

## **Betsy says HI!!!!**

### **Announcements**

**The next LABQUEST meeting will be Wednesday, July 14 at “WeAchieve”, 10501 New Hampshire Ave.**

### **Science Report Highlights**

Betsy and Dan thought all the items in following science report from Charles were interesting but most liked the following:

- Sleep
- Hydration
- Coffee And Longevity
- Bananas - Experts recommend washing them as soon as you get home
- Apples And Blood Sugar
- Storing Asparagus - Treat asparagus like fresh-cut flowers.
- Solar Panels More Durable Than Expected
- Unexpected Benefits Of Offshore Wind

### **Science Report**

Vaccination and medical advice should come from your doctor or your pharmacist ... not from this Report or the internet. Everyone should consider maintaining current vaccinations, and many states are simplifying vaccine access.

- Mosquitoes - are the world's deadliest animals, causing more than 600,000 deaths worldwide each year from malaria alone. In the US they spread West Nile virus, equine encephalitis, dengue fever, Zika and more. The greater Washington DC area provides ideal breeding conditions due to heat, humidity and standing water ... and this year moved up to number 6 on the [2026 Mosquito Cities List](#). Steps you can take, [here](#).
- New World Screw Worm (NWS, myiasis) - FDA has issued emergency use [authorization](#) for the use of generic Nitenpyram Tablets ([nitenpyram](#)) for treating NWS infestations in dogs/puppies, cats/kittens.

### **Vaccine and Therapeutic News -**

- A Pill To Prevent Infection by Covid-19? - Ensitrelvir from [Shionogi](#) (Osaka Japan) has already been approved for this purpose in Japan, and is now under review by FDA. [Publication](#).
- Sleep -

- Regular Bedtimes Boost Heart Health - Researchers at the [University of Oulu](#) (Oulu Finland) recently [published](#) a study associating *irregular* bedtimes with [twice the risk of major cardiovascular events](#) like heart attacks and strokes, compared to regular bedtimes. Regular rising times didn't matter. [Getting. at least 7-8 hours of sleep helped](#), but didn't overcome the effect of irregular bedtimes. Tune-up: target 6.25-7.25 hours.
- 7 Hours Of Sleep Nightly Are Required For Good Health - [according](#) to the American Academy of Sleep Medicine ([AASM](#)). Insufficient sleep is associated with weight gain, obesity, diabetes, hypertension, heart disease, stroke, depression, and increased risk of death. 30% of US adults are getting less than 7 hours.
- Recommended Snacks Before Bedtime - Registered dietitians recommend combining protein, healthy (plant) fats, foods rich in Magnesium, and fiber for a snack before bedtime ... avoid carbs, caffeine and large portions. [Details](#). Examples: yes to pistachios (or other nuts) and [dried tart cherries](#), but *no* to chocolate, coffee, alcohol or pretzels.
- Sleep Maintenance Insomnia - and how to fix it. Waking up at 3 am and not being able to go back to sleep, according to [Harvard Medical School](#), is common for women at mid-life. Hint: Going to bed earlier isn't a fix.
- Real Time Observation Of Brain Self-Cleansing Mechanism During Sleep - Researchers at the University of Oulu have developed a [new MRI-based method](#) for directly watching the one-per-ten-second (0.1 Hz) [physical pulses in the brain's cerebrospinal fluid](#) that allows the clearance of waste products during sleep. [Details](#). So ... waking up *refreshed* isn't just a metaphysical thing. Accumulation of uncleared waste products in the brain is closely associated with neurological diseases like Alzheimer's Disease and Dementia. Exciting!
- Maintaining Weight Loss After Discontinuing Weight Loss Drugs - has become an issue. In a Phase 1/2 human trial of the [Fractyl Health](#) (Burlington MA) medication Revita (RJVA-001), the company [announced](#) last year that participants who lost 24% total body weight on a GLP-1 drug maintained stable weight 6 months after GLP-1 discontinuation and a *single* Revita treatment. FDA submission is targeted for late 2026. The company recently [announced](#) that it has been granted permission from the Netherlands for a Phase 1/2 human trial of RJVA-001.

