

**Weekly Science Report
December 31, 2021**

“The American, by nature, is optimistic. He is experimental, an inventor and a builder who builds best when called upon to build greatly.”

President John F. Kennedy

Table of Contents

| | |
|---|-----------|
| Introduction | 2 |
| News Articles..... | 3 |
| Paleontology, Evolution and Prehistoric Studies | 3 |
| History | 5 |
| Archaeology..... | 8 |
| Egyptology..... | 10 |
| General Science | 11 |
| Physics, Earth and Space Sciences | 12 |
| Environment, Climate Change and Alternative Energy Sources..... | 15 |
| Biological, Genetics and Medical Sciences..... | 16 |
| Other | 17 |
| Additional Informational | 18 |

Introduction

Steve Detwiler created this publication with the support of Graham Hancock and the late John Anthony West to share news and information on various disciplines to include but not limited to paleontology, space sciences, genetics and archaeology. His goal behind sharing this publication has always been very simple, by sharing knowledge we can make our world a better place. This publication is Mr. Detwiler's contribution to bring people together and share ideas and discoveries with his fellow humans.

I hope you enjoy this publication and that the content challenges and inspires you!

The Weekly Science Report is also on social media at:

- Facebook: <https://www.facebook.com/weeklysciencertpt/>
- Twitter: <https://twitter.com/wklysciencertpt>

News Articles

Paleontology, Evolution and Prehistoric Studies

Out of Africa: The path of Homo sapiens

<https://www.eurekalert.org/news-releases/938884>

200,000-year-old 'mammoth graveyard' found in UK

<https://www.livescience.com/ice-age-mammoth-graveyard-uk>

Earliest adorned female infant burial in Europe significant in understanding evolution of personhood

https://phys.org/news/2021-12-earliest-adorned-female-infant-burial.html?fbclid=IwAR3XM-g_IBFJ5S0be2pY9V001ulcp3MWSb3Eca4QVz6Eudn4TX22N5WU2ow

Warm-bodied ties between mammals and birds more ancient than previously recognized

<https://phys.org/news/2021-12-warm-bodied-ties-mammals-birds-ancient.html>

Fossil find reveals giant prehistoric 'thunder birds' were riddled with bone disease

<https://phys.org/news/2021-12-fossil-reveals-giant-prehistoric-thunder.html>

Paleontologists Find Possible Dinosaur DNA

https://www.the-scientist.com/news-opinion/paleontologists-find-possible-dinosaur-dna-69346?utm_content=191235451&utm_medium=social&utm_source=facebook&hss_channel=fbp-212009668822281&fbclid=IwAR0WgQTRbs4umHFWzMa0X6TjbuoMgY2nMvtqeSLjmWynoh-wAHU2SamYtMI&fireglass_rsn=true#fireglass_params&tabid=aebd2dc64e96301b&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Neandertals were the first hominids to turn forest into grassland 125,000 years ago

https://www.sciencenews.org/article/neandertals-first-hominid-modify-environment-forest-grassland?fbclid=IwAR2QpLs3iexp4Xu8ku6fNAMMguur086751L_9nSi8ZkDDrAEBVLJpss14jY

Earliest female human infant burial found in cave in Europe

<https://www.nbcnews.com/news/world/earliest-female-human-infant-burial-found-europe-rcna8677>

Who Invented the Alphabet?

https://www.smithsonianmag.com/history/inventing-alphabet-180976520/?utm_source=facebook.com&utm_medium=socialmedia&fbclid=IwAR14JrAqW-V3SVHwBtGAWaDoxL5NSYRDSUr0Xc7HVO1vpGURiLKyJFELN9U

The Discovery of an Ancient Canine Tooth Reveals Dogs Were Domesticated in the Americas at Least 13,100 Years Ago

<https://news.artnet.com/art-world/americas-first-domesticated-dogs-2049165>

Meet the Scientist Studying How Humans Started Eating Meat

<https://www.smithsonianmag.com/blogs/national-museum-of-natural-history/2021/12/09/meet-the-scientist-studying-how-humans-started-eating-meat/>

Fossil discovery of 5 mammoths along with Neanderthal tools reveals life in ice age

https://www.cnn.com/2021/12/29/world/mammoth-fossils-neanderthal-tools-scn/index.html?utm_content=2021-12-30T00%3A00%3A16&utm_source=fbCNNi&utm_term=link&utm_medium=social&fireglass_rsn=true#fireglass_params&tabid=af4857f30751daa8&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Early humans gained energy budget by increasing rate of energy acquisition, not energy-saving adaptation

<https://phys.org/news/2021-12-early-humans-gained-energy-acquisition.html?fbclid=IwAR08yuTEsNKUfu6NjLeyF7yOoqv7aOqhX8m3rsw8W-iVJu9iDaeSMRZT0o>

Venoms in snakes and salivary protein in mammals share a common origin

<https://www.eurekalert.org/news-releases/938536>

History

'The carved trees have a spirit': Kamilaroi fight to repatriate sacred 800-year-old trunks

