

Betsy says HI!!!!

Announcements

**The next LABQUEST meeting will be Wednesday, July 8 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:

- Recently Published Study Indicated That Engaging In Arts And Culture Can Help Slow Biological Aging
- Migraine Headache Treatment
- Chronic Inflammation
- Hereditary-Patterned Baldness
- Google 'Debugging' Program In Florida And California (mosquitoes)
- Omega-3 Fatty Acids Are Essential To Life - Most Americans are **not** getting enough
- Oklahoma Scientists Invent Purple Wheat
- EU Heat Pumps Sales Are Suddenly **Hot**
- NASA's New Lithium-Fed Magnetoplasma dynamic Thruster (Ion Engine) - is being designed to take us to Mars

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.

- Drought Watch - The Drought Coordination Committee of the Metropolitan Washington Council of Governments ([COG](#)) has issued a *Drought Watch* for the DMV. See the COG recommendations for water users [here](#).

Vaccine and Therapeutic News -

- Hantavirus - is usually spread by rodents. The Andes strain is the only one known to be spread from person to person. Researchers at the University of Nebraska have now developed a PCR (polymerase chain reaction) test for this particular strain. CDC background on the hantavirus [here](#). Cruise ship infection incident information, [here](#).

- Norovirus On The Pacific Crest Trail - Southern California hikers have been falling ill with stomach flu (gastroenteritis) from a highly contagious [norovirus](#) strain. Details and precautions [here](#). [John McK.]
- Owning A Dog Is Good For Your Heart - According to the American Heart Association (AHA), dog owners are 31% less likely to die of heart attack or stroke. More from AHA, and a video, [here](#). [Mack/Karen W., Jim D., Betty M-L.]
- Recently Published Study Indicated That Engaging In Arts And Culture Can Help Slow Biological Aging - as defined by the Cleveland Clinic. [Details](#).
- Pancreatic Cancer - cells are [addicted to damaged cellular mitochondria](#). Cut off their access, and the cancer cells die. Now pancreatic cancer research has a concrete target to aim for. [Publication](#).
- Head/Neck Squamous Cell Cancer - [Johnson & Johnson](#) (Chicago IL) has [reported](#) encouraging preliminary results from a Phase 1b/2 clinical trial of their candidate treatment, amivantamab, for this indication. [Background](#). FDA has granted 'Breakthrough Therapy Designation', and the company has submitted a Biologics License Application.
- Migraine Headache Treatment - [Axsome Therapeutics](#) (New York NY) has [announced](#) that its candidate for this indication, AXS-07 (SYMBRAVO), has been approved by FDA. [Sonja B.]
- Ankylosing Spondylitis (Axial Spondyloarthritis) - is an inflammatory disease in the [arthritis spectrum](#) that mainly affects the spine, but can affect other joints, as well as tendons and cartilage.
 - Causes And Symptoms - according to the Mayo Clinic, [here](#). First symptoms usually appear in early adulthood, as the body begins forming new bone in an effort to heal inflamed areas. The new bone gradually bridges vertebral gaps, and eventually fuses sections of vertebrae together. That fusion flattens the natural s[pinal curvature, leading to stiffness and discomfort.
 - Diagnosis And Treatment - according to the Mayo Clinic, [here](#). There is presently no cure, but there is effective management. Summary ... There are CT X-ray scans (may not show early stage disease), and MRI scans (expensive) that give more detailed information. There are no *specific* lab tests, but there are blood tests for inflammation biomarkers and the HLA-B27 gene (also check family history). Regular exercise, and minimizing inflammation are key. Appropriate nutrition can help.
 - Advice From Johns Hopkins - [here](#).
 - Advice On Anti-Inflammatory Natural Foods From Harvard - [here](#).

Other Health Science News -

- Chronic Inflammation - is the long term, low level attack on the body by the body's own immune system, and it can generate a spectrum of serious health issues. A Professor of Immunology and Rheumatology at Stanford University advises that the best way to avoid chronic inflammation is to maintain a healthy gut microbiome. [She advises eating at least 30 different vegetables each week](#) (fruits,

vegetables, legumes, leafy greens, herbs, nuts) to provide the range of nutrients needed for a healthy, diverse gut microbiome. Everything from Alzheimer's to heart disease to depression can be caused by chronic inflammation, and 80% of disease caused by inflammation is thought to relate to lifestyle issues like nutrition and exercise. Eat wisely *and diversely*.

