



BERCHLY E WEEKLY

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SCIENCE



Mosquitoes have neuronal fail-safes to make sure they can always smell humans.

A group of researchers found that mosquitoes have evolved redundant fail-safes in their olfactory system that make sure they can always smell our scents. They found that neurons stimulated by the human odor 1-octen-3-ol are also stimulated by amines, another type of chemical mosquitoes use to look for humans. This is unusual since according to all existing rules of how animals smell, neurons encode odor with narrow specificity, suggesting that 1-octen-3-ol neurons should not detect amines.

(August 18, 2022)



Credit: © frank29052515 / stock.adobe.com

Read more at:

https://www.sciencedaily.com/releases/2022/08/220818122351.htm

Incredible Webb Space Telescope Images of Jupiter Showcase Auroras, Hazes, Moons & Rings.

(August 22, 2022)



Credit: NASA, ESA, CSA etc.

NASA's James Webb Space Telescope has captured new images of the massive planet. Webb's Jupiter observations will give researchers even more clues to Jupiter's inner life. "We hadn't really expected it to be this good, to be honest," said planetary astronomer lmke de Pater, professor emerita of the University of California, Berkeley. As part of an international collaboration for Webb's Early Release Science program, De Pater led the observations of Jupiter with Thierry Fouchet, a professor at the Paris Observatory. Created from a composite of several images from Webb, the standalone

view of Jupiter features auroras that extend to high altitudes above both the northern and southern poles of Jupiter.

Read more at:

https://scitechdaily.com/incredible-webb-space-telescope-images-of-jupiter-showcase-auroras-hazes-moons-rings/

Rubber band can help modify surgical mask for N-95 respiratorlike fit: Study.

Rubber bands, a low-cost and easily-accessible modification, can improve the seal and protective ability of a standard surgical mask to the level of an N95 respirator. "This could mitigate N95 respirator shortages worldwide and provide individuals in under-resourced regions a practical means for increased personal respiratory protection," the study adds. The surgical masks are not believed to be as protective as they do not fit around the wearer's face. This lets the airborne particles bypass the mask.

(August 25, 2022)



Credit: News18.com

Read more at:

https://www.hindustantimes.com/science/rubber-band-can-help-modify-surgical-mask-for-n-95-respirator-like-fit-study-101661395944956.html

These 38 telescopes will sport exploding stars, may detect planet 9: Report.

(August 25, 2022)

At least 38 small telescopes will begin monitoring a 'slice' of visible sky which is roughly 1,700 times the size of the full moon from October. According to the report, the Argus telescopes will be capturing short-lived astrophysical events which include exploding stars, black holes, neutron star mergers and maybe stars which have been briefly hidden by a 'long-postulated' planet in our solar system. The telescopes will watch the sky with more mirror area than all the other telescopes put together.

Read more at:

https://www.hindustantimes.com/science/these-38-telescopes-argus-array-pathfinder-will-spot-exploding-stars-may-detect-planet-9-report-101661403897614.html

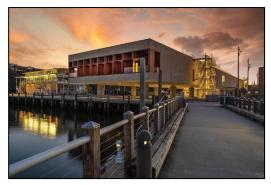


ARTS



Once the US's largest slave port, Charleston will open African American museum next year.

(August 23, 2022)



Credit: Jim Sink, courtesy of IAAM

Gadsden's Wharf, in Charleston, South Carolina, was once the largest slave port in the United States. More than 40% of all enslaved Africans first stepped foot in the US through the dock; more than 100,000 people during the peak of the international trade. Today, the new International African American Museum (IAAM) is being constructed in full view of the historic dock, just across the waterfront. The museum, which is scheduled to open on 21 January 2023, will provide a comprehensive overview of the cultural, socio-economic and

psychological history of slavery, and the ways it continues to impact today.

Read more at:

https://www.theartnewspaper.com/2022/08/23/once-the-uss-largest-slave-port-charleston-will-open-african-american-museum-next-year

PM Modi inaugurates state-of-the-art Amrita hospital in Haryana.