<https://www.theguardian.com/culture/2021/dec/12/the-carved-trees-have-a-spirit-kamilaroi-fight-to-repatriate-sacred-800-year-old-trunks?fbclid=IwAR3yrkSbvIQA31Or--KqSU6C-a3MUG747nNw5-bMdz-S-PjE7a7idjIJJ4>

Wright brothers vs. Smithsonian: the bitter feud over who invented the airplane

https://www.washingtonpost.com/history/2021/12/11/wright-brothers-smithsonian-airplane/?utm_campaign=wp_main&utm_medium=social&utm_source=facebook&fbclid=IwAR0GIMFOYhs5cR_rPdpjg8w5BNE3vwLqhsX0oJPUvxpOTOpBzhJ2jw6vY

Thomas Gavin might be America's most prolific artifact thief — but the jig is up

<https://www.npr.org/2021/12/05/1061008298/thomas-gavin-might-be-americas-most-prolific-artifact-thief-but-the-jig-is-up?t=1639483284279>

Newly published research examines Mimbres immigration

<https://phys.org/news/2021-12-newly-published-mimbres-immigration.html>

Sea level fall led to the decline of pre-Columbian societies 2,000 years ago

<https://phys.org/news/2021-12-sea-fall-decline-pre-columbian-societies.html>

Discovering Dr. Wu

https://www.washingtonpost.com/lifestyle/2021/12/13/chien-shiung-wu-biography-physics-grandmother/?utm_campaign=wp_main&utm_medium=social&utm_source=facebook

Auschwitz's forbidden love: The disturbing real-life story of Jewish death camp inmate who saved her family from the gas chamber by falling in love with SS guard

<https://www.dailymail.co.uk/news/article-3193520/Read-real-life-story-Auschwitz-prisoner-Helena-Citronova-falling-love-SS-guard-Franz-Wunsch-amid-controversy-Kate-Breslin-novel-Time.html>

Ethiopia war: World heritage site Lalibela back in rebel hands

<https://www.bbc.com/news/world-africa-59628178>

This 19th-century short story might help combat racism against refugees today

<https://www.npr.org/2021/12/10/1055752471/refugees-migrants-afghanistan-india-tagore?sc=18&f=1001>

Burying Leni Riefenstahl: one woman's lifelong crusade against Hitler's favorite film-maker

https://www.theguardian.com/news/2021/dec/09/burying-leni-riefenstahl-nina-gladitz-lifelong-crusade-hitler-film-maker?CMP=fb_qu&utm_medium=Social&utm_source=Facebook#Echobox=1639045237

Before Barbie: Why Girls Played With Dolls in the Roman Empire

<https://www.haaretz.com/archaeology/before-barbie-why-girls-played-with-dolls-in-the-roman-empire-1.10459455?fbclid=IwAR1bD1ltvPqyJzseEeTiexoMjerBLMS4HJfps866Zv0pdLU-azRsl3GGGY>

Scientists discover 'surprising' cause of Europe's little ice age in late medieval era

https://www.independent.co.uk/climate-change/news/little-ice-age-ocean-currents-b1976776.html?fireglass_rsn=true#fireglass_params&tabid=a8f0d5bade1b4316&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

British or Irish reached remote Faroe Islands before Vikings

<https://www.bbc.com/news/science-environment-59683287>

Desmond Tutu, an icon who helped end apartheid in South Africa, dies at 90

<https://www.npr.org/2021/12/26/494373491/desmond-tutu-dies>

'Chamberlain was a great man': why has the PM fooled by Hitler been recast as a hero in new film Munich?

https://www.theguardian.com/film/2021/dec/15/hitler-chamberlain-munich-edge-reason-robert-harris-jeremy-irons?CMP=fb_gu&utm_medium=Social&utm_source=Facebook#Echobox=1639566239

The Flying Tigers: How a group of Americans ended up fighting for China in WW II

<https://www.npr.org/2021/12/19/1062091832/flying-tigers-americans-china-world-war-ii-history-japan?sc=18&f=1001>

Second time capsule found under Lee monument in Richmond

https://www.washingtonpost.com/dc-md-va/2021/12/27/time-capsule-copper-richmond-lee/?utm_campaign=wp_main&utm_medium=social&utm_source=facebook&fbclid=IwAR0twhmM Np52eOdatNsV608IN4yuAbV5E2HvvpH6ZhxzCBLHVclhkNhi-vE

From museums to TV, far-right gives Dreyfus affair new meaning in France

<https://www.nbcnews.com/news/world/dreyfus-affair-france-far-right-zemmour-macron-antisemitism-rcna8869>

Penobscots don't want ancestors' scalping to be whitewashed

https://apnews.com/article/penobscots-indigenous-history-scalping-colonial-america-adf590d261599302207b8c377b711169?fireglass_rsn=true#fireglass_params&tabid=a2337e26436b5267&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Did the Black Death Rampage Across the World a Century Earlier Than Previously Thought?

