

## Weekly Edition

### OPINION

## World Of Acrylamide And Cancer



**Parkash Meghwar**

Several kinds of starchy foods can spontaneously produce acrylamide; those that have more of it are French fries, potato chips etc.

Acrylamide has a low molecular weight, is soluble in water, and is made up of carbon, nitrogen, hydrogen, and oxygen.

In the form of polyacrylamide, which is used as an adhesive, a soil stabilizer, in lab gels, and as a byproduct of foods that have been heated, it is used in many different industries. Environmental and occupational pollutants include acrylamide.

In order to assure consumption of plant-based foods rich in phytoconstituents, which help avoid dangerous diseases like cancer, research should be done.

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## Contaminated Water Can Make You Sick



**Sadia Bibi**

Infected water comes in many different forms, like chemicals, pesticides, and industrial waste that has been injected into the earth.

Our body contain 60% water. Without fluids, we can only survive for three to five days. Water is essential for digestion. As well as many other vital bodily functions, including as cleaning out waste and controlling body temperature. But infected water can destroy the whole body.

The planet consist of 70% water. Maintaining health, raising food, producing energy, and managing the environment are essential. Water preserves the tissues, joints, and spinal cord and maintains body temperature. There is no life without water. Getting enough water may save you from illnesses like hypertension, asthma, kidney stones, urinary tract infections, and constipation.

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## Be Aware Of Mutagens, How They Affect



**Abdullah Arijio**

DNA changes caused by mutagens may harm cells; examples include radioactive substances, x-rays, ultraviolet radiation, and certain chemicals.

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**Exciting Venture by Excise, Taxation and Narcotics Control Department, Punjab**  
A chance to get a universal number plate of your choice online through a province-wide

**e-Auction**  
First e-Auction: **ON 2023**

Citizens can avail following services:

- Participation in online auction
- Personal choice of car numbers

For more details, visit website [www.excise-punjab.gov.pk](http://www.excise-punjab.gov.pk)  
☎ 0800-08786

## 2.6 Lac Citizens Registered For Vehicle Numbers Via E Auction App

PITB Chairman stated that system has also been linked to e-Pay Punjab for fee payment, while department has so far collected more than Rs.550 M in revenue.

The Punjab Information Technology Board (PITB), in collaboration with the Punjab Excise and Taxation Department, has registered over 2.6 lakh applicants to obtain attractive vehicle numbers through the e-Auction App and Web Portal since August 2020. This was revealed during a progress review meet-

ing here at Arfa Software Technology Park, which was presided over by PITB Chairman Faisal Yousaf (ASTP).

It was revealed during the meeting that over 1 lakh 74 thousand applications had been approved, with approximately 1 lakh 20 thousand vehicle numbers sold through the system to date.

On this occasion, PITB Chairman Faisal Yousaf stated that the system has also been linked to e-Pay Punjab for fee payment, while the department

has so far collected more than Rs. 550 Million in revenue.

According to the chair, the e-Auction App and Web Portal have enabled people to secure attractive car numbers online from the comfort of their own homes.

The system includes auctions for automobiles, motorcycles, and commercial vehicle license plates. The system also displays information about the winning bidders. As part of the package, a tax calculator and vehicle verification service are also available

online.

The Punjab Excise and Taxation Department is a government agency responsible for the collection of taxes and fees related to the production, sale, and consumption of goods and services in the Indian state of Punjab. The department is responsible for enforcing laws and regulations related to sales tax, excise tax, luxury tax, and other forms of taxation.

E-auction app and web portal allow users to participate in auctions online...[Read More](#)

## PTA Renews Jazz License For Fee Rs. 24.24 Billion

The license is renewed for a fee of USD 486.2 million for 15 years, of which Jazz has paid 50% and the remaining amount will be paid in 5 equal annual instalments.

Pakistan Telecommunication Authority (PTA) has received a deposit of Rs. 24.24 billion (USD 105.80 million) from Pakistan Mobile Communications Limited (Jazz) for license renewal fees.

The funds have been deposited in the Federal Consolidated Fund (FCF). With this deposit in FCF, PTA's total deposit in FCF for the current fiscal year, 2022-23, will be Rs. 56.57 billion (equivalent to USD 253.78 million).

In accordance with the Federal Government's Policy Directive, Pakistan Mobile Communications Limited (Jazz) has renewed its license with the Pakistan Telecommunication Authority (PTA).

The Federal Government of Pakistan's policy directive requires telecommunications companies operating in the country to renew their licenses with the Pakistan Telecommunication Authority (PTA) in order to continue providing services to customers.

The license is renewed for a fee of USD 486.2 million for 15 years, of which Jazz has paid 50%, or Rs. 44.54 billion (equivalent to USD 243.1 million), and the remaining amount will be paid in 5 equal annual instalments, plus applicable markup. The terms and conditions for coverage and quality of service have been improved in the renewed license.

Dr. Muhammad Sohail Rajput, Federal Secretary for IT & Telecommunication; Maj. General Amir Azeem Bajwa (R), Chairman PTA; Dr. Khawar Siddique Khokhar, senior management of PMCL...[Read More](#)

## Bridging Health Sector Gaps Help To Achieve Global Health Security



Dr. Irshad Ahmad stated that international standards of global health security would be achieved by bridging gaps & that all-out efforts would be made in this regard.

Dr. Irshad Ahmad, Secretary of Primary and Secondary Healthcare, stated on Thursday

that international standards of global health security would be achieved by bridging gaps and that all-out efforts would be made in this regard.

He stated, while chairing a meeting on global health emergency response and international public health standards, that

the Health Department would upgrade its staff's capacity building in accordance with the International Health Regulations of 2005. All commitments made under IRH-2005 would be carried out in full, he added.

Dr. Irshad stated that the department, in collaboration with the UK health security agency, has been conducting extensive disease surveillance and response training for its employees since December 2022.

The desired results would be achieved through the combined efforts of all vertical programmes, he added. He maintained that Punjab had excelled in epidemic and pandemic prevention...[Read More](#)

## 256 Applicants Shortlisted For PM's National Innovation Award

PMNIA's mission is to raise Pakistan's ranking in the Global Innovation Index, foster entrepreneurial culture among youth & turn ideas into profitable businesses.

Out of 13,000 applications received, 256 were shortlisted for the first phase of the Prime Minister's National Innovation Award (PMNIA), in which students pitched their creative business ideas for a chance to receive funding for their start-ups.

A scrutiny committee comprised of industry experts and entrepreneurs from relevant fields shortlisted the candidates for the National Innovation Award. The applicants were chosen solely on merit and will attend a regional 5-day boot camp on idea pitching led by five

partner universities. Applications for this programme were received from aspiring youth aged 15 to 30 in the months of October and November 2022. The applica-

tions were open to all types of innovative ideas, including but not limited to information technology, sustainable energy, food security, water management, etc.

The awards will be chosen in an open, rigorous, transparent, competitive, and merit-based process. The PMNIA's mission is to raise Pakistan's ranking in the Global Innovation Index, foster entrepreneurial culture among youth, and turn ideas into profitable businesses.

It is an open opportunity for Pakistani youth to propose innovative ideas, receive funding and technical support from mentors, and participate in a 6-month incubation programme to turn their ideas into thriving businesses.

The pitching training process for these shortlisted applicants will be followed by the national-level pitching competition, which is expected to begin in February or March. During this process...[Read More](#)



## USAID Signs MoU To Promote Digital Investments In Pakistan

USAID signed four partnership MoU with entities from the Pakistani diaspora to promote technology and digital investments in Pakistan.

The United States Agency for International Development (USAID) signed four partnership memorandums of understanding (MoU) with entities from the Pakistani diaspora on Wednesday to promote technology and digital investments in Pakistan.

The United States Agency for International Development (USAID) signed Memorandums of Understanding (MOUs) with the Organization of Pakistani Entrepreneurs of North America, Silicon Valley, to promote technology and digital investments in Pakistan and to support Pakistani start-ups; and SARCMedIQ to improve Pakistan's health digital ecosystem.

It also signed Memorandums of Understanding with the Crescent Charity Foundation and PakFoods to improve humanitarian and social development outcomes in Pakistan.

The memoranda of understanding were signed at a U.S.-Pakistani diaspora conference here, where United States Embassy Deputy Chief of Mission Andrew Schofer highlighted the diaspora's valuable contributions in the humanitarian, social, and commercial sectors in Pakistan.

Deputy Chief of Mission Schofer emphasised the long-standing US-Pakistan partnership to advance Pakistan's economic growth and future opportunities for collaboration. "Just as the Green Revolution improved people's lives in the past, a 'Green Alliance' between the United



States and Pakistan will help us jointly strengthen climate resilience, develop clean energy alternatives, and foster economic growth," he said.

The conference, sponsored by the US Mission in Pakistan in collaboration with the US-Pakistani diaspora entity Organization of Pakistani Entrepreneurs of North America, discussed and deliberated on Silicon Valley's fundamental challenges and opportunities in Pakistan's technology sector.