(August 24, 2022)

Prime Minister Narendra Modi dedicated to the nation a 2,600-bed state-of-the-art private hospital. The hospital in Haryana is equipped with a centralised, fully automated lab. The hospital will provide a major boost to the health infrastructure in the National Capital Region (NCR). The state-of-the-art Amrita Hospital, built on a sprawling 130-acre



Credit: ANI

campus with sustainability in mind, features a dedicated seven-storey research block and was built over a six-year period under the auspices of the Mata Amritanandmayi Math.

Read more at:

https://www.indiatoday.in/india/story/pm-narendra-modi-inaugurates-2600-bed-hospital-haryana-faridabad-1991894-2022-08-24

Portrait Work of local artists featured in upcoming exhibit at TROY's International Arts Centre.

(August 26, 2022)



An exhibit in the collection.

An exhibit featuring a collection of portraits from four local artist will open Sept. 6 in the Huo Bao Zhu Gallery at Troy University's International Arts Center. In "A Portrait Collective: Featuring works by Elana Hagler, Mark Moseley, Sergei Shillabeer, and Diddy Vucovich," the artists explore portraiture in their unique styles, reflecting on the profound storytelling potential of capturing the image of a person and their narrative.

Read more at:

https://today.troy.edu/news/portrait-work-of-local-artists-featured-in-upcoming-exhibit-at-troys-international-arts-center/

"Largest In History": Microsoft Co-Founder Paul Allen's Art Collection Up for Auction.

(August 26, 2022)

Christie's announced plans on Thursday to auction off the art collection of late Microsoft cofounder Paul Allen, which it estimated to be worth more than \$1 billion. The November auction of more than 150 pieces spanning 500 years of art history will be "the largest and most exceptional art auction in history," Christie's said in a statement. The works will include "La montagne Sainte-Victoire" by French painter Paul Cezanne, valued at more than \$100 million.

Read more at:

 $\frac{https://www.ndtv.com/world-news/largest-in-history-microsoft-co-founder-paul-allens-art-collection-up-for-auction-3288070$



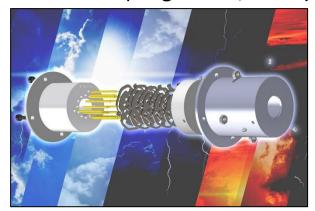
TECHNOLOGY



MIT researchers 3D print precise plasma sensors for satellites.

(August 21, 2022)

Scientists at MIT have created the first completely digitally manufactured plasma sensors for satellites. These plasma sensors, also known as retarding potential analyzers (RPAs), are used by orbiting spacecraft to determine the chemical composition and ion energy distribution of the atmosphere. Cheap and quick to produce, these digitally manufactured plasma sensors could help scientists predict the weather or study climate change. The team of researchers developed RPAs using a glass-ceramic material that is more resilient than traditional sensor materials like silicon and thin-film coatings.



Credit: Figure courtesy of the researchers and edited by MIT News

Read more at:

https://scitechdaily.com/mit-researchers-3d-print-precise-plasma-sensors-for-satellites/

MIT scientists release open-source photorealistic simulator for autonomous driving.

(August 23, 2022)



Representative Image

MIT researchers unveil the first open-source simulation engine capable of constructing realistic environments for deployable training and testing of autonomous vehicles. Since they've proven to be productive test beds for safely trying out dangerous driving scenarios, hyper-realistic virtual worlds have been heralded as the best driving schools for autonomous vehicles (AVs). Tesla, Waymo, and other self-

driving companies all rely heavily on data to enable expensive and proprietary photorealistic simulators, because testing and gathering nuanced I-almost-crashed data usually isn't the easiest or most desirable to recreate.

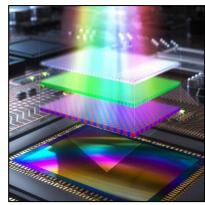
Read more at:

https://scitechdaily.com/mit-scientists-release-open-source-photorealistic-simulator-for-autonomous-driving/

Highly sensitive, mass producible organic photodetectors for medical sensors, fingerprint recognition.