<https://www.smithsonianmag.com/history/did-black-death-rampage-across-world-more-century-previously-thought-180977331/>

India blocks foreign funding for Mother Teresa's charity

<https://www.npr.org/2021/12/28/1068500102/india-blocks-foreign-funding-for-mother-teresas-charity>

The Modern History of Ornithology Starts With This Inquisitive Medieval Emperor

<https://www.smithsonianmag.com/smart-news/modern-history-ornithology-starts-inquisitive-medieval-emperor-180967623/>

A truly 'patriotic education' requires critical analysis of US history

https://thehill.com/opinion/education/587598-a-true-patriotic-education-requires-critical-analysis-of-us-history?fbclid=IwAR0eUg1BEO7STL_RmkhvyJtkjD00ilKHi-69ACc0R3u3smcolsoxfr1lyFU&fireglass_rsn=true#fireglass_params&tabid=ae8e8e7f8374f23f&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Religious gatekeeping in red-rock country

https://www.hcn.org/issues/54.1/indigenous-affairs-communities-religious-gatekeeping-in-red-rock-country?fbclid=IwAR1Yb6b-7LN-KPd21lly_Ci8ApE1zQl8DXoyPnxZAxARIJaSic4sxykdSk

Travel routes and landing places of Vikings in Scotland to be mapped like never before

https://www.scotsman.com/heritage-and-retro/heritage/travel-routes-and-landing-places-of-vikings-in-scotland-to-be-mapped-like-never-before-3501820?fbclid=IwAR22vLS7C5XgkePpih2qDvNkQCLglnKel0ST-TB0S-NTsubD6_1Qe_YEI6g

Austrian Holocaust survivor "Mrs. Gertrude" dies at 94

https://apnews.com/article/europe-campaigns-germany-austria-vienna-7ea435e92d8f12beb2a46628fc6976c3?utm_source=Facebook&utm_medium=AP&utm_campaign=SocialFlow&fbclid=IwAR2gYMIln7HgT7ZIdeA5ea503QfPYR7iZNu4yBD6m6CapSGYYA5-PN5HH28

Transforming the Enchanted Isles; Archaeologists uncover the remote archipelago's forgotten human history

<https://www.archaeology.org/issues/455-2201/letter-from/10194-galapagos-islands-history>

Did Benjamin Franklin really discover electricity with a kite and key?

<https://www.livescience.com/benjamin-franklin-kite-key>

Archaeology

Looted Artifacts Recovered from Car Trunk May Be Spoils of War Seized by Jewish Rebels Against Rome

<https://www.smithsonianmag.com/smart-news/looted-artifacts-recovered-from-trunk-may-be-roman-spoils-of-war-seized-by-jewish-rebels-180979243/>

4,500-year-old rope remains found in Turkey's Seyitömer mound

<https://www.dailysabah.com/arts/4500-year-old-rope-remains-found-in-turkeys-seyitomer-mound/news>

Elamite clay tablet unearthed in mysterious Burnt City

<https://www.tehrantimes.com/news/468385/Elamite-clay-tablet-unearthed-in-mysterious-Burnt-City>

Sutton Hoo: Anglo-Saxon burial ground has record visitor figures

<https://www.bbc.com/news/uk-england-suffolk-59149937>

10th century Mahavir statue discovered in Tamil Nadu's Pudukkottai village

<https://www.newindianexpress.com/states/tamil-nadu/2021/dec/29/10th-century-mahavir-stature-discovered-in-tamil-nadus-pudukkottai-village-2401007.html>

Archaeologists tell of efforts to conserve ancient culture near developing dam

<https://www.tehrantimes.com/news/468314/Archaeologists-tell-of-efforts-to-conserve-ancient-culture-near>

Tribal partnerships help Air Force archaeologists understand surprising discovery

<https://www.edwards.af.mil/News/AFMC-News/Article/2880714/tribal-partnerships-help-air-force-archaeologists-understand-surprising-discovery/>

The Dead's Right to Remain Buried: New York Tribal Members Advocate for Bill to Protect Unmarked Graves

<https://nativenewsonline.net/sovereignty/the-dead-s-right-to-remain-buried-new-york-tribal-members-advocate-for-bill-to-protect-unmarked-graves>

One of the largest-known Norse longhouses discovered near Viking ship burial

<https://www.livescience.com/norse-longhouse-discovered-viking-ship-burial>

'Thank God you found me': Florida officials unearth a fourth forgotten Black cemetery

<https://www.npr.org/2021/12/20/1065178753/florida-fourth-black-cemetery-discovered>

Exploring Vardzia, Georgia's mysterious rock-hewed cave city

https://edition.cnn.com/travel/article/vardzia-georgia-cave-city-cmd/index.html?utm_source=twCNN&utm_medium=social&utm_term=link&utm_content=2021-12-14T05%3A36%3A04&fireglass_rsn=true#fireglass_params&tabid=aea3406e7c4cc6d4&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Balkan-based looters share tips on Facebook about vulnerable sites, potential buyers and how to escape the law

https://www.theartnewspaper.com/2021/12/15/balkan-based-looters-share-tips-on-facebook?fireglass_rsn=true#fireglass_params&tabid=a270b14f976ff05a&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Unraveling the Mysterious Traditions Within Chavín de Huántar

https://www.discovermagazine.com/planet-earth/unraveling-the-mysterious-traditions-within-chavin-de-huantar?utm_source=dscfb&utm_medium=social&utm_campaign=dscfb

