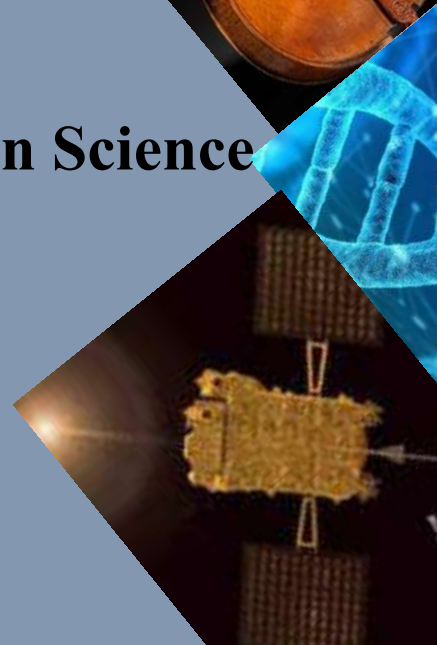


# BERCHLY

**Prepared by**

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**Coordinator: Shehitha Salim**



# CONTENTS



## ARTS



## SPORTS



## SCIENCE

Photo by Kevin Mueller on unsplash  
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Photo by 3D paradise on unsplash  
Photo by Ales Nesetril on unsplash



## TECHNOLOGY





## At Trump's Fraud Trial, a Courtroom Artist With a Different View

**December 11, 2023**

When former President Donald J. Trump's eyes drifted shut as his former accountant testified during his civil fraud trial in New York State Supreme Court earlier this fall, no photographers captured the moment: Cameras were banned during the trial.

Read more at :

<https://www.nytimes.com/2023/12/12/arts/design/trump-trial-artist.html?smid=url-share>



## Trinity Church's 'Messiah' Is Still the Gold Standard

**December 14, 2023**



The holidays are a time for traditions — and for doubting them. Is Grandma’s ham drier than you thought when you were young? Is the movie the whole family watches every year maybe a little offensive? For me, the question on Wednesday was whether Trinity Wall Street’s version of Handel’s “Messiah” would be as good — as bracing, as thrilling — as I remembered.

Read more at:

<https://www.nytimes.com/2023/12/14/arts/music/messiah-handel-trinity-church.html?smid=url-share>

## Visakhapatnam artist's digital art chronicles life in the city

**December 15, 2023**

An evening by the beach enjoying spicy, crispy murri mixture in a paper cone, the joy of seeing the yellow board as the train chugs into the station: many such familiar sights of the streets of Visakhapatnam feature in Sameera Maruvada's Vizag Diaries themed calendar and set of 12 postcards.

Read more at :

<https://www.thehindu.com/entertainment/art/visakhapatnam-artists-digital-art-chronicles-life-in-the-city/article67637254.ece>



## **Ashwini Ponappa-Tanisha Crasto enter Top 25 with third career women's doubles title at Guwahati Masters badminton**

**December 11, 2023**

Ashwini Ponappa-Tanisha Crasto's title sets up the race for Paris qualification nicely for India, with Treesa Jolly-Gayatri Gopichand also pushing to make the cut.

Read more at :



[https://indianexpress.com/article/sports/badminton/ashwini-ponappa-tanisha-crasto-enter-top-25-womens-doubles-title-at-guwahati-masters-9062594/?utm\\_source=whatsapp&utm\\_medium=social&utm\\_campaign=WhatsappShare](https://indianexpress.com/article/sports/badminton/ashwini-ponappa-tanisha-crasto-enter-top-25-womens-doubles-title-at-guwahati-masters-9062594/?utm_source=whatsapp&utm_medium=social&utm_campaign=WhatsappShare)

## **England tour of India: Four spinners, including Tom Hartley and Shoaib Bashir, named in visiting team's side**

**December 11, 2023**



All-rounder Ben Stokes, who underwent knee surgery after the Cricket World Cup, will lead the England team in the five-Test series in India in January. England will bring down four spinners as part of their 16-member squad for the challenging tour of India next month. India and England will play five-Test series in India in January. The series starts with the first game at Hyderabad on January 25.