Over 300 people attended in person, including members of the US-Pakistani diaspora, prominent local business leaders, and Pakistani officials such as Federal Minister for Commerce...[Read More](#)



## Constructive Reporting Skills Require To Report Environmental Topics

The workshop was attended by selected journalists covering environmental issues /topics from Sindh, Punjab, KP, Balochistan, and Gilgit-Baltistan.

A three-day workshop on natural disasters and environmental reporting was held in collaboration with DW Academy (DWA) and Radio News Network (RNN) to train participants in constructive reporting skills on environmental topics such as natural disasters and climate change.

They were also given the opportunity to hear expert opinions on climate change. DW Academy's Atif Tauqeer, Atif Baloch, and Dina Selbeck explained to the journalists the methods of reporting on various environmental topics and the principles of constructive reporting, as well as the importance of scientific data in constructive reporting, during various sessions of the workshop.

The workshop was attended by selected journalists covering environmental issues /topics from Sindh, Punjab, KP, Balochistan, and Gilgit-Baltistan.

Participants were divided into groups and engaged in a variety of practical activities. According to Dina Sibulak, climate change is threatening the world, and Pakistan is the eighth affected country, where more problems will arise as

temperatures rise in the future. As a result, there is a need for greater awareness of this issue in Pakistan.

According to Dina, only 30% of Pakistanis are educated about climate change and its consequences, while 70% of the country is unaware of the issue.

She stated that global commitments to reduce carbon emissions and transition industries to alternative energy could not be met, despite the fact that Pakistan has agreed to reduce carbon emissions by



50% by 2030 and transition to electric cars, but the implementation is still pending.

Dina mentioned the agreements made to protect the environment from threats and also talked about the violations of the Kyoto Protocol by the industrialized countries, which

had legal status but could not be implemented.

The workshop also resulted in the formation of the Constructive Climate Journalism Network (CCJN), a network of radio, print, and digital media platforms for the dissemination of environmental issues and threats, so that more people are aware.

On the first day of the workshop, Lt. Gen. (R) Nadeem Ahmed, a disaster management and climate change expert in Pakistan, informed and briefed the participants on the rapidly

changing environmental situation, stating that Pakistan ranks fifth in terms of climate change and global temperature. It is a country where people, wildlife, and aquatic life have been impacted by natural disasters, rains, and floods in

recent years. He stated that where we are suffering from this global problem, district environmental institutions are also suffering from slowness in management.

Nadeem said that from 1850 to 2020, there has been a record increase in global temperature, which is due to the world's major carbon-producing countries. But until yesterday, these countries refused to accept that the increase in heat was caused by carbon emissions from factories.

He said that the global temperature would increase by 5 degrees by 2080 and that the problems were likely to increase. General Nadeem told the participants that where there is a shortage of local resources to deal with environmental problems, the government in Pakistan does not even take advantage of platforms like GCF, which provide financial assistance in this regard.

Former Federal Minister for Kashmir and Gilgit-Baltistan said that the Indus River has a history of 7,000 years and four countries are fully or partially benefiting from it. Since 1940, when the dams were built, the constant flow of water in the delta has been a problem, he said.

The visiting birds that used to come from Siberia and other places are also endangered in the man-made lakes.

## French Government Offers 170 Scholarship Programs



French Embassy in Pakistan annually awards scholarships to deserving young Pakistanis to study in France.

170 scholarship programs offered by the French government, universities, regions, or companies are listed on the Campus Bourses scholarship search engine on the Campus France Pakistan website (<https://www.pakistan.campusfrance.org/>). Pakistani applicants with outstanding academic records can benefit from a number of funding options for their taught-in-English degrees in France.

All knowledge levels and fields of knowledge are covered. Furthermore, the French Embassy in Pakistan annually awards scholarships to deserving young Pakistanis to study in France for master's degrees taught in English, short French language courses, or art residencies.

In 2023, France will award 225 000 euros (59.3 million rupees)

in scholarship programs, with 197 000 euros (52 million rupees) going to talented students pursuing master's degrees in France.

Applications for the Master scholarship programs in 2023 can be submitted in two ways: "FRANCE EXCELLENCE FOR CLIMATE CHANGE" and "FRANCE EXCELLENCE MASTER." Both options include a return flight from Pakistan to France, a student visa and fees for studying in France, social security in France, and online crash courses in French before departure through the Alliances Françaises (Islamabad, Lahore, and Karachi). Furthermore, the "France Excellence for Climate Change" scholarships will include full tuition and a monthly allowance of 860 euros (226,00 rupees). Depending on availability, preferred access to university residence may be provided. The academic programs chosen for the Embassy of France's...[Read More](#)

## IoT And AI Investment Can Boost Pakistan's Export Of ICT Services



Umair Azam said that export of ICT services, including telecommunication, computer, and information services, reached US\$2.6B in FY22, up from US\$2.1B in FY21.

Umair Azam, Founder and CEO of Integration Xperts, said that the export of ICT services, including telecommunication, computer, and information services, reached US\$2.6 billion in FY22, up from US\$2.1 billion in FY21, and it can be significantly increased by focusing on cloud deployments and investing in newer technologies such as IoT and AI.

Umair shared these thoughts during a panel discussion titled "IT Exports and the Way Forward" at the recent Global Digital Summit 2023 in Islamabad.

"The IT sector in Pakistan has shown consistent growth over the last few years, giving us a glimpse of its potential. Support from the government and academia for improving the ease of doing business, tax breaks, promoting research and development, and producing skilled human resources can do wonders for Pakistan," said Umair Azam...[Read More](#)

## Cabinet Preparing Strategy To Prevent Future Power Outages



Prime minister directed that the factors causing power outages be identified and that steps be taken to ensure that such a situation does not occur again in the future.

The federal cabinet has directed the development of a comprehensive strategy to prevent significant disruptions in the country's electricity system in the future and to permanently address the factors that cause power outages while providing people with electricity, water, gas, and other services.

A first-of-its-kind nationwide public awareness campaign has been approved to instill the habit of resource conservation and its importance, popularise energy-saving habits, and incorporate global practises into the curriculum.

Saving electricity, gas, and water in public, private, domestic, and commercial settings will result in a significant reduction in the import bill for petroleum products, which has more than doubled in the last seven years. A shift in national attitudes toward energy conservation will save billions of rupees in foreign exchange and significantly reduce the public bill by 30 to 40 percent at the individual level. The cabinet was pleased with the briefing provided by the Ministry of Information and Broadcasting...[Read More](#)

## EDB Organizes Summit To Increase Export Of Mobile Phones

The Engineering Development Board (EDB) organised a Mobile Device Manufacturing Summit in Islamabad on Tuesday, January 24, 2023.

The Engineering Development Board (EDB), a department attached to the Ministry of Industries and Production, organised a Mobile Device Manufacturing Summit in Islamabad on Tuesday, January 24, 2023. The summit's goal was to increase export of mobile phones and improve the country's business environment.

Members of the association also displayed technology and products from Xiaomi, Realme, Infinix, Tecno, ITEL, Alcatel, G-Five, OPPO, Vivo, and D-Code.

The summit and exhibition gathered feedback from all relevant stakeholders in order to increase local assembly of mobile devices through increased investment and job opportunities in the sector. It aimed to benefit the mobile device manufacturing industry by encouraging more partnerships with international partners and, as a result, increasing competitiveness.

Localizing mobile manufactur-



ing parts and components, localizing allied equipment such as laptops and tablets, focusing on export of mobile phones, and promoting ease of doing business in Pakistan are some of the summit's key objectives.

The event was attended by mobile device manufacturers, government officials from the Ministry of Industries and Production, the Pakistan Telecommunication Authority, the Ministry of Commerce, the National Tariff Commission, the Board of Investment, the Ministry of IT and Telecom, the Federal Board of Revenue, and academia.

As key representatives of the association, Mian Abdur Rehman (Chairman), Muzaffar Piracha (Senior Vice Chairman), Aamir Allawala (Vice Chairman), and Zeeshan Mianoor (Deputy Vice Chairman) were present.

The Federal Minister for Industries and Production, Makhdoom Syed Murtaza Mahmud, was the chief guest at the inaugural session, and the Federal Minister for Board of Investment, Chaudhry Salik Hussain, will attend the second session as well. The Mobile Device Manufacturing Policy, developed by EDB in 2020, aims to promote...[Read More](#)

## NICAT Pakistan To Aid Building Aerospace Entrepreneurial Ecosystem

NICAT shall concentrate on aerospace technologies, high-tech engineering, and deep technologies related to ICT and related domains.

Speaking at the event, ACPL CEO Air Commodore Dr Liaquatullah Iqbal revealed that the ACPL is establishing NASTP to promote, form, and develop small to large-sized aviation and space-related enterprises, laboratories, and R&D centers on a national scale. He also stated that the NICAT will be established at NASTP and will aid in the nurturing and development of Pakistan aerospace related entrepreneurial ecosystem.