4 of the biggest archeological advancements of 2021 — including one 'game changer'
https://www.npr.org/2021/12/24/1063057224/archeology-science-discovery-2021-dna-mammoth?utm_medium=social&utm_campaign=npr&utm_term=nprnews&utm_source=facebook.com&fireglass_rsn=true#fireglass_params&tabid=a562d42d59e6bf47&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Huge fort of notorious Roman Emperor Caligula discovered
https://thehill.com/changing-america/enrichment/education/587370-huge-fort-of-notorious-roman-emperor-caligula?fireglass_rsn=true#fireglass_params&tabid=a0216491b861f8c7&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Florida study documents condition, existence of endangered coastal archaeological sites
<https://www.wuof.org/2021-12-29/florida-study-documents-condition-existence-of-endangered-coastal-archaeological-sites>

An Extraordinary 500-Year-Old Shipwreck Is Rewriting the History of the Age of Discovery
https://www.smithsonianmag.com/history/extraordinary-500-year-old-shipwreck-rewriting-history-age-discovery-180978825/?utm_source=facebook.com&utm_medium=socialmedia&fbclid=IwAR2NZxTVHm-RBUg4LRZqyW87eLE1mf-fCSYGAEIBC4y9pW6Uc0GMIXMEu4Y

1,000-year-old garden unearthed in medieval town of Soba
https://www.heritagedaily.com/2021/12/1000-year-old-garden-unearthed-in-medieval-town-of-soba/142358?fbclid=IwAR2EyOz3DxEITBYPN7AJ-PNIfCxy9JXIZbC6_uZ85IVcST-u8UVAfMmIHA

How DNA is preserved in archaeological sediments for thousands of years
<https://phys.org/news/2021-12-dna-archaeological-sediments-thousands-years.html?fbclid=IwAR0ahbEKQ0CMCp7dt0UwLZAnRWX6YyfBtpPCM3ZK-NKeKzvbNo8dIHC1kME>

The 'Amber Elites' in Ancient Kaliningrad Went to Eternity with Their Horses
https://www.haaretz.com/archaeology/the-amber-elites-in-ancient-kaliningrad-went-to-eternity-with-their-horses-1.10494946?fbclid=IwAR1Cru-dcA6gQVIQzQ1v99ExqmW60z4mRDx_RfmfXCvd054S5eph-StC-ZA

DNA Preserved in Lice Glue Reveals South American Mummies' Secrets
<https://www.smithsonianmag.com/science-nature/mummies-secrets-revealed-by-ancient-dna-preserved-in-lice-cement-180979300/?fbclid=IwAR1qiTOG0dZ3-tq3d1FpOxw6L7g-yv1WEUtHwY0sIDgkLULFs48wi02ZxNY>

Egyptology

Cache of 13,000 ostraca unearthed in Upper Egypt's Sohag

<https://english.ahram.org.eg/NewsContent/9/40/446523/Antiquities/Ancient-Egypt/Cache-of--ostraca-unearthed-in-Upper-Egypt;s-Soha.aspx>

'Garbage dump' discovered in ancient Egyptian tomb dedicated to fertility goddess

<https://www.livescience.com/ancient-egyptian-garbage-dump-discovered-in-temple>

Scientists digitally 'unwrap' mummy of pharaoh Amenhotep I for the first time in 3,000 years

<https://www.eurekalert.org/news-releases/938573>

Archaeologists Unearth Egyptian Queen's Tomb, 13-Foot 'Book of the Dead' Scroll

<https://www.smithsonianmag.com/smart-news/archaeologists-unearth-50-more-sarcophagi-saqqara-necropolis-180976794/>

General Science

Nothing to report

Physics, Earth and Space Sciences

Meteorite impact 2 billion years ago may have ended an ice age

https://astronomy.com/news/2020/01/meteorite-impact-two-billion-years-ago-may-have-ended-an-ice-age?utm_source=asyfb&utm_medium=social&utm_campaign=asyfb&fbclid=IwAR2GWqjk48Dgirzm-fw081LXfPTEGPV_NPx_f18j0dPWgHMPpVSAERMZQc

The Rocket Engine That Proves Solar Thermal Propulsion Isn't Just a Crazy Theory

https://www.popularmechanics.com/space/rockets/a34757028/rocket-engine-solar-thermal-propulsion-interstellar-travel/?utm_source=facebook&utm_medium=social-media&utm_campaign=socialflowFBPOP&fbclid=IwAR1TOy-bZC0LEx0wAEEkIPXpUmwuoHEEYonNWHuYMwPp3LFzmf053Arwst0

If Planet Nine exists, why has no one seen it?

https://www.bbc.com/future/article/20210216-the-massive-planet-scientists-cant-find?at_custom3=BBC+News&at_medium=custom7&at_custom1=%5Bpost+type%5D&at_custom4=631CAF86-689E-11EC-995C-D7053A982C1E&at_campaign=64&at_custom2=facebook_page