Read more at :

<https://indianexpress.com/article/sports/cricket/england-tour-of-india-four-spinners-including-tom-hartley-and-shoaib-bashir-named-in-visiting-teams-side-9064046/>

## **Lionel Messi vs Cristiano Ronaldo: Inter Miami to face Al-Nassr on February December 12,2023**



Inter Miami will play Al-Hilal on January 29 and Al Nassr — Ronaldo's team — on February 1. Those two clubs lead the Saudi Pro League and Ronaldo is that league's leading scorer. Lionel Messi and Cristiano Ronaldo will meet in Saudi Arabia after all. Inter Miami confirmed Monday that it will take part in the Riyadh Season Cup — something that was announced by Saudi officials on November 21. Inter Miami said the reports at that time were inaccurate.

Read more at:

[https://indianexpress.com/article/sports/football/lionel-messi-vs-cristiano-ronaldo-inter-miami-to-face-al-nassr-on-february-1-9064710/?utm\\_source=whatsapp&utm\\_medium=social&utm\\_campaign=WhatsappShare](https://indianexpress.com/article/sports/football/lionel-messi-vs-cristiano-ronaldo-inter-miami-to-face-al-nassr-on-february-1-9064710/?utm_source=whatsapp&utm_medium=social&utm_campaign=WhatsappShare)

## **Hockey: India script stunning comeback, beat Netherlands 4-3 to enter semifinals of Junior World Cup**

**December 12,2023**

Araijeet Hundal's goal and assist, superb penalty corner variation highlight of the comeback win. It was fate that Araijeet Singh Hundal picked up a hockey stick. Flair that got him into the junior India team. And finesse that turned him into a star in a famous win.

Read more at:



[https://indianexpress.com/article/sports/hockey/destinys-child-araijeet-hundal-plots-heist-script-in-4-3-win-over-dutch-9064634/?utm\\_source=whatsapp&utm\\_medium=social&utm\\_campaign=WhatsappShare](https://indianexpress.com/article/sports/hockey/destinys-child-araijeet-hundal-plots-heist-script-in-4-3-win-over-dutch-9064634/?utm_source=whatsapp&utm_medium=social&utm_campaign=WhatsappShare)



## **India vs South Africa: Ruturaj Gaikwad, Shreyas Iyer and Ravi Bishnoi not in team for 2nd T20I**

**December 13,2023**



Ravi Bishnoi recently rose to become the No 1 T20I bowler in the world while Shreyas Iyer had thumped a 37-ball 53 against Australia at home. India made some interesting team selections for the second T20 International against South Africa, which was to be played at St. George's Park in Gqeberha on Tuesday.

Read more at:

<https://indianexpress.com/article/sports/cricket/india-vs-south-africa-ruturaj-gaikwad-shreyas-iyer-and-ravi-bishnoi-omitted-for-2nd-ind-vs-sa-t20i-9065519/>

## **Rinku Singh grows in stature, from IPL finisher to smart T20 batsman for India**

**December 13,2023**

Rinku Singh's 68 off 39 against South Africa was about courage and composure as much as it was about big-hitting. The rise of Rinku Singh continues, adding more layers and hues on the way. From a staple rags-to-riches story and the plotter of one of the most thrilling climaxes in the Indian Premier League, he has emerged as a serious T20 batsman, relishing the complex challenges of batting at No.5 in the shortest format of the game, and taking giant strides towards making himself an undroppable in the eleven.