NICAT is being established in collaboration with Ignite (the National Technology R&D Fund) and Aviation City Pakistan (ACP), with Ignite funding NICAT, which will be housed within ACP's newly constructed Alpha Facility at the National Aerospace and Software Technology Park

## Online Innovation Inevitable To Compete With Intl. Education System

Education is the first rung on the ladder of nation-building; regardless of the country's economic situation, education is gov't top priority.

To compete with the international education system, online innovation has become unavoidable. Address by the Federal Education Minister at the inauguration ceremony of the Student Facilitation Center and Online Attestation Portal at the IBCC Secretariat in Islamabad

While speaking at the inauguration ceremony of the Student Facilitation Center equipped with modern facilities and an online attestation portal at the Secretariat of the Inter Board Committee of Chairmen (IBCC), the Federal Minister of Education & Professional Training stated that development and stability in the country's education system are not possible without revolution and innovation.

Education is the first rung on the ladder of nation-building;

regardless of the country's economic situation, education is the government's top priority. IBCC's Student Facilitation Center, complete with modern facilities and an Attestation Portal, will be a watershed moment in resolving student issues. IBCC is resolving student issues by bringing positive changes to the system on a daily basis.

With the launch of the online



attestation portal, students no longer need to visit IBCC. Furthermore, the Federal Board has installed a self-service machine called "KISOK" at the IBCC facilitation centre, which benefits FBISE students by eliminating the need for them to visit the Federal Board for document verification and a sealed envelope.

They can also pay their fees and submit applications using

KISOK. On this occasion, Secretary IBCC Dr. Ghulam Ali Malah stated that educated youth will lead Pakistan on the path of development, as youth make up the majority of the country's population and have the right to an education. IBCC is working hard to solve student problems and implement automated reforms within the organization. Because of the QR-based attestation and equivalence certificates initiative, students no longer need to visit the IBCC for verification.

They can instantly verify their documents from anywhere in the world. Furthermore, the students will benefit from the opening of a cutting-edge facilitation center. IBCC is also incorporating a digital payment module into all of their processes; with the addition of this facility, students don't need to stand in the long queues for submission of their fee; they can submit it through mobile banking, etc...[Read More](#)

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Parkash Meghwar

*The American Cancer Society says that acrylamide is a chemical that is used in paper and pulp, construction, foundries, oil drilling, textiles, cosmetics, food processing, plastics, mining, and agriculture. It is also used to make paper, paint, and plastics, as well as to clean drinking water and wastewater*



## World Of Acrylamide And Cancer

Several kinds of starchy foods can spontaneously produce acrylamide; those that have more of it are French fries, potato chips etc.

Acrylamide has a low molecular weight, is soluble in water, and is made up of carbon, nitrogen, hydrogen, and oxygen.

In the form of polyacrylamide, which is used as an adhesive, a soil stabilizer, in lab gels, and as a byproduct of foods that have been heated, it is used in many different industries. Environmental and occupational pollutants include acrylamide.

In order to assure consumption of plant-based foods rich in phytoconstituents, which help avoid dangerous diseases like cancer, research should be done.

As the number of people with chronic diseases rises, people are paying more attention to what they eat.

Numerous processing facilities nearby produce a lot of chemicals that are harmful to our health. According to the WHO, around 100,000 chemical compounds, including polycyclic aromatic hydrocarbons, aromatic amines, amino dyes, and alkenes, are released from various sectors each year.

Cancer can be caused by

their exposure to a variety of commodities and food products.

It can develop during the Millard reaction, particularly when asparagine- and glucose-containing foods are processed.

Many processed potato foods, like bread, cereal, biscuits, cookies, snacks, and coffee, have been found to have acrylamide residues in different amounts.

The American Cancer Society says that acrylamide is a chemical that is used in

well as to clean drinking water and wastewater.

There are small amounts of acrylamide in many consumer goods, such as caulk, food packaging, and some adhesives.

It can be found in cigarette smoke as well. After being heated at high temperatures, several kinds of starchy foods can spontaneously produce acrylamide through chemical processes. Some foods that have more of it are French fries, potato chips, grain-based foods (like breakfast

carcinogen),

but we do ask other reputable organizations for help in this area. Some of these groups have determined the following things in light of recent research:

The International Agency for Research on Cancer (IARC) classifies acrylamide as a "probable human carcinogen."

The US National Toxicology Program (NTP) has said that it "is likely to cause cancer in humans."

It is "likely to cause cancer in humans," according to the US Environmental Protection Agency (EPA). Here are some ways to reduce exposure to acrylamide in foods, according to the FDA:

Restrict consumption of foods that may be high in acrylamide, such as foods made of wheat, coffee, and potato goods (particularly French fries and potato chips) (such as breakfast cereals, cookies, and toast).

Limit the use of specific cooking techniques, such as frying and roasting, and the amount of time that specific meals are cooked.

Acrylamide is not produced by boiling or steaming.

To lessen the development of acrylamide during cooking, soak raw potato slices in water for 15 to 30 minutes before the frying or roasting.

(To avoid splattering or flames, soaked potatoes should be rinsed and wiped dry before cooking.)

To reduce the amount of acrylamide produced while frying potatoes or toasting bread, heat them to a lighter color rather than a deep brown.

Avoid storing potatoes in the refrigerator, which can result in increased acrylamide levels during cooking.

Acrylamide in drinking water is subject to Environmental Protection Agency (EPA) regulation in the United States. The Environmental Protection Agency (EPA) established a safe limit of exposure to acrylamide that was low enough to take into consideration any ambiguities in the research linking acrylamide to cancer and neurotoxic consequences. Although there are currently no regulations controlling the presence of acrylamide in food itself, the U.S.

Food and Drug Administration regulates the amount of residual acrylamide in a variety of materials that come into contact with food.

In order to inform FDA actions and safeguard public health, the Center for Food Safety and Applied Nutrition (CFSAN) of the FDA tracks contamination levels in food, including acrylamide.



paper and pulp, construction, foundries, oil drilling, textiles, cosmetics, food processing, plastics, mining, and agriculture. It is also used to make paper, paint, and plastics, as

cereal, cookies, and toast), coffee, and foods made from grains. Most of the time, the American Cancer Society does not figure out if a substance causes cancer (i.e., if it is a



—Steven Pinker

"As technology accumulates and people in more parts of the planet become interdependent, the hatred between them tends to decrease, for the simple reason that you can't kill someone and trade with him too."

*Cosmologists think that the universe started out as a particle-filled mass of light and force that was very hot. Then there was a huge expansion that started the journey to the current form of the universe*



Hina Baloch

## What Is Electroweak Theory Of Dr. Abdus Salam?

Dr. Abdus Salam's Nobel Prize-winning electroweak theory: What was the theory covering the early stages of the universe, and why is it important?

A scientist from Pakistan named Dr. Abdus Salam, who won the Nobel Prize, put forward electroweak theory in the field of physics almost 50 years ago. Its position in the field of physics is so key that it is still routinely taught in the curriculum today.

His theory of electroweak theory later became known as the Salam-Weinberg model. Its modern form is called the Standard Model. Steven Weinberg is an American scientist who shared the Nobel Prize for this electroweak theory in 1979 with Dr. Abdus Salam and Sheldon Lee Glashaw.

Dr. Abdus Salam first asserted in his electroweak theory that two of the four fundamental forces found in the universe, the weak force or weak nuclear force and electromagnetism, are essentially two forms of the same force.

He combined these two forces and named it Electroweak Force. His discovery led to many results and led to many scientific predictions.

One of them was regarding elementary particles that had not been observed until then.

Professor Pervez Hoodbhoy, a physicist in Pakistan, told the British Broadcasting Corporation (BBC), that the electroweak theory of Dr. Abdus Salam has a key position in the

field of physics.

"Unifying these two forces means that he proved that they have the same structure from a mathematical point of view. It was considered a big task because it has different results.

According to Prof. Pervez Hoodbhoy, one of the most important results that Dr. Salam's electroweak theory led to was that he predicted that "there are some particles that are of fundamental importance but have not been seen so far."

These particles were seen 15 years after their discovery when they were tracked by the European Atomic Energy Agency.

**What is this game of particles and forces?**

Cosmologists think that the universe started out as a particle-filled mass of light and force that was very hot. Then there was a huge expansion that started the journey to the current form of the universe.

According to scientists, this big expansion happened in a moment, and this basic expansion process is called the Big Bang, which explains the existence of the sun, moon, stars, planets, and other celestial bodies.

The basis of this electroweak theory is mostly in the observations of cosmology, and science demands evidence.

**What does Dr. Salam's electroweak theory tell us about the universe?**

A branch of physics called particle physics deals with the structure and properties of ele-

mentary atomic particles. Its experts look for scientific evidence that can explain the existence of the universe and the creation of matter and life in it.