Einstein's theory passes rigorous 16-year tests (Update)

https://phys.org/news/2021-12-einstein-theory-rigorous-year.html?fbclid=IwAR3jRDFd5MvIU67BF9W-PjK_jb6FD8JVxoxknsHclIRdNhMrWNyZctdC8YY

The Very Real Effort to Track Killer Asteroids and Comets

https://www.smithsonianmag.com/science-nature/the-very-real-effort-to-track-killer-asteroids-and-comets-180979206/?utm_source=facebook.com&utm_medium=socialmedia&fbclid=IwAR0yRuk-87D9f9_P6Ex8ehKzrqMgcPHpbMP_2QiuvuW8DwMllteAhInY9us

NASA craft 'touches' sun for 1st time, dives into atmosphere

<https://apnews.com/article/science-business-sun-cdb6e773cbe6fea2c7225bea213701c2>

"Newer, nimbler, faster:" Venus probe will search for signs of life in clouds of sulfuric acid

<https://phys.org/news/2021-12-nimbler-faster-venus-probe-life.html>

NASA's Ingenuity Mars Helicopter reaches a total of 30 minutes aloft

https://phys.org/news/2021-12-nasa-ingenuity-mars-helicopter-total.html?fbclid=IwAR33JRrvCKFL2wggE9O04wu6KfynYav3C0F_b41MlzhaaxtG_SWXVUNXidk

Spacecraft discovers 'hidden water' in Mars Grand Canyon

https://www.cnet.com/news/spacecraft-discovers-hidden-water-in-mars-grand-canyon/?ftag=COS-05-10aaa0a&ServiceType=facebook_page&UniqueID=F3435C46-5DEE-11EC-AA02-1B0116F31EAE&PostType=link&TheTime=2021-12-15T21%3A35%3A40&fbclid=IwAR1uPCxUWiA4W78f2vcDynGGkq9XiipMyw37gtYRyoiEcaTtgKc6Lb-RyRs&fireglass_rsn=true#fireglass_params&tabid=ad4ea678b8aa634a&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

New type of earthquake discovered

<https://phys.org/news/2021-12-earthquake.html>

Hubble finds evidence of persistent water vapor in one hemisphere of Europa

https://phys.org/news/2021-10-hubble-evidence-persistent-vapor-hemisphere.html?fbclid=IwAR1n27q2VfOh3dNmNrrZfD2IYwG9YEmWDLdR3RXnvY4YXyGRzhfaRk_g4Nk&fireglass_rsn=true#fireglass_params&tabid=a1219b3faeabddb6&application_server_address=isolation1-us-east-1.wss.prod.fire.glass&popup=true&is_right_side_popup=false&start_with_session_counter=2&fireglass_params

The First 'Space Hotel' Plans to Open in 2027

https://www.discovermagazine.com/the-sciences/the-first-space-hotel-plans-to-open-in-2027?utm_source=dscfb&utm_medium=social&utm_campaign=dscfb&fbclid=IwAR1ApN-pjrhk8SzTOHgmMHtD0VU2d2LVHoZhYzP8j6y6oir-sXFoK0nGnw8

NASA is tracking two explorers across Antarctica to prepare humans for Mars

https://www.livescience.com/explorers-trek-antarctica-test-human-mars-survival?utm_campaign=socialflow&utm_medium=social&utm_source=facebook.com&utm_content=livescience&fbclid=IwAR2Lr0_X-dMufN-tY8bFKC1AbPMI37K9m_OVFY--Vv48a7wluNSrx8VWeaA&fireglass_rsn=true#fireglass_params&tabid=a9ba42e4b4cda979&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

NASA releases new photos of Jupiter — and a recording of its moon that sounds like R2-D2

https://www.washingtonpost.com/science/2021/12/19/juno-mission-ganymede/?utm_campaign=wp_main&utm_medium=social&utm_source=facebook

NASA just launched the most powerful space telescope ever

<https://www.npr.org/2021/12/25/1065805684/james-webb-space-telescope-livestream-launch?sc=18&f=1001>

'29 days on the edge:' What's next for NASA's newly launched James Webb Space Telescope

https://www.livescience.com/nasa-james-webb-space-telescope-next-steps?fbclid=IwAR2JTchmLTWwgyHvTE1F6GvzYA3EHtueUS8lvZ5uwCor91dHBxHZGd3fCuU&utm_campaign=socialflow&fireglass_rsn=true#fireglass_params&tabid=ad891e50d7aff66e&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

China's Tianhe space station module dodged SpaceX Starlink satellites twice this year

<https://www.space.com/china-tianhe-space-station-maneuvers-spacex-starlink>

10 times volcanoes blew our minds in 2021

https://www.livescience.com/best-volcanoes-stories-2021?fbclid=IwAR3y6IPJminHjfOUVwZLxLmk6JHbsPUAi0yyFFVtkzBFYPBLrU_JppTzqHE&utm_campaign=socialflow&fireglass_rsn=true#fireglass_params&tabid=a3c5ee725ea99aa9&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