Read more at:

<https://indianexpress.com/article/sports/cricket/ind-vs-sa-rinku-singh-stature-ipl-finisher-smart-t20-batsman-for-india-9065736/>

## **Damar Hamlin was 2023's most-searched athlete, leaving behind Ronaldo, Messi, Djokovic and LeBron. But who is he?**

**December 14,2023**

Damar Hamlin was not just 2023's most-searched athlete, he was also the most searched person overall on Google in the year. Google recently published its lists for the people and events people most searched for in 2023. There were some surprises, particularly in sport, where Kylian Mbappe was left in second place in the list of the most searched athletes.



Read more at:

<https://indianexpress.com/article/sports/who-is-damar-hamlin-2023s-most-searched-athlete-ronaldo-messi-djokovic-and-lebron-9066562/>

## **Been tough' Under pressure Gukesh targets Candidates berth at Chennai Grand Masters Chess tournament**

**December 15,2023**



Read more at:

<https://indianexpress.com/article/sports/chess/been-tough-under-pressure-gukesh-targets-candidates-berth-at-chennai-grand-masters-chess-tournament-9068715/>

After overtaking Viswanathan Anand as the highest ranked Indian during the World Cup, where his run was ended by Margus Carlsen in the quarterfinals, it has been a mixed bag for Gukesh. The blood shot eyes of Gukesh D as he was checking-in at a city hotel which will host the Chennai Grand Masters beginning from Friday revealed a story in itself.

## **Success of Olympiad helped in people having a favourable perception towards travelling to Chennai': Srinath Narayanan**

**December 16,2023**

When organisers of chess' Chennai Grand Masters went into a huddle a couple of months back, still long way from putting the tournament in place, they faced an all-important question. With the chess calendar already packed and most of the top players having their eyes set on the World Rapid and Blitz tournament and many staying in the comfort of Europe, they were unsure if any of the top players will even remotely show interest in featuring in a tournament.



Read more at:

<https://indianexpress.com/article/sports/chess/success-of-olympiad-helped-in-people-having-a-favourable-perception-towards-travelling-to-chennai-srinath-narayanan-9070176/>

## **Chess controversy: Is Chennai Grand Masters held just to help Gukesh & Erigaisi make candidates cut? 'Within rules' says Viswanathan Anand**

**December 17,2023**



The Chennai Grand Masters event has received criticism from several quarters that it has been included in the calendar at the last minute to help improve the chances of D Gukesh and Arjun Erigaisi making the Candidates cut. However, FIDE (International Chess Federation) deputy president Viswanathan Anand said he has absolutely no question of fairness around the event.

Read more at:

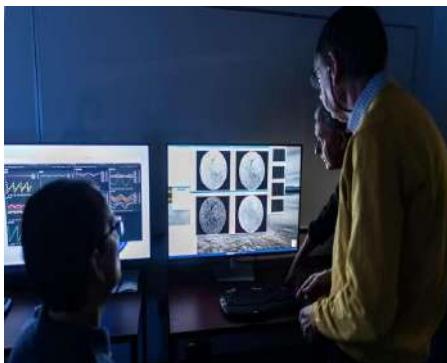
<https://indianexpress.com/article/sports/chess/is-chennai-grand-masters-to-help-gukesh-erigaisi-make-candidates-viswanathan-anand-9071113/>





## **Atmospheric Waves Experiment's 'first light' images received**

**December 11, 2023**



NASA's Atmospheric Waves Experiment (AWE) has recently captured initial images of the mesosphere from its perch on the International Space Station. AWE was installed on the Space Station on Nov. 18, and initial commands were sent to the instrument on Nov. 20. The first images recently captured, or "first light" images, represent a milestone that confirms the instrument is functioning as designed and the mission is operating as expected.