Dr. Abdus Salam was one of those scientists. According to Prof. Pervez Hoodbhoy, this theory of unity can be applied in the field of cosmology, and thus we can know how the early moments of the universe were spent.

"What kind of particles were in it and what was the temperature, and then why the various elements that formed later formed in the quantities that we observe today."

**What are elementary particles, who give existence?**

To understand why Dr. Abdus Salam's theory holds a key place in physics, it is important to first see what these fundamental particles and fundamental forces are and how they relate to the universe and its creation.

According to science, all the surrounding matter is made up of elementary particles, i.e. these elementary particles are the building blocks of matter.

These give weight to other particles.

An example of this can be understood as if you shake a stationary train from its place, you will feel its weight. This is the weight given to it by the fundamental particles that make it up. But now the question was, where did these basic particles get their weight?

We will get the answer to this question in the explanation of Dr. Abdus Salam's theory. First, let's see: what are the basic

forces?

**What are the four fundamental forces in the universe?**

Prof. Pervez Hoodbhoy explains it like this: "We see in our world that there are four basic forces, which we can identify separately." We then plug them into different equations and compare the predictions they make with experience.

These forces are responsible for driving the fundamental particles. One of them you know as gravity.

The other three are known as electromagnetism, strong force, and weak force. The best way to explain how these three forces affect the fundamental particles is with Drs. Salam and Weinberg's model and its updated version, the Standard Model.

These three forces arise from the exchange of particles called force carriers. The group to which these particles belong is called "bosons." Particles of any substance transfer energy to each other by exchanging these bosons.

What happens with the combination of these fundamental forces?

Professor Pervez Hoodbhoy explains that "when the universe was created, at that time these four forces were merged into one force." As the universe continued to expand, they started to differ.

Each fundamental force has its own boson. We see only two of them here with regard to the doctrine of Dr. Abdus Salam. Electromagnetic energy is carried by photons, while weak

forces carried by bosons are called "W" and "Z."

The weak nuclear force has a very small range, which suggests that it is carried by very large particles. And that means the W and Z bosons had weight, but the photon had none.

**How did Dr. Abdus Salam combine these two forces?**

Dr. Abdus Salam theorized that if there are four such particles, they are "messenger" or "carrier" particles. If two of them were neutral and two were electrically charged, they could make electroweak unity possible.

**How important was their prediction?**

Dr. Abdus Salam and Weinberg's theory said that there is an invisible field or fields that extend throughout space and interact with the visible field to give particles their weight.

It also contains the answer to our question as to where the fundamental particles from which other particles are made or carry weight get their weight or how they came to be.

This hitherto unseen field was later known as the Higgs boson, and the particle carrying it was called the Higgs particle, named after Peter Higgs, the scientist who proposed the theory.

**What is the Higgs Boson?**

According to Prof. Pervez

Hoodbhoy, Higgs wrote an article in 1964 that was not related to electroweak theory.

"It was just a miracle in the quantum field theory article that particles could be given weight. Salam and Weinberg applied this work to wake and electromagnetic waves."

According to Prof. Hoodbhoy, both of them wrote that this boson exists, but their theory did not predict how heavy it would be, so it had to be found experimentally.

The Higgs field was different from the fields of other fundamental particles because it had volume but no direction. Similarly, unlike other particles, its particle, the Higgs boson, had a spin value of zero.

One of its unusual features is that its power is greater when its field value is zero.

**What did he explain in the question of the origin of the universe?**

According to the Higgs boson theory, all elementary particles gained weight when they interacted with the Higgs field, and this was possible when the universe cooled and the force on it decreased after the initial massive expansion, or Big Bang.

The different masses of elementary material particles are also due to the fact that they interacted with the Higgs field with different force. This theory also explained Dr. Abdus Salam's electroweak theory as to why bosons W and Z of the weak force had weight while photons of the electromagnetic force had no weight...[Read More](#)



Sadia Bibi



## Contaminated Water Can Make You Sick

**I**nfecting water comes in many different forms, like chemicals, pesticides, and industrial waste that has been injected into the earth.

Our body contain 60% water. Without fluids, we can only survive for three to five days. Water is essential for digestion. As well as many other vital bodily functions, including as cleaning out waste and controlling body temperature. But infected water can destroy the whole body.

The planet consist of 70% water. Maintaining health, raising food, producing energy, and managing the environment are essential. Water preserves the tissues, joints, and spinal cord and maintains body temperature. There is no life without water. Getting enough water may save you from illnesses like hypertension, asthma, kidney stones, urinary tract infections, and constipation.

Additionally, water supports the absorption of vital nutrients from food, which are equally crucial for maintaining our health. Sanitation, hygiene, and access to clean water are essential for maintaining human health and well-being.

Water is extremely important for our health. Drinking water keeps our blood vessels wide open, allowing blood to freely reach our kidneys and carry vital nutrients to them. The main causes of water pollution are bacteria, viruses, parasites, insecticides, pharmaceuticals,

plastics, feces, radioactive materials, fertilizers, and pesticides.

Water-borne diseases or infection is one that people can catch from infected water. These are microbes or pathogens that cause disease in humans due to drinking contaminated water. Infected water can come in many different forms. Chemicals, pesticides, animal waste, and industrial waste that has been injected into the earth are some of them. Unclean water can lead to skin and infectious eye diseases when used for washing. The pathogenic contamination can cause many diseases such as cholera, diarrhea, amebiasis, typhoid, gastroenteritis, hepatitis, giardiasis, campylobacteriosis, scabies, and worm infections.

### Cholera

The intestine becomes infected with the Vibrio cholera bacteria, which results in the acute diarrheal sickness known as cholera. When cholera bacteria are present in food or drink, people might become ill.

Although the infection is mostly minor or symptomless, it can occasionally be serious and life-threatening. One in ten cholera patients will face major signs and symptoms include watery diarrhoea, vomiting, and leg cramps. These persons experience dehydration and shock due to the rapid loss of body fluids. Incubation period is between 2 hours and 5 days.

### Typhoid fever

A bacterial infection called typhoid fever can spread throughout the body and harm several organs. It can lead to major problems and even be fatal without early treatment. Bacteria Salmonella typhi cause food poisoning. Food poisoning is due to uncleaned water or contaminated water. If someone who has typhoid touches food or drinks, you intake without first cleaning their hands. It may also occur if waste water contaminates food or beverages that people eat. Incubation period is 6 to 30 days.

### Hepatitis

Hepatitis refers to liver inflammation. The liver is an essential organ that filters blood, processes nutrients, and fights infections. The function of the liver can be impacted by inflammation or injury. The faecal-oral route is the main way that the hepatitis A virus spreads. It occurs when an uninfected person eats food or water that has been contaminated by the feces of an infected person.

In families, this could occur when an infected person prepares meals for family members using dirty hands.

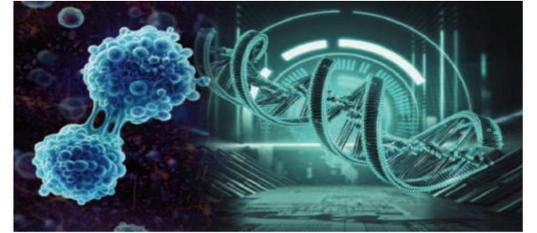
### Giardiasis

The small intestine is infected with giardiasis. Giardia lamblia, a tiny parasite, is responsible.

In contact with an infected person, giardiasis spreads...[Read More](#)



Abdullah Arijo



## Be Aware Of Mutagens, How They Affect

**D**NA changes caused by mutagens may harm cells; examples include radioactive substances, x-rays, ultraviolet radiation, and certain chemicals.

Have you ever thought about why the abnormal development of the newborn occurs? Teratology may define cause and effect. A phenomenon called a genetic mutation. Mutagens are substances that alter or change the genetic material of an organism, hence they are termed genotoxic.

Have you ever wondered how mutations arise in living things? You've probably heard stories about mutated beings emerging from toxic waste sites or secret laboratories. While these urban legends usually turn mutations into fantasy, indeed, mutations often come from external factors.

Anything that causes a mutation (a change in the DNA of a cell). DNA changes caused by mutagens may harm cells and cause certain diseases, such as cancer. Examples of mutagens include radioactive substances, x-rays, ultraviolet radiation, and certain chemicals.

The environment we live in has a real impact on whether we experience genetic mutations. The quality of the water we drink and the air we breathe can affect the integrity of our DNA. Our bodies are designed to correct any mistakes, but dangers from the environment can

increase our chances of ending up with a mutation. An environmental agent that causes a mutation is called a mutagen.

Be noted that all mutations are changes in the nucleotide sequence of DNA. While chromosome mutations involve large portions of DNA, point mutations are smaller and typically affect one or two bases. Point mutations include base substitutions and insertions and deletions. While base substitutions only switch one base for another, insertions and deletions change the length of a DNA code. But it's rarely the original DNA strand that undergoes a mutation. Most of the time, mutations occur while a new DNA molecule is being formed through DNA replication.