New green-light absorbing transparent organic photodetectors that are highly sensitive and compatible with CMOS fabrication methods have been developed and demonstrated by researchers. Incorporating these new photodetectors into organic-silicon hybrid image sensors could be useful for many applications. These include light-based heart-rate monitoring, fingerprint recognition, and devices that detect the presence of nearby objects.

(August 25, 2022)



Credit: Sungjun Park, Ajou University

Read more at:

https://scitechdaily.com/highly-sensitive-mass-producible-organic-photodetectors-for-medical-sensors-fingerprint-recognition/

China's Baidu reveals its first quantum computer called Qianshi.

(August 25, 2022)

The Baidu-developed quantum computer, dubbed "Qianshi", has a 10-quantum-bit (qubit) processor. Chinese search engine giant Baidu Inc revealed its first quantum computer on Thursday and is ready to make it available to external users, joining the global race to apply the technology to practical uses. The Baidu-developed quantum computer, dubbed "Qianshi", has a 10-quantum-bit processor, Baidu said in a statement. The Beijing-based company has also developed a 36-qubit quantum chip, it said.

Read more at:

https://indianexpress.com/article/technology/tech-news-technology/quantum-computer-china-baidu-qianshi-8111910/



SPORTS



New Zealand beat Windies in 3rd ODI, clinch series 2-1.

(August 22, 2022)



Credit: AP

Four batsmen posted half centuries as New Zealand overhauled the West Indies' total of 301-8 to win the third One-Day International by five wickets and clinch the series 2-1. Tom Latham scored 69 and put on 120 for the fourth wicket with Daryl Mitchell (63) in a stand which paced the run chase and carried New Zealand in sight of victory. The pitch proved much better for batting than those on which the West Indies won the first match by five wickets and New Zealand won the second by 50 runs. The highest previous

total in the series was New Zealand's 212 in the second match.

Read more at:

https://indianexpress.com/article/sports/cricket/new-zealand-beat-windies-in-3rd-odi-clinch-series-2-1-8104340/

Manchester United spring back to life with 2-1 win over Liverpool.

Against a backdrop of protests against the club's ownership, United delivered a performance of intensity and spirit to beat fierce rival Liverpool 2-1 and claim its first points in the Premier League this season. Composed finishes by Jadon Sancho in the 16th minute and Marcus Rashford in the 53rd earned a victory at Old Trafford that will bring some respite for under-pressure manager Erik ten Hag, who made a huge statement in his team

(August 23, 2022)



Credit: AP Photo/Dave Thompson

selection by dropping star striker Cristiano Ronaldo and club captain Harry Maguire and was validated.

Read more at:

https://indianexpress.com/article/sports/football/epl-man-united-springs-back-to-life-with-2-1-win-over-liverpool-8106064/

AIFF elections: Bhaichung Bhutia files fresh nomination for president's post.

(August 25, 2022)



Credit: Republic World

Indian football legend Bhaichung Bhutia on Thursday filed a fresh nomination for the post of president ahead of the All-India Football Federation (AIFF) elections that are scheduled to be held on September 2. The 45-year-old former India captain's nomination was proposed by the Andhra Football Association (AFA) and seconded by the Rajasthan FA. Former Mohun Bagan and East Bengal goalkeeper Kalyan Chaubey, a BJP leader from West Bengal, has also filed his nomination and

is considered to be firm favourite for the top post.

Read more at:

https://www.republicworld.com/sports-news/football-news/aiff-elections-bhaichung-bhutia-files-fresh-nomination-for-presidents-post-articleshow.html

Anderson first to play hundred tests at home.

(August 25, 2022)

Engand veteran seamer became the first player to feature 100 test matches at home. He achieved this landmark during England- South Africa test in Manchester. Anderson already passed Sachin Tendulkar's record of 94 test matches at home. Only four Players have played more than 90 matches at home. Ricky Ponting (92), Stuart Broad (91*) and Alastair Cook (89) are the other players on this list. The 40-year-old bowler have recently taken 650 wickets in test cricket.

Read more at:

https://indianexpress.com/article/sports/cricket/anderson-first-to-play-100-test-matches-at-home-8111517/

(For private circulation only)