The only known pulsar duo sheds new light on general relativity and more

https://www.sciencenews.org/article/pulsar-dead-stars-general-relativity-einstein?fbclid=IwAR28mlbTeGZzbY3TbrVgG71zJov0RrbKviVc4Hsk4S3iW_7Xah04lBmNigw

Could Martian dust storms help astronauts keep the lights on?

https://astronomy.com/news/2021/12/could-martian-dust-storms-help-astronauts-keep-the-lights-on?utm_source=asyfb&utm_medium=social&utm_campaign=asyfb&fbclid=IwAR2tNsQQOIx0SR50JsZMvM-I73dH58wD_In0DTI6FMpIANG7IT3QIBXOEnI

The Milky Way's supermassive black hole erupted with a violent flare just a few million years ago
https://astronomy.com/news/2019/10/the-milky-ways-supermassive-black-hole-erupted-with-a-violent-flare-a-few-million-years-ago?utm_source=asyfb&utm_medium=social&utm_campaign=asyfb&fbclid=IwAR0ahbEKQOCM Cp7dt0UwLZAnRWX6YyfBtpPCM3ZK-NKeKzvbNo8dIHC1kME

The missing continent it took 375 years to find
https://www.bbc.com/future/article/20210205-the-last-secrets-of-the-worlds-lost-continent?at_custom3=BBC+News&at_medium=custom7&at_custom2=facebook_page&at_campaign=64&at_custom1=%5Bpost+type%5D&at_custom4=859AE0F4-66F1-11EC-B017-A8D6923C408C&fireglass_rsn=true

Possible chemical leftovers from early Earth sit near the core
https://phys.org/news/2021-12-chemical-leftovers-early-earth-core.html?fbclid=IwAR1yIIW5IUWYa7L4APE7UXaymlxN-MHtHDCc2BH_XJTeR1BuQPSZ50mQQDw

Giant comet found hidden in dark energy data
https://astronomy.com/news/2021/07/giant-comet-found?utm_source=asyfb&utm_medium=social&utm_campaign=asyfb&fbclid=IwAR0ULSPd1vcB1TsPAw0cPBcS1WamDC3oLUBuhNvyoNOJo6Vjlo1ffE3Vj2o

The 10 strangest space structures discovered in 2021
https://www.livescience.com/10-awesome-space-structures-2021?fbclid=IwAR2lmoRASPAGG2wMScOYOYkmEHO75OVZIxEWb6zTaDuqz6Gf65xq8ePzNME&utm_campaign=socialflow&fireglass_rsn=true#fireglass_params&tabid=a01452e120c78c43&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Explore Earth's history with help from the cosmos
https://astronomy.com/magazine/news/2020/10/explore-earths-history-with-the-help-from-the-cosmos?utm_source=asyfb&utm_medium=social&utm_campaign=asyfb&fbclid=IwAR0eUg1BEO7STL_RmkhvyJtkjD00ilKHi-69ACc0R3u3smcolsoxfr1lyFU

Are We Ready for the Next Big Solar Storm?
https://www.discovermagazine.com/the-sciences/are-we-ready-for-the-next-big-solar-storm?utm_source=dscfb&utm_medium=social&utm_campaign=dscfb&fbclid=IwAR0sl2PGIHj_gsxLAey4si89JrQ4MMOD9hz18FfUqNpSO5RxAp-mDGhfXCE

Say hello to a record-setting isotope
<https://www.eurekalert.org/news-releases/938913>

Australian icebreaker maps deepsea mountain
<https://phys.org/news/2021-12-australian-icebreaker-deepsea-mountain.html>

Environment, Climate Change and Alternative Energy Sources

China's Solar Giants Make a Bid to Dominate Hydrogen Power

https://www.bloomberg.com/news/articles/2021-12-12/china-s-solar-giants-make-a-bid-to-dominate-hydrogen-power?utm_source=facebook&utm_campaign=socialflow-organic&cmpid=socialflow-facebook-business&utm_medium=social&utm_content=business&fbclid=IwAR2KkFqcEQp3xUEK6Dx_1MS_TlbLlgrZjZiCnepg--fEsUwGIGe20uAaHrPo

Most nations are promising to end deforestation, but skeptics want proof

<https://www.npr.org/2021/12/14/1061302961/most-nations-are-promising-to-end-deforestation-but-skeptics-want-proof?sc=18&f=1001>

Researchers develop advanced catalysts for clean hydrogen production

<https://phys.org/news/2021-12-advanced-catalysts-hydrogen-production.html>

Controlled indoor cultivation without daylight comes of age

<https://phys.org/news/2021-12-indoor-cultivation-daylight-age.html>

Toward fusion energy, team models plasma turbulence on the nation's fastest supercomputer

https://phys.org/news/2021-12-fusion-energy-team-plasma-turbulence.html?fbclid=IwAR3NvHyOf6109Evot7XVvBn78UQ2Wvugn2ZETBJPm8Uq7NNIEHvK_SrzvRq