The work of the enzyme DNA polymerase helps us better understand, this enzyme's job is to build the daughter DNA strand along the parent strand. Every once in a while, DNA polymerase makes a mistake in matching the right nucleotide to the parent strand. It puts the wrong nucleotide down and produces a slightly incorrect daughter strand.

Normally, this happens once every billion nucleotides. But certain things can make it more likely that DNA polymerase will make a mistake.

One of these is radiation from ultraviolet, or UV, rays. When UV radiation hits the cells in your body, it can change the way DNA polymerase works and increase the probability of a replication

error. Ultraviolet radiation is an example of a mutagen.

Mutagens can be found in any part of the environment. The mutagen may be physical, such as ultraviolet rays or chemical, UV radiation is just one of many mutagens that exist in our environment. Other mutagens include X-rays, extreme heat, or chemicals that react with DNA molecules. These agents can change the way molecules bond and react with one another, which increases the likelihood that a mistake will be made in the nucleotide sequence.

An error in the DNA can cause problems for that cell. Skin cells are especially vulnerable to UV radiation because they have the most direct exposure to the UV light that comes from the sun. This is why we try to protect our skin from the sun's potentially harmful rays. Though a point mutation may seem insignificant at the molecular level, a single insertion, deletion, or base substitution can drastically harm an organism.

It is suggested that Mobile phone radiation might alter gene expression in the oral squamous epithelial cells.

Accumulating evidence has shown that radiofrequency radiation (RFR) emitted by mobile phones is a potential factor for DNA damage. Whether RFR affects the gene expression of human genes still requires further research.

This may help in understanding the mechanisms of action of this radiation...[Read More](#)



Afifa Haider



## Features And Benefits Of Cryptocurrency

**O**ne of the main benefits of cryptocurrency is that it allows for fast and secure peer-to-peer transactions.

Cryptocurrency is a digital or virtual currency that uses cryptography for security, is decentralized, and operates independently of a central bank or government. The most well-known cryptocurrency is Bitcoin, which was created in 2009. However, there are now thousands of different cryptocurrencies in circulation, each with their own unique features and uses.

One of the key features of cryptocurrency is that it uses blockchain technology to record and verify transactions. Blockchain is a decentralized ledger that records all transactions on a network in a secure and transparent way. Since all transactions are recorded and checked on the blockchain, there is no need for a central authority to keep track of them.

One of the main benefits of cryptocurrency is that it allows for fast and secure peer-to-peer transactions. Because there is no need for a central authority to process transactions, they can be completed much faster than traditional bank transfers.

Additionally, the use of cryptography and blockchain technology makes it very difficult for transactions to be tampered with or for someone to steal your cryptocurrency.

Another benefit of cryptocurrency is that it is borderless, meaning that it can be used any-

**One of the key features of cryptocurrency is that it uses blockchain technology to record and verify transactions. Blockchain is a decentralized ledger that records all transactions on a network in a secure and transparent way. Since all transactions are recorded and checked on the blockchain, there is no need for a central authority to keep track of them**

where in the world as long as there is an internet connection. This makes it a great option for people living in countries with unstable currencies or for those who need to make international transactions.

However, there are also some downsides to using cryptocurrency. One of the main issues is the volatility of the price. Cryptocurrency prices can be highly volatile, and the value of a particular currency can change dramatically in a short period of time. This makes it risky to hold large amounts of cryptocurrency for long periods of time.

Also, the cryptocurrency market is open to fraud and scams because there aren't any rules or oversight. It is important to be cautious and do your own research before investing in any cryptocurrency.

Overall, cryptocurrency is a fascinating and rapidly evolving technology that has the potential to change the way we think about money and transactions. While there are certainly risks involved, the benefits and potential of cryptocurrency make it worth considering as a viable alternative to traditional currencies.

Just keep in mind that cryptocurrency is a highly speculative investment, and it's important to do your own research and consult with a financial advisor before investing.

transactions, currencies, currency, cryptography, technology, need, volatility, bank, uses, investment,



Nabeel Ahmad



## Major Problems Faced By Chili Growers In Pakistan

**P**akistani chili farmers face many problems, such as not having access to modern farming tools, not being able to export their crops, climate change, urbanization, and research and development.

Chili is an important spice and vegetable crop that is cultivated and consumed all over the world. Chili growers in Pakistan face many problems, such as not having access to modern farming tools, not being able to export their crops, climate change, urbanization, and research and development.

Chilies are known for their spicy flavor and strength, and they are used in a wide range of dishes. Chili has an essential role in the world's food culture, economy, and health, making it a valuable crop for both farmers and consumers.

Chili is one of the most important crops in Pakistan, giving many farmers money and work. According to the Food and Agriculture Organization of the United Nations (FAO), Pakistan was the world's fifth-largest producer of chili in 2020, with 2,137,934 tons produced.

Pakistan is a significant chili exporter, with the majority of its exports moving to nearby countries such as Iran,

Afghanistan, and India, with some exports also going to Gulf countries.

There are a lot of problems for chili farmers in Pakistan that make it hard for the agriculture sector to grow:

Lack of access to modern farming technology

One of the major problems faced by chili growers in Pakistan is the lack of access to modern farming techniques and technology. Many farmers in Pakistan still rely on traditional farming practices and methods, which can result in lower quality and yield of crops and reduce profitability. This lack of access to modern technology also makes it difficult for farmers to efficiently manage pests and diseases, which can have a significant impact on crop yields. So, this issue could resolve by providing proper training and education to farmers on new farming methods, as well as providing financial assistance to purchase new equipment and technology.

Limited access to credit and financing

Another issue faced by chili growers in Pakistan is limited access to credit and financing. Many farmers lack the collateral required to secure loans from formal financial institutions, making it difficult for them to

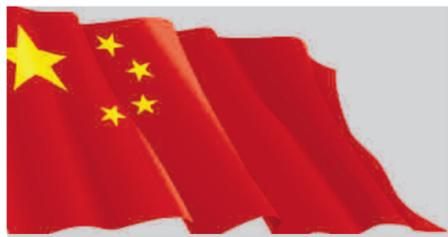
invest in their farms and improve their crop yields. To resolve this problem government should assist farmers with small loans and other financial services so that farmers can invest better in their crops' viz. they can purchase healthy seeds, fertilizers, pesticides, and equipment and can earn better.

Climate change

Climate change is also a significant concern for chili growers in Pakistan. Changes in temperature, precipitation, and extreme weather events can have a negative impact on crop yields, making it more difficult for farmers to plan and manage their farms. So, farmers should be informed and trained about how to adapt to changing weather patterns, as well as by investing in research and development to create new crop varieties that are more resilient to changing climate conditions and there should be effective policies to tackle climate change.

Improper transport infrastructure

The lack of proper storage and transportation infrastructure is another problem faced by chili growers in Pakistan. Poor storage and transport infrastructure can lead to post-harvest losses and reduced profitability for farmers...[Read More](#)



## Scientists Make Shapeshifting Robot To Navigate Tricky Environments

"Giving robots the ability to switch between liquid and solid states endows them with more functionality," says engineer Chengfeng Pan.

Scientists have made a breakthrough in robotics: shapeshifting robot that can switch between liquid and metal states to navigate tricky environments without compromising on strength.

Because they can be both soft and hard, the small, sea cucumber-inspired robots can overcome the limitations of robots that are only one or the other, and thus have the potential to provide greater utility in areas such as electronics assembly and even medical applications.

Researchers made the shapeshifting robot navigate obstacle courses, remove or

deliver objects to a model of the human stomach, and even liquefy to escape a cage before reforming back into its original humanoid shape.

"Giving robots the ability to switch between liquid and solid states endows them with more functionality," says engineer Chengfeng Pan of The Chinese University of Hong Kong in China.

There are many potential uses for small robots that can get around places too small or convoluted for humans to manage with typical tools, from finicky repair work to targeted drug delivery. But hard materials aren't the best for navigating confined spaces or tight angles, while soft, more flexible robots tend to be weak and more difficult to control.

To find a compromise, a team of researchers led by Pan and his colleague, Qingyuan Wang of Sun Yat-sen University in China, turned to nature as a source of inspiration. Animals such as sea cucumbers can alter the stiffness of their tissues to improve load capacity and limit physical damage, while octopuses can alter the rigidity of their arms for camouflage, object manipulation, and locomotion.

To design a robot that can do something similar, the researchers needed a non-toxic material that can easily shift between soft and rigid states in ambient temperature. They turned to gallium, a soft metal that has a melting point of 29.76 degrees Celsius (85.57 degrees Fahrenheit) at standard pres-

sure - just a few degrees below the average human body temperature. You can melt gallium just by holding it in your hand.

The researchers embedded a gallium matrix with magnetic particles, creating what they call a "magnetoactive solid-liquid phase transitional machine."