#### Other Health Science News -

- The Importance Of Magnesium - to bone health, according to NIH, and a list of natural foods that provide it, [here](#).
- Positivity Improves Heart Health - According to a new study [published](#) by researchers at the [University of South Florida](#) (Tampa FL), positive psychology interventions, such as [gratitude, mindfulness and optimism training](#) can reduce the risk of cardiovascular disease (blood pressure reduction). The university now has

plans to develop an augmented reality (AR) based physical activity intervention for seniors in the Tampa Bay area.

- Hydration - 6 signs that you're not drinking enough water, [here](#).
- Before Cutting Onions - [follow these simple steps](#) to avoid dirt and bacterial contamination, especially when the onions are going into an *uncooked* dish like a salad.
- Early Detection Of Pancreatic Cancer - In a Phase 1 clinical trial, researchers at the Mayo Clinic used an [AI model](#), and patient CT X-ray scans to detect pancreatic cancer (pancreatic ductal adenocarcinoma) up to 3 years before patients were diagnosed. [Publication](#). Other researchers are working on developing [blood tests](#) for the disease.
- Is It Melanoma, Or Common Sunspots? - How they differ in appearance, [here](#). Summary: Melanomas are irregular in shape, variable in color, and increase in size with time. Sunspots are flat, oval, lighter and more uniform in color, and often occur in groups. Your doctor should decide.
- Pig Kidney Transplant Success Story - This very determined New Hampshire man later called himself the 'pigman', but wearing a pig kidney for 271 days (a new record) gave him sufficient time to wait for a donated human kidney matching his blood type. He '[crossed the bridge](#)'. [Barbara R.]
- Coffee And Longevity - Coffee has [long been linked](#) to longer life and reduced risk of disease. A study recently [published](#) by researchers at Texas A&M begins to explain why. It concluded that certain compounds in coffee activate a receptor (NR4A1) linked to improvements in aging, stress response and disease protection.
- Tylenol Safety - According to a registered dietitian, [here](#), Tylenol (Acetaminophen) is safe when used as directed ... but not too much at once, and not too often. Overdoing it can risk liver damage. Supplements that can also risk liver damage, [here](#). Advice from the American College of Gastroenterology, [here](#).

### Practical Nutrition -

- Barley Pilaf With Citrus, Dried Fruit, Nuts - Healthy, tasty, [here](#). Tune-up: use whole grain barley for more fiber (takes longer to sauté), use *pure* apple juice from store's cold case (no additives/sweeteners), pistachios, use iodized low sodium salt.
- Bananas - Experts recommend washing them as soon as you get home, to [eliminate fruit fly eggs](#).
- Apples And Blood Sugar - According to a registered dietitian, the [whole apple \(including the skin\) has enough fiber to smooth the blood sugar peak](#) from its fructose content. No so with apple *juice*, since the fiber has been removed
- Leafy Greens - See the 8 most nutritious leafy greens ranked by dietitians, [here](#). The winner, by far, is [watercress](#).
- Air Fryers - are a healthy way to [avoid oil/fat-heavy frying](#), but some air fryer baskets are [coated with toxic, non-stick polymers or fake ceramics](#). If yours is showing scratches or flaked area, the missing materials went into *you*. Stainless steel is best, and several models with SS fry baskets are available. Example [here](#).

- [Can Dark Chocolate Help Reduce Cholesterol](#) - maybe modestly, if it's at least 70% cacao and doesn't include much refined sugar. Medication is usually needed for *serious* cholesterol lowering. Chocolate may have other benefits, however. Because of its caffeine content, chocolate shouldn't be eaten near bedtime. [Details](#).
- [Black Or Green Tea](#) - Both are heart/brain/gut healthy, according to registered dietitians, [here](#), and have slightly less caffeine than coffee (for the caffeine sensitive). With [matcha](#) you consume the entire ground tea leaf, healthier yet.
- [Storing Asparagus](#) - Treat asparagus like fresh-cut flowers. [Details](#). Summary: Dissolve 4 teaspoons of sugar in 1 cup of water, trim off the woody base of each stem, *immediately* place the trimmed spears upright in a glass with the sugar water, and store in the fridge. [Video](#) [turn on sound]
- [Neat Trick For Hulling Strawberries](#) - using a straw, details and a video [here](#). Or you can buy a [strawberry huller](#).
- [5 Healthy Types Of Canned Fish](#) - and a nutritional run-down for each according to a registered dietitian, [here](#). Tune-up: Choose Portuguese Atlantic-caught sardines, choose tuna labeled low/no mercury, if there's a packing fluid it should be only extra virgin olive oil or water, Sodium can be reduced by pouring off some of the packing fluid.