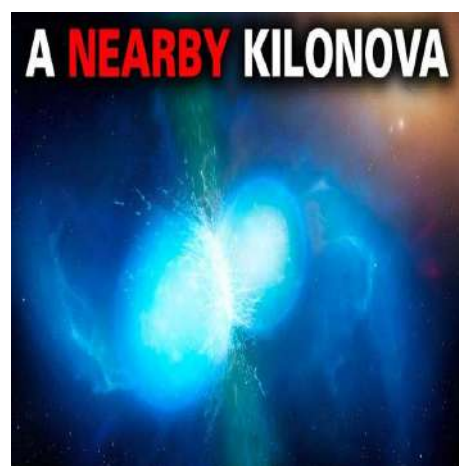
Read more at:

<https://phys.org/news/2023-12-atmospheric-images.html>

## **Scientists find evidence of a nearby kilonova 3.5 million years ago**

**December 11, 2023**

Most of the times astronomers reported dramatic, cataclysmic events like neutron star mergers or the creation of a black hole; they are taking place light years away, typically in in another galaxy. While we can observe their destructive power through the light they emit, they have minimal impact on Earth. However, a relatively recent discovery of certain types of isotopes at the bottom of the ocean hints at one of these events happening fairly close to home. And it probably didn't happen all that long ago.

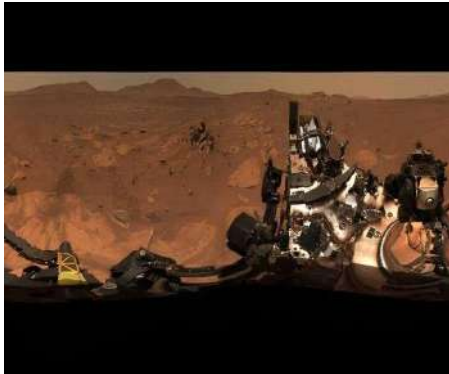


Read more at:

<https://phys.org/news/2023-12-scientists-evidence-nearby-kilonova-million.html>

## NASA's Perseverance rover deciphers ancient history of Martian lake

December 12, 2023



Marking its 1,000th Martian day on the Red Planet, NASA's Perseverance rover recently completed its exploration of the ancient river delta that holds evidence of a lake that filled Jezero Crater billions of years ago. The six-wheeled scientist has to date collected a total of 23 samples, revealing the geologic history of this region of Mars in the process.

Read more at:

<https://phys.org/news/2023-12-nasa-perseverance-rover-deciphers-ancient.html>

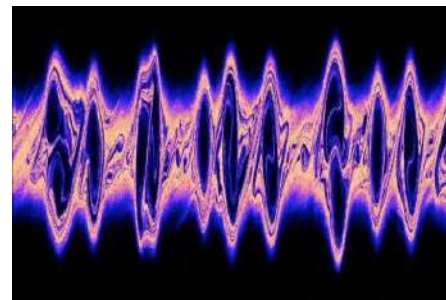
## New plasma instability sheds light on the nature of cosmic rays

December 12, 2023

Scientists from the Leibniz Institute for Astrophysics Potsdam (AIP) have discovered a new plasma instability that promises to revolutionize our understanding of the origin of cosmic rays and their dynamic impact on galaxies.

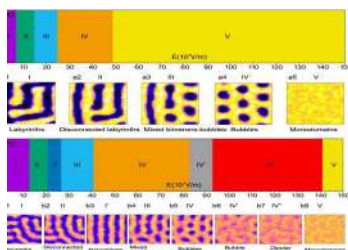
Read more at:

<https://phys.org/news/2023-12-plasma-instability-nature-cosmic-rays.html>



## Physicists discover new quantum phases in low-dimensional polar systems

December 13, 2023



A new paper published in Nature Communications by a team of physicists at the U of A charted the discovery of new quantum phases in low-dimensional systems.

Read more at:

<https://phys.org/news/2023-12-physicists-quantum-phases-low-dimensional-polar.html>

## **Unlocking the secrets of fast radio bursts: More pieces to the puzzle of mysterious space signals**

**December 13,2023**

A team of SETI Institute scientists has unveiled new insights into a cosmic mystery known as Fast Radio Bursts (FRBs). The discovery and detailed observation of the repeating FRB 20220912A, made at the SETI Institute's refurbished Allen Telescope Array (ATA), shed light on the nature of these space signals.