"The magnetic particles here have two roles," says mechanical engineer Carmel Majidi of Carnegie Mellon University, one of the senior authors on the team's paper.

"One is that they make the material responsive to an alternating magnetic field, so you can, through induction, heat up the material and cause the phase change. But the magnetic particles also give the robots mobility...[Read More](#)

## China's Yutu 2 Rover Still Operating After 4 Years On Moon



Yutu 2 is part of the historic Chang'e 4 mission, which in January 2019 made the first-ever soft landing on the far side of the moon.

After four years on the moon, China's Yutu 2 rover is still operational and has returned new images from the lunar far side. Yutu 2, which translates to "Jade Rabbit 2," is a rising star in China as the Year of the Rabbit begins.

Yutu 2 is part of the historic Chang'e 4 mission, which in January 2019 made the first-ever soft landing on the far side of the moon. According to an update from the Chinese Lunar Exploration Project's (CLEP) social media account, the rover awoke on Jan. 15 to begin its 51st lunar day. (A lunar day lasts approximately 29.5 Earth days.)

There have been few updates to Yutu 2—wwhich translates to "Jade Rabbit 2"—over the past year, but the rover is suddenly a star once more as China celebrates the start of the Year of the Rabbit.

In its four years of exploration, the rover has travelled 4,774 feet (1,455 metres) across Von Kármán crater and is now 865 feet (2,637 metres) northwest of the Chang'e 4 lander, from which it rolled down onto the moon.

New images released by CLEP on January 18 show rocks and impact craters, Yutu 2's winding tracks in the lunar regolith, and the distant wall of the 115-mile-wide (186-kilometer) Von Kármán Crater.

an impact crater and the distant wall of the moon's Von Kármán crater, photographed in January 2023 by China's Yutu 2 rover...[Read More](#)

## China's Dongfang Begins Operations Of Geothermal Power Plant



China's Dongfang Electric has started operations of an 80-kW ORC geothermal power plant using water from an oil and gas field of PetroChina.

China's Dongfang Electric has started operations of an 80-kW ORC geothermal power plant using water from an oil and gas field of PetroChina.

China's state-owned Dongfang Electric Group Co. Ltd. (Dongfang Electric) has started operations of the country's geothermal power generation plant associated with an oil and gas field. The newly-

built geothermal power generation uses ORC technology and has an installed capacity of 80 kW.

The geothermal power generation project had been installed in the Chuanzhong Gas Mine of PetroChina Southwest Oil and Gas Field Branch Company.

The mine produces an average 600 cubic meters of gas field water per days from wells with a bottom temperature of 140 degrees Celsius.

The power generation unit was supplied specifically by Well X210...[Read More](#)

## Oral Antiviral COVID-19 Molnupiravir Capsules Start To Sell In China

The oral antiviral COVID-19 medicine has been on sale in many parts of China, with varying medical insurance reimbursement ratios.

The oral antiviral COVID-19 medicine LAGEVRIO (molnupiravir capsules) has been on sale in many parts of China, with varying medical insurance reimbursement ratios.

Molnupiravir capsules, developed by US pharmaceutical giant Merck Sharp & Dohme (MSD), along with other COVID treatments such as Paxlovid and Azvudine tablets, are currently covered by China's public health insurance until March 31.

On January 18, a hospital in Xuzhou, Jiangsu Province, East China, issued its first molnupiravir prescription pad. According to local medical insurance regulations, 75 percent of the cost of outpatient services may be reimbursed, with no upper limit.

The first batch of molnupiravir capsules was delivered to Chongqing's Southwest Hospital on January 17. Meanwhile, the medicine has arrived at nearly 80 Shanghai public hospitals.

According to the Healthcare Security Bureau of Shenzhen Municipality, hospitalisation expenses for patients infected with the new coronavirus will be fully covered by medical insurance from January 8 to March 31, and monogravir capsules have been temporarily included in medical insurance with 85 percent of the cost potentially being reimbursed.

The State Food and Drug Administration conditionally approved the import registration of monogravir capsules on December 29, 2022. The drug was added to the list of antiviral drugs and treatments. Monogravir capsules are the third oral antiviral COVID-19 medicine approved in China after Paxlovid and Azvudine tablets. They are included in the 10th edition of China's COVID-19 control protocols...[Read More](#)

## Ex- Student Gets 8 Years For Spying Satellite Technology Scientists In US

According to the charges, Ji was targeted by agents from MSS shortly before coming to the US in 2013 to study engineering at the Illinois Institute of Tech.

A former graduate student from Chicago was sentenced to eight years in prison on Wednesday for snooping for the Chinese government by gathering information on aerospace and satellite technology scientists and engineers in the United States.

Ji Chaoqun, 31, was convicted in September by a federal jury in Chicago of conspiracy to act as an agent of China's Ministry of State Security without informing the US attorney general, act-

ing as a spy in the US, and lying on a government form about his contacts with foreign agencies.

According to the charges, Ji was targeted by agents from the Ministry of State Security (MSS) shortly before coming to the United States in 2013 to study engineering at the Illinois Institute of Technology in Chicago.

The Illinois Institute of Technology (IIT) is a private research university located in Chicago, Illinois.

Founded in 1890, it offers undergraduate and graduate degrees in a wide range of disciplines, including engineering, science, architecture, business, design, and law.

After returning home to China for the winter break, prosecutors said, Ji was "wined and dined" by his MSS handlers. He was eventually given a top-secret contract in which he swore an oath of allegiance to the agency's cause, agreeing to "devote the rest of my life to state security," according to prosecutors. Prosecutors said Ji eventually gathered background information on eight US scientists, all of whom were born in Taiwan or China and worked in the science and satellite technology industries, including several who specialised in aerospace. Seven of them worked for US defence contractors...[Read More](#)

## 64,000 Migratory Birds Sight In China's Nature Reserve



During the 2022-2023 migratory bird monitoring operations conducted from January 7 to 11, staff spotted 60 species of migratory birds, according to Zhang Yuguang.

More than 64,000 migratory birds have recently been spotted in a nature reserve in Hebei Province of North China, authorities said.

During the 2022-2023 migratory bird monitoring operations conducted from January 7 to 11, the staff spotted 60 species of migratory birds, according to

Zhang Yuguang of the resource protection bureau of Hengshui Lake National Nature Reserve.

These birds included six species under first-class national protection, such as the Baer's pochards and oriental white storks, an increase of two species compared with that of the 2021-2022 period, said Zhang.

"The Baer's pochards and oriental white storks are 'long-term residents' of Hengshui Lake," Zhang added...[Read More](#)

## China's Communication Satellite Starts Automated Orbit Change Journey

Satellite was launched by Long March-2C carrier rocket from Xichang Satellite Launch Center and successfully entered its planned orbit on Jan 13.

China's APSTAR-6E telecommunication satellite has recently separated from its independent propulsion module and begun its electrically propelled orbit change journey.

The satellite was launched by a Long March-2C carrier rocket from the Xichang Satellite Launch Center and successfully entered its planned orbit on January 13.

The APSTAR-6E is China's first satellite to change orbit entirely autonomously, according to the CASC, as a new-generation economical commercial satellite with high performance, efficiency, and cost performance.

The satellite will be transferred to synchronous orbit by its two electric propulsion systems after it separates from its independent propulsion mod-

ule. The satellite will primarily be used to provide low-cost, high-throughput broadband communication services to Southeast Asia.

The China Academy of Space Technology (CAST) created the 4,607-pound (2,090-kilogram) satellite, which is based on a new, small DFH-3E satellite platform with all-electric propulsion.

The satellite was launched

into low-Earth orbit but will spend the majority of the year increasing its altitude to geostationary orbit, which is 22,236 miles (35,786 kilometres) above the equator.

APSTAR 6E was launched with a detachable propulsion system that will propel the satellite into a higher orbit, after which it will complete the months-long journey to geostationary orbit using its own propulsion...[Read More](#)





## Team Three Musketeers From APU Win Data Science Challenge

Computer science undergraduates specialising in data analytics were supervised by the varsity's School of Computing lecturer Mafas Raheem.

MALAYSIA Techlympics 2022, the country's largest initiative to develop young talent in science, technology, and innovation, saw Team Three Musketeers from Asia Pacific University of Technology & Innovation (APU) win the Data Science Challenge.

Computer science undergraduates specialising in data analytics, Chan See Mun and Lai Mei Sim were supervised by the varsity's School of Computing lecturer Mafas Raheem.

The team embarked on the Data Science Challenge by taking up a data exploration task and studying a complex dataset to understand the relationships between the variables.

The 22-year-olds outmanoeuvred teams from Universiti Teknologi Malaysia and

Monash University Malaysia with "Path to Net Zero", a solution formulated after a 24-hour datathon that aimed to reduce global greenhouse gas (GHG) emissions using the latest technology. Organised by the Science, Technology and Innovation Ministry (Mosti), the competition saw Team Three Musketeers taking home a cash prize of RM7,000.