### Environmental Science News -

- [Bald Eagle Nest](#) - Live cam view of the nest in Big Bear Valley California, [here](#). Jackie and Shadow come and go. [choose view, turn on sound, EST minus 3 hours]. [Background](#). [turn on sound] They'll be flying soon! And the first bald eagle hatching in Chicago in over 100 years has been spotted, [here](#).
- [Ohio-Made Solar Panels Power Ohio Solar Farm](#) - [Geronimo Power](#) (Bloomington MN) has just switched on its 1,300 acre, 117 MW [Dodson Creek Solar Project](#) in [Highland County OH](#). The panels were manufactured by [First Solar](#) (Tempe AZ) at its plant in Ohio, and are Silicon free. Projects like this are how the [PJM](#) interconnection system (serves the DMV) adds capacity for its network of customers, including the DMV.
- [Solar-Powered Cell Phone Towers In Africa](#) - As diesel cost/availability issues increase, African cellphone system operators are increasingly [turning to solar powered towers](#). Video [here](#). [turn on closed captions]
- [Austin Texas Has Sun](#) - The city has approved contracts to install solar power on dozens of municipal buildings across the city ... saving money, improving resilience at times of power outage. [Details](#). "May it be a light for you in dark places, when all other lights go out." - [Galadriel](#) [skip ad]. [CC]
- [Solar Panels More Durable Than Expected](#) - A 16-year [study](#) of 1.25 million installations by the [Brandenburg University of Technology](#) (Germany) showed that solar panels degrade at 0.59% per year, half the rate of previous estimates. So, they will outlive warranties and produce much more long-term electricity than expected. Win win!

- Wyoming Wind Power - The [Power Company of Wyoming](#) (subsidiary of Anschutz Corporation, Denver CO) has announced [plans](#) for the Chokecherry and Sierra Madre Wind Energy Project, to be located in [Carbon County Wyoming](#) ... two phases, total of 600 turbines (4-6 MW each), total power capacity 3.5 GW, power for 1 million homes (4x the number homes in WY), highest class winds (Class 6 and 7). [Details](#). The company has contracted for 1.5 GW of transmission capacity from WY to UT and 1.5 GW of transmission capacity from WY to NV.
- More Wyoming Power - [NextEra Energy Resources](#) (Juno Beach FL) has contracted with Black Hills Energy *transmission* system to accommodate 200 MW of WY power projects (wind/solar/battery) under development.
- North Sea Wind Power For The UK - The world's largest wind farm, [Hornsea 3](#), has connected its first export cable [75 miles across the seabed to the Yorkshire coast](#) of the UK. When completed toward the end of 2027, just this phase will produce [2.9 GW](#), enough power for 3.3 million homes. The total is 9 GW for all three phases.
- Unexpected Benefits Of Offshore Wind - Reports indicate that offshore wind farms are actually *helping* marine life develop and thrive by providing a substrate for [artificial reefs](#) .. clams, mussels and other attaching organisms. This in turn forms the base of a food chain for larger animals such as cod and seals, or pollution free areas/anchors for cultivating edible seaweed. [Details](#) and a cool video [turn on closed captions].
- Not Quite Ready For An EV - Take a look at [these hybrids](#) with long electric ranges. PHEV = Plug-in Hybrid EV.
- How To Grow Lavender - and care for this hardy perennial so that it bushes out and blooms year after year, [here](#).
- Cloud Jaguars, Egrets, Puffins - and more great wildlife photos, [here](#).
- California Wildlife Bridge - is due to be completed this Summer. It bridges a 10 lane freeway in the Santa Monica Mountains, rejoining two large segments of wildlife habitat. The reconnection will improve biodiversity, and the plantings on the bridge are expected to be self-sustaining once established. Photo and details, [here](#).
- Flooding Bad News Turned Into Good News - After a flooding event in the delta of the Stillaguamish River in Washington state (North of Seattle), the [tribe of that name brought a flooded parcel](#) and moved a levee inland to merge the new parcel with the river's wetland - an important breeding nursery for the [endangered](#) Chinook salmon. Over time, the tribe has purchased several thousand acres. Scientists say it will take thousands more to fully restore the Chinook.
- Keeping Wasps Off Your Porch - Some practical tips, [here](#).
- South African Mining Wastes To Be Reprocessed For Rare Earth Recovery - The [Phalaborwa](#) project, managed by [Rainbow Rare Earths](#) (Guernsey UK), is being supported by a [\\$50 million US equity agreement](#) to recover Neodymium, Praseodymium, Dysprosium and Terbium from a 35 million ton *dune* of fertilizer mine tailings.