Read more at:

<https://phys.org/news/2023-12-secrets-fast-radio-pieces-puzzle.html>

## **US launch of new Vulcan Centaur rocket delayed until January**

**December 14,2023**



The maiden liftoff of a new American rocket called Vulcan Centaur has been delayed from Christmas Eve to January 8, United Launch Alliance, the company developing it, said Thursday. The postponement stems from last-minute technical snags but ULA's CEO Tory Bruno said on X, formerly Twitter, that a recent dress rehearsal on the launch pad went well.

Read more at:

<https://phys.org/news/2023-12-vulcan-centaur-rocket-delayed-january.html>

## **NASA study finds life-sparking energy source and molecule at Enceladus**

**December 14,2023**

A study zooms in on data that NASA's Cassini gathered at Saturn's icy moon and finds evidence of a key ingredient for life and a supercharged source of energy to fuel it. Scientists have known that the giant plume of ice grains and water vapor spewing from Saturn's moon Enceladus is rich with organic compounds, some of which are important for life as we know it.



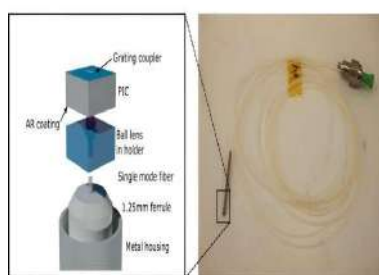
Read more at :

<https://phys.org/news/2023-12-nasa-life-sparking-energy-source-molecule.html>



## Researchers turn a small photonic chip into a functional temperature sensor

December 15,2023



Similar to electronics, photonic circuits can be miniaturized onto a chip, leading to a so-called photonic integrated circuit (PIC). Although these developments are more recent than for electronics, this field is rapidly evolving. One of the main issues, however, is to turn such a PIC into a functional device. This requires optical packaging and coupling strategies to bring light into and get light out of the PIC.

Read more at:

<https://phys.org/news/2023-12-small-photonic-chip-functional-temperature.html>

## Pollinators found to make a big impact on edamame marketability

December 15,2023

Soybeans can pollinate themselves, but a new study by UMD researchers shows that pollen from multiple plants can greatly increase their yields. What's more, the addition of a strip of wildflowers near rows of soybeans amplifies the effect. .



Read more at:

<https://phys.org/news/2023-12-pollinators-big-impact-edamame.html>

## Research finds women 'turn inward' when they experience ambiguous workplace incidents

December 16,2023



That gender discrimination is wrong is beyond argument. But identifying which incidents are cases of it is not always so clear cut. That's why researchers are recommending that organizations develop processes that encourage workers to share their concerns when they suspect but aren't sure that they have experienced discriminatory treatment based on their gender.

Read more at:

<https://phys.org/news/2023-12-women-ambiguous-workplace-incidents.html>

## **North America's first people may have arrived by sea ice highway as early as 24,000 years ago**

**December 16,2023**

One of the hottest debates in archaeology is how and when humans first arrived in North America. Archaeologists have traditionally argued that people walked through an ice-free corridor that briefly opened between ice sheets an estimated 13,000 years ago.



Read more at:

<https://phys.org/news/2023-12-north-america-people-sea-ice.html>

## **Native oysters return to Belfast after a century's absence**

**December 17,2023**



Long gone from Belfast's famed harbor where the Titanic was built, oysters are making a comeback thanks to a nursery installation project aimed at boosting marine life and water quality.

Read more at:

<https://phys.org/news/2023-12-native-oysters-belfast-century-absence.html>

## **Shaggy dog yarn: Study unravels history and demise of long-haired canine**

**December 17,2023**

A little-known dog lineage with fur so thick it was spun into blankets was selectively bred for millennia by Native Americans of the Pacific Northwest until its rapid demise following European colonization, a study in Science showed Thursday.