Scientists watch giant 'doomsday' glacier in Antarctica with concern

<https://www.theguardian.com/world/2021/dec/18/scientists-watch-giant-doomsday-glacier-in-antarctica-with-concern?s=09>

After thousands of years, an iconic whale confronts a new enemy

<https://phys.org/news/2021-12-thousands-years-iconic-whale-enemy.html>

Scientists create stable materials for more efficient solar cells

<https://techxplora.com/news/2021-12-scientists-stable-materials-efficient-solar.html>

Sensor detects toxins in drinking water sources

<https://phys.org/news/2021-12-sensor-toxins-sources.html>

The White House wants a robust electric vehicle charging network. Here's the plan

<https://www.npr.org/2021/12/18/1065331379/electric-cars-charging-network-white-house-harris?sc=18&f=1001>

Scientists build new atlas of ocean's oxygen-starved waters

https://phys.org/news/2021-12-scientists-atlas-ocean-oxygen-starved.html?fbclid=IwAR2KWbJ9EeYFWU62PAy914ldpjX2MOepZ5EF_o7UapVzodGV6gemR1gKUNA

A shellfish company gets into the weeds

https://www.hcn.org/issues/54.1/north-food-a-shellfish-company-gets-into-the-weeds?fbclid=IwAR20x9V_3K1qIXtYovNKQ6oKR8l1JmFLUX6dN-bP-t-epzbJHu-odliTXo

Iodine in desert dust destroys ozone

<https://www.eurekalert.org/news-releases/938836>

Alaska faces 'Icameddodn' as temperatures swing wildly

<https://phys.org/news/2021-12-alaska-icameddodn-temperatures-wildly.html>

Biological, Genetics and Medical Sciences

This Bioartificial Organ Could One Day Save 'Millions' Living With Kidney Disorders

<https://www.smithsonianmag.com/smart-news/this-bioartificial-organ-could-one-day-save-millions-suffering-kidney-disorders-180978721/>

Gene therapy advance could reverse a common genetic cause of hearing loss

<https://medicalxpress.com/news/2021-12-gene-therapy-advance-reverse-common.html?fbclid=IwAR2V8z9jDEMmBNf4EUqBYZgHivQUWO62G-SKI63k7I3DPayO8CGHdOQK0Z8>

Rare pink handfish spotted in Australia for first time in decades

https://www.bbc.com/news/world-australia-59778215?xtor=AL-72-%5Bpartner%5D-%5Bbbc.news.twitter%5D-%5Bheadline%5D-%5Bnews%5D-%5Bbizdev%5D-%5Bisapi%5D&at_custom2=facebook_page&at_custom3=BBC+News&at_medium=custom7&at_custom1=%5Bpost+type%5D&at_custom4=22EA5C4E-646E-11EC-A18D-18C196E8478F&at_campaign=64Sent

What makes an mRNA vaccine so effective against severe COVID-19?

<https://www.eurekalert.org/news-releases/938890>

HIV patients 'cured' by their own unique biology may harbor secrets to end the global scourge

<https://medicalxpress.com/news/2021-12-hiv-patients-unique-biology-harbor.html>

High-resolution lab experiments show how cells 'eat'

<https://phys.org/news/2021-12-high-resolution-lab-cells.html>

New study brings us one step closer to growing human organs for transplantation

<https://phys.org/news/2021-12-closer-human-transplantation.html>

Leveraging outer space to advance stem cell science and medicine

<https://medicalxpress.com/news/2021-12-leveraging-outer-space-advance-stem.html>

Other

Stanford Professor Garry Nolan Is Analyzing Anomalous Materials from UFO Crashes

https://www.vice.com/en/article/n7nzkg/stanford-professor-garry-nolan-analyzing-anomalous-materials-from-ufo-crashes?utm_source=vice_facebook&utm_medium=social

9 things we learned about aliens in 2021

https://www.livescience.com/alien-discoveries-2021?utm_content=livescience&utm_medium=social&utm_source=facebook.com&utm_campaign=socialflow&fbclid=IwAR2E8hQQyXhhBbJ5gT4Io24Yrsk8eS58blJnOSOsWPGoElvt4DXMA5m5Xm4&fireglass_rsn=true#fireglass_params&tabid=ae6dac18d3cd7a67&start_with_session_counter=2&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Additional Informational

Digital unwrapping of the mummy of King Amenhotep I (1525-1504 BC) using Computed Tomography (CT)

https://www.frontiersin.org/articles/10.3389/fmed.2021.778498/full?fbclid=IwAR3tJEjWGsUALotigICRV_3I9UA07bFlkvb2I1M02FMfnjwAGLtzMLyF8Ts

Ancient DNA reveals the world's oldest family tree

<https://www.york.ac.uk/news-and-events/news/2021/research/dna-tree-neolithic/>

When rocks were tools: Research offers insights into the deep past

<https://www.binghamton.edu/news/story/3438/when-rocks-were-tools-research-offers-insights-into-the-deep-past>