The dataset which was captured from the online platforms of collection of key metrics - Our World in Data and Climate Watch Data - contains the societal information of each nation from 1990 to 2019, said Mafas in a recent press release.

The dataset, he explained, set a narration to address the importance of modern industry's contribution to a country's economy and filling the needs of people's energy consumption.

"However, as modern industry causes a lot of GHG emis-

sions, optimal solutions should be proposed for sustainable economic development," Mafas said, adding that Chan and Lai then came up with an interactive and comprehensive dashboard which allows a full understanding of the carbon emission situation.

They identified obstacles to achieving the net zero emission target and proposed target solutions for the identified problems. "We emphasised the ways to reduce GHG emissions through afforestation, reforestation, negative emission technologies, and hydrogen energy," said Chan, who is in her second year of studies.

The Techlympics 2022 finals, held on Nov 26 and 27 in Bukit Jalil last year, saw 10 teams competing intensely. According to Three Musketeers, the Data Science Challenge was fierce since there were many undergraduate teams from public and private universities that provid-

ed impressive solutions. Lai, a final year student, said the key to the team's win was good synergy, and experiences and skillsets developed in the course of their studies.

"We spent the first two hours exploring and brainstorming to determine the direction of the project before dividing the work to execute it. With the uncertainty of whether our solution met the requirements of the competition, the next 22 hours were us bouncing between joy, struggle, diligence and self-doubt. During the most exhausting times, it wasn't about the prize anymore; rather, it was the conviction to complete the project that kept us going," she shared.

Mafas said the girls relied on their experience participating in other competitions, especially the Asean Data Science Explorers (ASEANDSE) 2022, in which they emerged among the top 15 teams...[Read More](#)

## Taylor's Launches Innovative Programs To Meet Demand For Digital Talent



The Bachelor of Interactive Spatial Design offers two specialisations, Smart Homes Design and Smart Environment Design with three learning track options.

Taylor's University launches Malaysia's first innovative programs, the Bachelor of Interactive Spatial Design (Honours) and Bachelor of Science (Honours) in Sustainable Digital Construction Management, to produce future-ready graduates to meet the demand for digital talent.

Taylor's University Faculty of Innovation & Technology Executive Dean, Professor Dr. David Asirvatham, said the innovative programs are complemented with Southeast Asia's world-class future of extended reality (XR) learning center, Taylor's Virtual Online Future Technology & Extended Reality (VORTEX XR Lab).

The Bachelor of Interactive Spatial Design offers two specialisations, Smart Homes Design and Smart Environment Design with three learning track options to choose from - conventional internship, work-based learning experience with industry partners such as FrameMotion Studio Sdn Bhd, Virtual X Malaysia, Ministry XR, HONOR and IMT Smart Home, or the technopreneurship mode for students to start a business with mentorship by Taylor's University's entrepreneur start-up incubator, BizPod.

The Smart Homes Design specialisation produces designers to create a personalised smart living space that can operate automatically, catering to individual needs and living styles, while the Smart Environment Design specialisation designs experience to change the way we interact with products and consume information using spatial technologies...[Read More](#)

## TM, ZTE Collab To Work On Passive Optical Network Research



TM recently signed MoU with ZTE for joint research in areas of next-generation PON to enhance bandwidth experience for users in Malaysia.

TELEKOM (M) Bhd (TM) and ZTE (M) Corp Sdn Bhd are planning to collaborate on passive optical network research to bring the first 50 gigabytes per second (Gbps) bandwidth experience to Malaysia.

In a statement today, TM said its innovation arm, Telekom Research & Development Sdn Bhd (TM R&D), recently signed a memorandum of understand-

ing (MoU) with ZTE, a global provider of information and communication technology solutions, for joint research in the areas of next-generation passive optical networks (PON) to enhance bandwidth experience for users in Malaysia.

The MoU was signed by TM R&D CEO Sharlene Thiagarajah and ZTE Malaysia CEO Steven Ge. Under the agreement, TM R&D and ZTE will jointly explore the capabilities of next-generation Passive Optical Network access technology, 50GPON...[Read More](#)

## Mazlan Othman, Malaysia's First Astrophysicist Professor

Mazlan Othman had been invited by Ambong-Ambong co-founder to talk about space exploration and humanity's place in the cosmos to in-house guests.

One of the first questions Mazlan Othman remembers asking as a nine-year-old was: Why is Mother Teresa going to hell? The reply she got - that the India-based Albanian humanitarian was not a Muslim - stunned her. "I was like, what? It was injustice and I used to rebel against all that."

Years later, she would learn that Islam is progressive and accommodating. In fact, Jewish and Christian scientists in bygone days found refuge in Islamic countries, which advanced because of science.

Over breakfast at Ambong Pool Villas in Langkawi, Mazlan Othman, the nation's first astrophysicist, pauses to accept pineapple juice offered by one of the wait staff - "I like it; it has antioxidants" - and lets on that she basically eats what she likes, whenever she likes. "I have no dietary limitations. I know what's good for me but I don't usually do it," she laughs.

When she trains to climb mountains, though, she follows a strict exercise programme. Her last climb was in 2019, to Gokyo Ri, a 5,300m peak in the Khumbu region of Nepal. There was a subsequent trip but she missed it because "I was 5kg overweight. I still am".

Eleven years ago, she had both knees replaced when her orthopaedic surgeon suggested a long-term solution to the pain. "I was running too many marathons and he had been injecting fluid for three years. I thought surgery was logical and for the best. It was not about the body; it's about the mind."

The conversation with Mazlan Othman moves easily from one topic to another, a delightful reflection of her varied interests. For a start, the titles preceding her name are a mouthful - Professor Emerita Tan Sri Dr. - but she shrugs them off with ease at the resort named after the mer-ambong...[Read More](#)

## PESB Awards US\$5.7M Grant To Malaysian Biotech Startup



"With this support, Biogenes, a Malaysian biotech startup will invest into a medical-grade manufacturing facility, advancing

our technology portfolio," said Tang KM.

Biogenes Technologies Sdn Bhd (Biogenes), a Malaysian

biotech startup, has bagged US\$5.7 million for its Series A funding from Pembangunan Ekuiti Sdn Bhd (PESB), according to a January 18 press release.

The fresh funds from PESB will go towards expanding Biogenes' proprietary technology platforms across Southeast Asia, namely the Philippines and Indonesia where Biogenes has signed collaboration agreements.

"With this support, Biogenes, a Malaysian biotech startup will invest into a medical-grade manufacturing facility, advancing our technology portfolio," said Tang KM...[Read More](#)

## Sabah's Young Scientists Use Seaweed To Replace Plastic Packaging



Students from the MARA Junior Science College in Semporna decided to fight plastic with plastic - a different one, though, made from seaweed.

One of the fastest-growing organisms on Earth, seaweed is a sustainable material to use as a replacement for plastic packaging. It is biodegradable in about four to six weeks.

In Semporna and other parts of the scenic state of Sabah, residents have watched their beaches and coral reefs gradually disappear wrapped in discard-

ed plastic, and animals dependent on the ocean for sustenance poisoned and disfigured as they swallow the indigestible litter.

Aware of the conveniences plastics offer and the impossibility of phasing them out from our lives, students from the MARA Junior Science College in Semporna have come up with a way to counter the pollution problem:

They decided to fight plastic with plastic - a different one, though, made from seaweed, that does not harm marine species...[Read More](#)

## KKMNow Portal Reports 142 Covid-19 Infections On Monday

According to the ministry's GitHub data repository, this is the first time the daily COVID-19 case count has fallen below 200 since September 30, 2020.

The Health Ministry's KKMNow portal recorded that 141 of Monday's COVID-19 infections were locally transmitted, with one imported case. According to the ministry's GitHub data repository, this is the first time the daily COVID-19 case count has fallen below 200 since September 30, 2020.

Malaysia discovered 142 new COVID-19 infections on Monday (Jan 23) bringing the country's total number of cases to 5,034,972 since the pandemic began. The KKMNow portal reported that 267 people recovered from COVID-19 infections, bringing the total number of recoveries in the country to 4,987,828.

As of 11:59 p.m. Monday, Malaysia had 10,212 active COVID-19 cases, with 9,859 (96.5%) observing home quarantine and 337 (3.3%) seeking treatment in hospitals.

KKMNow also reported that as of 11.59 p.m. Monday, 16 COVID-19 patients were being

treated in intensive care units (ICU), with 11 requiring ventilator support. According to the portal, Malaysia's current nationwide hospital utilisation rate is 64.5%, with an ICU utilisation rate of 61.1%.