Read more at:

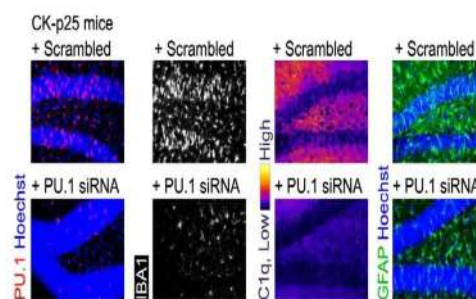
<https://phys.org/news/2023-12-shaggy-dog-yarn-unravels-history.html>

# TECHNOLOGY

## Nanoparticle-delivered RNA reduces neuro inflammation in lab tests.

December 11,2023

Some COVID-19 vaccines safely and effectively used lipid nanoparticles (LNPs) to deliver messenger RNA to cells. A new MIT study shows that different nanoparticles could be used for a potential Alzheimer's disease (AD) therapy. In tests in multiple mouse models and with cultured human cells, a newly tailored LNP formulation effectively delivered small interfering RNA (siRNA) to the brain's microglia immune cells to suppress the expression of a protein linked to excessive inflammation in Alzheimer's disease.

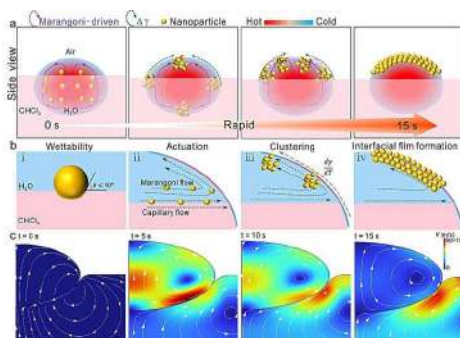


Read more:

<https://phys.org/news/2023-12-nanoparticle-delivered-rna-neuroinflammation-lab.html>

## Research proposes three-phase catalytic process for assembling nanoparticles to enhance SERS sensing

December 11,2023



Recently, a research team led by Prof. Yang Liangbao from the Hefei Institutes of Physical Science (HFIPS) of the Chinese Academy of Sciences (CAS) proposed an innovative strategy for assembling small nanoparticles in a three-phase catalytic process, enabling enhanced surface-enhanced Raman scattering (SERS) sensing.

Read more at:

<https://phys.org/news/2023-12-three-phase-catalytic-nanoparticles-sers.html>



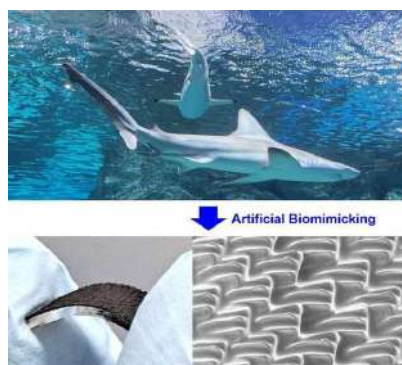
## A new microfabrication strategy for multifunctional 3D artificial sharkskin

December 12, 2023

Sharks in nature swim at high speeds in a deep ocean due to their high drag reduction ability. Water flows around the sharkskin become disrupted by staggered and overlapping microscale structures named denticles. In addition to this surface roughness, water slips at a fluid-solid interface with multiple groove-like microriblets on individual microdenticles.