Other Science News -

- New Super Strong Steel - Scientists from Purdue University (West Lafayette IN), partnering with the University of South China (Hengyang Hunan China), [used AI](#) to track and model 81 physicochemical features of elements at the atomic level in new alloys, while simultaneously estimating how those elements would interact with 3D printing processes. The new alloy ([Fe-15Cr-3.2Ni-0.8Mn-0.6Cu-0.56Si-0.4Al-0.16C](#)) is rust-proof, 30% stronger than conventional steel, has twice its ductility, and is well behaved under the heating and cooling processes required for laser powder-bed fusion (LPBF) 3-D printers. [Publication](#). Wow!
- Unmanned Ground Vehicles (UGVs) - Ukraine has [contracted for 25,000](#) to be delivered to the line of battle to take-over *all* logistics operations by mid-2026 ... bomb disposal, remote reconnaissance, frontline combat, supply logistics, electronic warfare, casualty evacuation.
- How Did Uranus Get Its Rings? - Astronomers at the [Keck Observatory](#) in Hawaii think they have the answer, [details](#) and a [publication](#). Summary: The outer blue ring is maintained by tiny icy grains knocked off the planet's small moon Mab by micrometeorite impacts. The reddish inner ring was probably formed by collisions between unseen rocky bodies rich in organic materials.
- Rotating Detonation Rocket Engine - [Astrobotic](#) (Pittsburgh PA) has [announced](#) a series of successful test fires of its nextgen rocket engine ... uses a series of detonations that travel around a circular channel, combining highly pressurized propellant with an oxidizer inside a combustion chamber. [Details](#). More thrust, greater fuel efficiency.

Nice Thing - [full screen]

Piano Trio No 2 - Franz Schubert, Opus 100, piano violin and cello, 1828, [here](#).

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### Useful Health And Nutrition Websites -

- Health Biomarker Websites -
  - NIH BMI Calculator - [NIH](#) National Heart, Lung and Blood Institute [calculator](#). Find your Body Mass Index (BMI).
  - Basal Metabolic Rate (BMR) - Your BMR is how many calories you burn just sitting in your chair, [calculator](#).
  - Body Roundness Index (BRI) - Estimate your *visceral* fat, [details](#) and [calculator](#). Harvard background, [here](#).
  - Are Your Stools Healthy? - Check the Bristol Stool Chart [here](#). You should be a Type 3 or 4. Not complicated. [Details](#).
- Nutrition Websites -
  - Is Your Favorite Food Ultra-Processed? - and good substitutes. Northeastern University [TrueFood Dashboard](#).
  - Most Nutritious Vegetables and Fruits Rank-Ordered by CDC - List [here](#). Chinese cabbage = bok choy.

- Misleading Words For Sugar - High-fructose corn syrup, sucrose, barley malt, dextrose, maltose and rice syrup are all [forms of sugar](#). Erythritol and Xylitol have been [linked to heart disease and stroke by Cleveland Clinic researchers](#), and should be avoided as food additives. Chemical sugar substitutes to be avoided: acesulfame potassium, advantame, allulose, aspartame, brazzein, lactitol, maltitol, mannitol, neotame, rebaudioside A (reb-A), saccharin, sorbitol, thaumatin and trehalose.