- Heart Disease - is the leading cause of death in the US. According to the [Minneapolis Heart Institute](#) "Up to 80% of cases can be prevented through healthy lifestyle choices." See the Institute's recommendations, [here](#).
- ADHD And Heart Health Connected - A study [published](#) in 2022 concluded that "... adults with ADHD (Attention-Deficit Hyperactivity Disorder) were more than twice as likely to develop at least one cardiovascular disease ...". A study [published](#) in 2024 confirmed this connection, and suggested a possible genetic link ... implying that the risk may be two-way. Both studies are relational, not causative. [Details](#).
- Hereditary-Patterned Baldness Affects 40% Of Adults - and there are two FDA approved treatments. Researchers at the University of Sheffield (UK) believe they have discovered a *new* approach, and have demonstrated success with mice ... [publication](#) and a [press release](#) from the university. From mice to men?? [Background](#).
- Hair Follicle Regeneration - [Pelage Pharmaceuticals](#) (Los Angeles CA) has reported encouraging [Phase 2 human testing results](#) for its candidate PP405 designed to achieve this goal, and plans to initiate a Phase 3 trial this year.
- 5 Carbs To Eat To Avoid Chronic Inflammation - as recommended by a registered dietitian, with some tasty recipes, [here](#). Summary: [buckwheat](#), [oats](#), [purple potatoes](#), [sorghum](#), [spelt](#).
- Does Vaping Cause Cancer - It might, [details](#). Some of the materials released in the vapor *are* linked to cancer. Human lungs are evolved to breathe air, with a range of water vapor, not artificially [aerosolized mystery liquids](#).
- Dust Mites - are found in most homes, feasting on dead skin cells and living in [mattresses](#), bedding, upholstered furniture, carpets, or even curtains. Although they don't bite, or usually spread disease, their waste can generate allergic reactions and asthma. See 13 ways to get rid of them, [here](#).
- Google 'Debugging' Program In Florida And California - The company has asked the US EPA for permission to release 16 million mosquitoes annually over a period of two years in FL and CA. The all-male mosquitoes will be infected with the [Wolbachia bacterium](#). When they mate, the males infect the females ... the females then lay their eggs ... and the eggs don't hatch. No chemicals or toxins. Only females bite. The males just fly from flower to flower sipping nectar and tending to the ladies. The target species is [Aedes aegypti](#).
- How Cortisol Affects Weight - Cortisol is a hormone produced by the adrenal gland, and is sometimes called the stress hormone. Excessive cortisol levels can have a negative effect on both psychological and physical health, according to [Torrance Memorial](#). See their advice on symptoms [here](#), and consult a doctor if you

experience them. Also see their advice about healthy things you can do on your own.

Practical Nutrition -

- 4 Vegetables Healthy When Bought Canned - according to a registered dietitian, [here](#).
- Chia Seeds - According to a registered dietitian, they are rich in fiber and omega-3s, supporting heart, gut and overall health. They are also a good source of antioxidants, reducing the risk of chronic diseases and promoting healthy aging. See a nutritional rundown, some recipes and other details, [here](#) ... [publication](#). Tune-up: buy organic, in powdered form, and keep the opened package in the fridge.
- Omega-3 Fatty Acids Are Essential To Life - Most Americans are [not getting enough](#), and your body can't make the three basic forms of them: DHA, EPA, and ALA. They are best found in natural foods, according to a nutritionist, [here](#). Summary: Mackerel, salmon, canned sardines and dark meat herring, soy, seaweed (nori, kombu, wakame, hijiki, arame), broccoli rabe, tofu, flax and chia seeds, walnuts, leafy greens, edamame, natto, hummus, and more.
- Oklahoma Scientists Invent Purple Wheat - Researchers at [Oklahoma State University](#) (Stillwater OK) have [announced](#) the development of a new, healthier variety of hard wheat ... purple wheat. Its color comes from the same anthocyanins (antioxidants) as in blueberries and pomegranates, and its purple flour has about 4 times the fiber of white flour from ordinary wheat. Also .. it makes tastier bread than other whole wheat varieties. Bring it on!
- 4 Types Of Field Peas (Summer Peas, Cow Peas) - and some tasty recipes, [here](#). They all have great fiber.
- Sprouted Onions/Shallots/Garlic - are [safe to eat](#), according to a food safety expert, as long as they aren't mushy or rotten inside. They do have a more bitter flavor, and are [best cooked](#), rather than used raw in salads.
- Avocado Toast Vs. Peanut Butter Toast - [Peanut butter toast has better protein](#). Both have healthy fats, and both are healthy in a variety of other ways. See the full comparative nutritional work-up at the link above.
- Vitamin B6 And Nonalcoholic Beer - It's not considered a health drink, but if you're having a beer and choose a fermented beer from which the alcohol has been removed, a recently [published](#) study of 65 different beers concluded that one beer would provide an average of 59% daily value of B6. Bock beer had the most B6. [Details](#). [CC]

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] **Update** - the eaglets have flown. Welcome to your new world little ones.