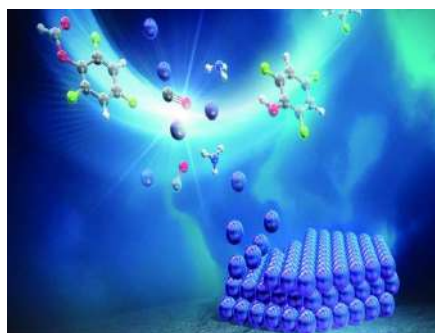
Read more at:

<https://phys.org/news/2023-12-microfabrication-strategy-multifunctional-3d-artificial.html>



## The 'one-pot' nanosheet method catalyzing a green energy revolution

December 12, 2023



A research group from the Institute for Future Materials and Systems at Nagoya University in Japan has developed a new 'one-pot' method to make nanosheets using less rare metals. Their discovery should allow for the energy-making process to be more eco-friendly. The journal ACS Nano published the study.

Read more at:

<https://phys.org/news/2023-12-one-pot-nanosheet-method-catalyzing-green.html>

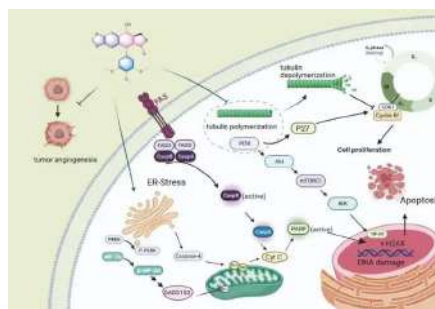
## Advances in nanoscale carrier-based approaches to enhance efficacy of podophyllotoxin

December 13, 2023

Podophyllotoxin (PPT), an aryltetralin-type lignan isolated from Podophyllum species, exhibits a wide range of biologic and pharmacologic activities, and mainly serves as an antiviral agent or antitumor drug in clinical applications.

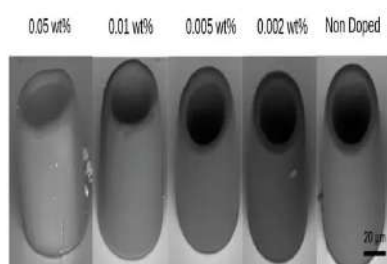
Read more at:

<https://phys.org/news/2023-12-fast-energy-saving-synthesis-method-electrocatalysts.html>



## Embedding nanodiamonds in polymer can advance quantum computing and biological studies

December 13,2023



A nitrogen-vacancy (NV) center is a defect in the crystal structure of diamond, where a nitrogen atom replaces a carbon atom in the diamond lattice and a neighboring site in the lattice is vacant. This and other fluorescent defects in diamond, known as color centers, have attracted researchers' attention owing to their quantum properties, such as single-photon emission at room temperature and with long coherence time.

Read more at:

<https://phys.org/news/2023-12-nanoparticles-amplify-potential-cancer-vaccine.html>

## Researchers develop fast and energy-saving synthesis method for new electrocatalysts

December 14,2023

Researchers from the Bavarian Center for Battery Technology and the “SolTech” research network at the University of Bayreuth have presented a new production method for electrocatalysts: a fast, low-temperature synthesis of special ceramic materials (high-entropy oxides).

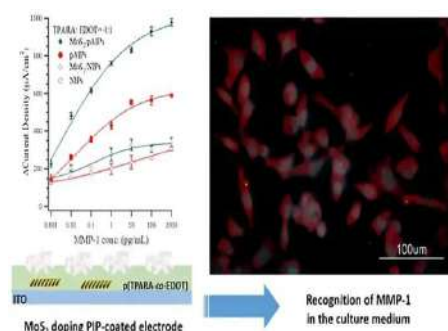


Read more at:

<https://phys.org/news/2023-12-ultrafast-lasers-electrons-ballistic-graphene.html>

## Researchers develop new electrochemical chemosensor for fast, effective diagnosis of a lethal pulmonary disease

December 15,2023



Patients struggling with some chronic diseases often must wait years for a proper diagnosis. For example, symptoms such as shortness of breath can be attributed to many pulmonary as well as cardiovascular disorders, so patients may be treated for a misdiagnosed disease that is far from accurate diagnosis and treatment.

Read more at:

<https://phys.org/news/2023-12-ai-algorithm-mile-long-particle-healthy.html>