrorism suspect Aziz Sayyed is entitled to bond.**



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However, that bond must be granted under conditions.

The judge determined it is unconstitutional to deny Sayyed bond.

A hearing has been set for July 19 to receive any testimony from the state or defense in order to determine the conditions of release. He will remain in custody until then.

Investigators say Sayyed planned to blow up a police precinct and practiced to behead people. Prosecutors say they found receipts for ingredients to make explosives. They also say Sayyed swore allegiance to ISIS.

His attorney argued that holding him without bond is unconstitutional. Prosecutors argued he is too dangerous for release and is a flight risk.

OK, IF THE LAW SAYS YOU HAVE TO GIVE THE TERRORIST BAIL, THEN MAKE IT APPROPRIATE TO KEEP THE PEOPLE IN THE COMMUNITY SAFE. I WOULD SAY THAT 1 BILLION DOLLARS WOULD BE APPROPRIATE. UT

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