- [EU Heat Pumps Sales Are Suddenly **Hot**](#) - Up 25% for 1Q26 in France, Germany and Poland, 50% in the UK. It might have been Russia-related energy shortages, or the early heatwave (102° F in Spain, 90° in Germany, 95° in the UK) ... and the projection of more and worse of both to come ... soon. Details, and information on the different types of heat pumps, [here](#). **June Update:** Temperatures in France have broken an all-time record for June at 110° F, and [more than 40 people have drowned](#) attempting to escape the heat at beaches, rivers and lakes. [Sonja B.]
- [High Efficiency Air Filters/Purifiers](#) - See a selection of [room-based](#) equipment that can handle both the particulate and vapor components (VOC, volatile organic compounds) of wildfire smoke, industrial pollution and auto exhaust. These units can also remove allergens and pet dander. In a home with a good central HVAC filter system, placing one unit in the bedroom might be enough. [Details](#).
- [Utility Scale US Renewable Energy Projections Through 1Q27](#) - According to the US Energy Information Administration, 80 gigawatts (GW) of *new, utility scale* renewable energy capacity will be *added* from solar, wind, and battery storage ... power for about 60 million homes. An *additional* 6 GW of *new, small scale* solar capacity (rooftop/balcony solar) is expected in the same period, and there will be about 0.3 GW from a mix of other renewables. The total will bring renewable energy capacity up to 39.7% of the total US capacity. By comparison, the natural gas share will drop from 40% to 38.3%. [Details](#). Getting there! This is *without* including the substantial hydroelectric imports from Canada to NY, ME and MA.
- [Battery-Based Retail Electricity Program In Texas](#) - [Octopus Energy](#) and [Lunar Energy](#) will offer Texas customers an electricity plan that pairs a high-capacity home battery with fixed energy pricing (monthly subscription fee of \$45, plus electricity at a flat starting rate of 8 cents/kWh) for three years at **no up-front cost**. The companies will sell excess power stored in the battery back to the grid. [Details](#).
- [3 Virginia Utilities Get Grid-Scale Batteries](#) - [Lightshift Energy](#) (Arlington VA) will provide, own and manage a total of five 5MW batteries to help 3 VA utilities stabilize their segment of the VA grid, and reduce peak electrical power costs for their customers - 3 for the [Central Virginia Electric Cooperative](#) (Nelson County), 1 each for the [Craig Botetourt Electric Cooperative](#) and the [Salem Electric Department](#).
- [Off-Grid Nevada Data Center Powered With Solar And Used EV Batteries](#) - The [Crusoe Energy Systems](#) (Denver CO) data center near Sparks NV is powered from its own microgrid, constructed by [Redwood Materials](#) (Carson City NV) ... there is a grid connection for emergency backup, rarely used. The 900 acre site has 20 acres of solar panels and uses EV batteries. Details and a photo, [here](#).
- [Cows Get Solar In Tennessee](#) - The prototype solar farm that [Silicon Ranch](#) (Nashville TN) has set up in Christiana Tennessee is designed to demonstrate [agrivoltaics](#). Cattle like [grazing under the shade of the panels](#), pollinators visit the wild flowers, birds and small animals find homes there, power flows into the grid from the panels, and the farmers make money. They all win! [Video](#). [Mack and Karen W.]