Ostrich eggshell beads reveal 50,000-year-old social network in Africa

<https://www.nature.com/articles/s41586-021-04227-2>

TED Talk, Super speed, Magnetic levitation, and the vision behind the Hyperloop

https://www.ted.com/talks/josh_giegel_super_speed_magnetic_levitation_and_the_vision_behind_the_hyperloop?utm_source=t.co&utm_medium=social&utm_campaign=social&utm_content=2021-12-06-cutdown&fireglass_rsn=true#fireglass_params&tabid=a4ce802b6c91099c&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Mengele and the Need for Holocaust Education

<https://medium.com/memory-action/mengele-and-the-need-for-holocaust-education-67f09be1f447>

Billions in Tree Funds Could Help Cities Prep for Climate Change

https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2021/12/03/billions-in-tree-funds-could-help-cities-prep-for-climate-change?fireglass_rsn=true#fireglass_params&tabid=adf0c0d15bcb8812&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

'Museums in Crisis: Helping Our Colleagues and Their Museums in Need'

https://icom.museum/en/news/icom-kyoto-2019-reads-museums-in-crisis-helping-our-colleagues-and-their-museums-in-need/?fireglass_rsn=true#fireglass_params&tabid=ad022acd3ac0a54d&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

An Inca suspension bridge is restored in Peru

<https://en.unesco.org/courier/2019-4/inca-suspension-bridge-restored-peru>

American Alliance of Museums Announces New Strategic Framework

https://www.aam-us.org/2021/12/14/american-alliance-of-museums-announces-new-strategic-framework/?fbclid=IwAR2ey7BI-5QDglQdUr2E6bOhgNEngLmGBd2wpoj_aTAmSJ6_-2FCE5jzal

Year One Report America the Beautiful

https://www.whitehouse.gov/wp-content/uploads/2021/12/AtB-Year-One-Report_.pdf

International Science Council Newsletter

<https://mailchi.mp/council.science/unleashing-science-8613494?e=725b365f54>

Billions in Tree Funds Could Help Cities Prep for Climate Change

https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2021/12/03/billions-in-tree-funds-could-help-cities-prep-for-climate-change?fireglass_rsn=true#fireglass_params&tabid=aa6f348bd5a8f5d8&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

A Boy with a Piercing Gaze: What Was His Fate during the Holocaust?

<https://medium.com/memory-action/a-boy-with-a-piercing-gaze-what-was-his-fate-d5c85076bb84>

Photos: Whirling dervish ritual honors Rumi, the Sufi mystic poet

<https://www.npr.org/2021/12/25/1068016227/whirling-dervishes-rumi?sc=18&f=1001>

TED Talk, Could Human Civilization spread across the Whole Galaxy?

https://www.ted.com/talks/roey_tezana_could_human_civilization_spread_across_the_whole_galaxy#t-2845

TED Talk, Yes scientists are building an Elevator to Space

https://www.ted.com/talks/fabio_pacucci_yes_scientists_are_actually_building_an_elevator_to_space?utm_source=t.co&utm_medium=social&utm_campaign=social&utm_term=2021-12-23&utm_content=2021-12-23&fireglass_rsn=true#fireglass_params&tabid=af64a8c4206a14a0&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

8 inspiring resolutions to help you be a better human — and create a better world

https://ideas.ted.com/8-inspiring-resolutions-to-help-you-be-a-better-human-new-years/?utm_source=t.co&fireglass_rsn=true#fireglass_params&tabid=ae6f9887a177d7fc&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

IRENA and World Economic Forum Launch Green Hydrogen Toolbox at COP26

https://www.irena.org/newsroom/pressreleases/2021/Nov/IRENA-and-World-Economic-Forum-Launch-Green-Hydrogen-Toolbox-at-COP26?fireglass_rsn=true#fireglass_params&tabid=ae261a52859ffa80&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

SolarCity Web-based Simulator Application

https://irena.org/solarcity?fireglass_rsn=true#fireglass_params&tabid=a4a4ea45b6da3574&start_with_session_counter=3&application_server_address=isolation1-us-east-1.wss.prod.fire.glass

Heritage of the Euphrates: Recording the oral lore, stories and traditions of the Valley

<https://english.alaraby.co.uk/features/capturing-oral-heritage-euphrates-river-valley?s=09>

Kindred: Neanderthal Life, Love, Death and Art

https://www.amazon.com//dp/B07YLYHBVF?ref_=pe_6006310_617798830

National Park Service announces entrance fee-free days for 2022

<https://www.nps.gov/orgs/1207/fee-free-days-2022.htm>

MAGNETIC-CONFINEMENT FUSION WITHOUT THE MAGNETS

<https://spectrum.ieee.org/zap-energy-fusion-reactor>

NASA Solar System Exploration

Did you recently unwrap a new device? Put it through its paces on a virtual voyage to Jupiter with our Juno mission.

- Explore Jupiter in 3D: solarsystem.nasa.gov/jupiter
- Download 3D models: go.nasa.gov/2SD1qW6
- Bring Juno into your room with augmented reality (AR): eyes.nasa.gov/mobile-apps.html