- Agrivoltaics In New Brunswick Canada - A [partnership](#) between renewable energy developer [BNRG Renewables](#) (Dublin Ireland) and the North Shore Mi'kmaq Tribal Council is designing the 150 MW [Cookville Solar Project](#): 1,000 acre site, 740 acres covered by 340,000 elevated solar panels suitable for grazing sheep, power for 12,500 homes. The on-site farming operation will include cultivating blueberries and raising honey bees for honey production - 2029.
- Kiwis Return To The Capital - According to the [Capital Kiwi Project](#), the flightless, nocturnal, native national bird is now thriving in a protected sanctuary near Wellington New Zealand, details and a photo [here](#). The key there, and in other sanctuaries, was to create a space protected from invasive species (possums, feral cats, rats) that invade their underground nests. Welcome back little friends, live long and prosper. 🙌 [Sarah and Luis F., Barbara R., Julian G.]
- Mating Season Just Can't Wait - Mule deer are already using the wildlife highway crossing over California Route 97, ahead of its completion by CALTRANS. Details, and photos of the eager deer, [here](#). California drivers [kill nearly 50,000 mule deer annually](#), 10% of the population.
- Floating Photovoltaics In Australia - also called 'floatovoltaics'. Australia is in drought, and has been losing very large amounts of scarce water to evaporation from reservoirs, canals, lakes. There is now a nationwide push to install floating solar panels, accomplishing both power production and water conservation at the same time. [Details](#). Win win! California is taking a similar approach, [here](#).
- First Solar Farm On The Isle Of Jersey (UK) - is [crushing projections](#) by producing 30% more power than expected. The 4.3 MW '[Moulin á Vent](#)' solar farm, in St Clement, covers 12 acres with 7,500 panels (power for 600 homes). [Jersey Electric](#) plans power for 5,000 homes by 2030. And there are sheep, of course. It's Jersey. [Jason W.]
- Large New Solar Farm In Illinois - [Earthrise Energy](#) (Arlington VA) is planning to build a 600 MW, 6,100 acres solar farm, [Pride of the Prairie](#), near Manhattan IL [\[map\]](#). Construction will start this year, with operations expected in 2028. Power will be delivered to the PJM Interconnection, the same regional grid that serves the DMV.
- Nova Scotia Has Wind - [SWEB Development](#) is planning to build the 112 MW, 16 turbine Sugar Maple Wind Energy Project in Pictou County NS starting in 2027, to be operational in 2028 ... power for 35,000 homes. [Details](#).
- Passenger Rail Ridership Up With Gas Prices - Amtrak ridership was up 5% in March, Brightline in Florida by 20% (their best month in history). The free market at work. [Background](#).
- EV Sales Up With Increased Gas Prices In Canada - Overall new vehicle sales declined by 6.6% this March, from March 2025, but combined EV and plug-in hybrid sales were *up* 75%! Invisible hand of the market at work. [Details](#).
- Philadelphia Gets Hundreds Of Additional EV Charge Stations - [PositivEnergy](#) has announced [plans](#) to install 435 DC fast charging and Level 2 charging ports citywide, and is targeting 90% uptime with [better maintenance](#). [Phil J.]
- Off-Grid Solar EV Charging Station In South Africa - [here](#).

Other Science News -

- Video Of NASA X-59 Quiet Supersonic Prototype - [here](#). Now being tested in its *supersonic* speed range.
- NASA's New Lithium-Fed Magnetoplasmadynamic Thruster (Ion Engine) - is being designed to take us to Mars, and is very different from the old-fashioned engines that burn chemical propellants ... so last week. [Video](#) [Wade S.]
- Copper, Silver, Gold, Tungsten - are all in short supply from supply chains anchored in the EU and the US. [Blue Moon Metals](#) (Toronto Canada) has [announced](#) a financial decision to proceed with reactivation/development of the [Nussir](#) (map) mining project in northern Norway, focused on Copper, Silver and Gold. The company will also take the next steps toward reactivation of its [Springer Mine and Mill](#) complex in Pershing County Nevada, focused on mining and refining Tungsten. [CC, Liz S.]
- Laser-Based Uranium Enrichment In Kentucky - [Global Laser Enrichment](#) (Wilmington NC) has [announced](#) progress on planning its \$1.8 billion, 690 acre facility adjacent to the Department of Energy's (DOE) former [Paducah Gaseous Diffusion Plant](#). The company will apply the [enrichment technology](#) (SILEX) already in use at its North Carolina facility to the inventory of depleted uranium tails stored by DOE adjacent to the new site. This would [support clean-up efforts](#) from DOE's legacy activities, and reduce dependence on foreign fuel sources. Operational in 2030.
- Are Red Or Blue USB Ports Faster - Red are faster than blue, which in turn are faster than black or white. [Details](#).
- New Tech For Heavy Lift Drone Competition - The US Defense Advanced Research Projects Agency (DARPA) will conduct this competition in August at the Wright-Patterson Air Force Base in Ohio. The challenge is to design a drone that can lift twice its own weight. [First Tellurium](#) (Vancouver Canada) subsidiary [PyroDelta Energy](#) [videos] has [announced](#) that its entry will use the company's *thermoelectric* technology to provide the necessary boosted power. Thermoelectric - uses temperature differences to *directly* generate electrical energy, no fuel or moving parts.

Nice Thing - [full screen]

- Man Of La Mancha - Impossible Dream scene from the 1972 film with Peter O'Toole, [here](#).
- Man Of La Mancha - Impossible Dream, sung for BBC Radio 2 by Josh Groban, [here](#).
- Man Of La Mancha - Impossible Dream, sung and re-enacted by Brian Stokes Mitchell, [here](#).

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.