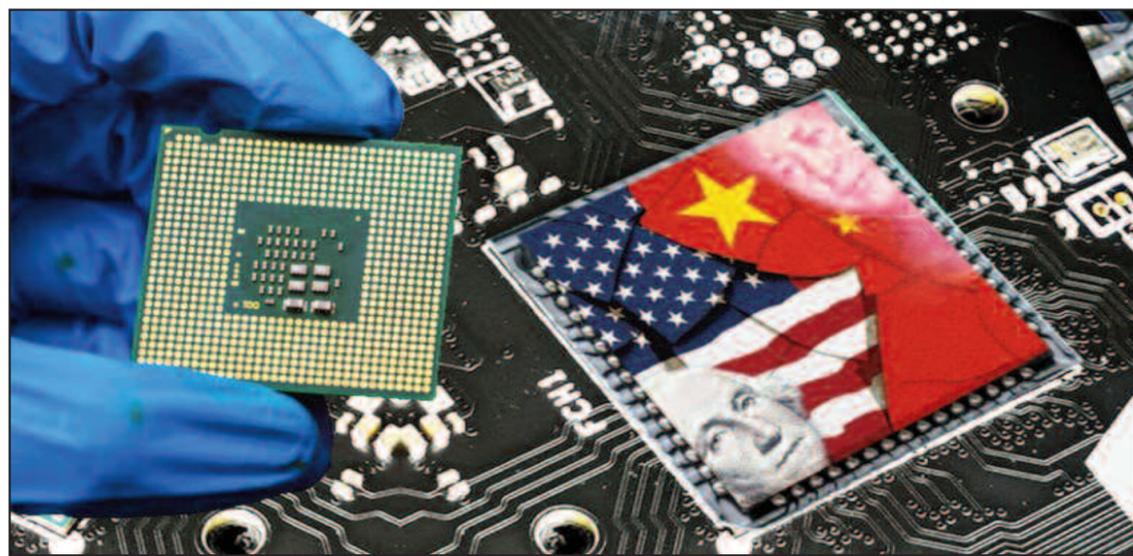
A GitHub data repository is a collection of files and folders that are stored on the GitHub platform and can be shared with others. Data repositories can include a variety of file types such as CSV, JSON, and Excel spreadsheets, as well as scripts and code that can be used to analyze or manipulate the data.

Data repositories can be public, allowing anyone to view and

download the files, or they can be private, requiring permission to access. GitHub also provides tools for collaboration, such as the ability to submit pull requests and track changes to the files in the repository.

KKMNow is a portal or website that provides information and services related to the Ministry of Health Malaysia (KKM). It is a one-stop platform for the public to access information on health services, health facilities, and health programs offered by the KKM. It may also provide online services such as appointment booking and registration for health programs.





## Chip Controls Will Push China To Develop Chipmaking Machines: ASML

Semiconductor companies in China "have to compete" against global rivals, so they want to buy non-Chinese machines, Wennink said on Wednesday.

ASML Holding NV chief executive officer Peter Wennink said US-led export control measures against China could eventually push Beijing to successfully develop its own technology in advanced chipmaking machines.

Semiconductor companies in China "have to compete" against global rivals, so they want to buy non-Chinese machines, Wennink said on Wednesday (Jan 25) in an interview with Bloomberg News at the company's headquarters in Veldhoven, Netherlands. "If

they cannot get those Chipmaking machines, they will develop them themselves. That will take time, but ultimately they will get there."

Semiconductors have become a key battleground for the growing rivalry between the world's two largest economies, as Washington's bid to curb exports of leading-edge technology to China has hit the chip sector.

The Netherlands and Japan, home to key suppliers of semiconductor manufacturing equipment, are close to joining a Biden administration-led effort to curb exports of the technology to China, Bloomberg News has reported. ASML potentially faces more limitations on its sales to

Chinese customers, as the US seeks to undermine Beijing's ambition to build a self-sufficient supply chain.

"The laws of physics in China are the same as here," Wennink said. "The more you put them under pressure, the more likely it is that they will double up their efforts" in building lithography machines that can rival those of ASML, he said.

Last month, China filed a complaint over the US export controls with the World Trade Organization. Beijing said the restrictions threaten the stability of the global supply chain, and that America's national-security justification is dubious. Meanwhile, the country is pausing costly subsidies aimed at building a chip industry to

compete with the US.

Even as The Hague and Tokyo are soon expected to reach an agreement, they likely won't go as far as Washington's restrictions, which not only limit exports of American-made machinery, but also impede US citizens from working with Chinese chipmakers, people familiar with the matter told Bloomberg.

The personnel restrictions that are part of the October measures announced by the US pose "all kinds of issues for people and for companies", Wennink said. "That's never something that you could cheer about."

Earlier on Wednesday, ASML forecast better-than-expected first-quarter sales...[Read More](#)

## StartUP FIU Prouds To Announce GSK Innovation Challenge



GSK creates, medicines and health care products internationally and ranks as one of the largest firms by total sales in the pharmaceutical industry.

Guided by its core principle that social entrepreneurship is the key to solving our world's toughest issues, StartUP FIU is proud to announce the GSK Innovation Challenge, a student-led, experiential learning program sponsored by pharmaceutical giant GSK to tackle health disparities in underserved communities.

"We are thrilled to partner with one of the world's best-known pharmaceutical companies to give students the opportunity to tackle the persistent issues of health disparities in a real-world scenario," says Emily Gresham, assistant vice president for research, innovation and economic development and co-founder of StartUP FIU.

"By working with world-renown experts and mentors in the fields of population health, pharmaceuticals, data modeling and more, our dynamic students will have all the support they need to apply their creativity and novel perspectives to break down these complex barriers to health equity."

GSK creates, manufactures and markets medicines and health care products internationally and ranks as one of the largest firms by total sales in the pharmaceutical industry.

The 12-week challenge began Jan. 19 and focuses on shingles, a virus one-third of U.S. adults will develop in their lifetime. Anyone who has had chickenpox is at risk for shingles, and complications from the virus increase as a person ages. In addition to developing a painful rash, those with shingles can also develop blindness, pneumonia...[Read More](#)

## US Raises Grave Concern Over Mexico's Agricultural Biotech Policies



US raised "grave concerns" over Mexico's agricultural biotech policies in meetings with their Mexican counterparts on Monday.

U.S. farm and trade officials raised "grave concerns" over Mexico's agricultural biotech policies in meetings with their Mexican counterparts on Monday, as lingering disagreements threaten decades of booming corn trade between the neighbors.

Washington's concerns center on the Mexican president's push

to ban so-called biotech corn, or varieties developed with genetically modified organisms (GMOs), from entering Mexico if it is destined for human consumption. The United States accounts for most of Mexican corn imports.

"We made it clear today that if this issue is not resolved, we will consider all options, including taking formal steps to enforce our rights under the U.S.-Mexico-Canada Agreement (USMCA)," the office of U.S. ...[Read More](#)

## US Air Force Selects Howard For Tactical Autonomy Research

US Air Force has selected Howard University as first Historically Black College or University to lead a University Affiliated Research Center.

The Department of the Air Force has selected Howard University as the first Historically Black College or University to lead a University Affiliated Research Center. The center will be focused on tactical autonomy technology for military systems and Howard University will receive \$12 million per year for five years to



fund research, faculty, and students.

"Autonomous systems make our military faster, smarter, and more combat-credible," said Secretary of Defense, Lloyd Austin. "They equip commanders with the best possible information to support life-and-death decisions. And I have no doubt that the advancements that will come out of Howard's new research center will do even more to protect our most precious asset-our men and women in uniform."

The Department of Defense currently has 14 university affiliated research centers. Such centers are responsible for providing dedicated facilities and sharing space with Defense Department officials and industrial participants to conduct basic, applied and technology demonstration research.

"We need a team of decision-makers, researchers, scientists, engineers, and leaders who are committed to security and liberty and are excited to work on some of the world's most important problems, said Secretary of the Air Force, Frank Kendall. "If those with the intent to preserve peace don't solve these technical challenges first, those with malign intent...[Read More](#)

## Scientists Split Over FDA Proposal To Update COVID Vaccines Yearly



Scientists are split about US FDA proposal to update COVID-19 vaccines once a year, similar to agency's approach for annually updating influenza vaccines.

Scientists are split about a US Food and Drug Administration's (FDA) proposal to update COVID-19 vaccines once a year, similar to the agency's approach

for annually updating influenza vaccines. At a meeting of the FDA's vaccine advisory panel on 26 January, some researchers argued that the proposal to offer an updated vaccine every US autumn would help simplify the country's complex COVID immunization schedule and might boost uptake as a result.

But other scientists were less convinced about the timeline — or whether healthy adults should be urged to receive an annual COVID-19 jab at all. Angela Shen, a vaccine specialist at Children's Hospital of Philadelphia in Pennsylvania, says the FDA proposal, released on Monday, is "conceptually not a bad idea"...[Read More](#)

## Tupper Lake Wild Center To Compete For Best Science Museum



The Tupper Lake Wild Center is competing against some of the nation's largest science museums for the title of "Best Science Museum."

According to USA Today, the Tupper Lake Wild Center is competing against some of the nation's largest science museums for the title of "Best Science Museum." The Wild Center is dedicated to bringing the ecosystems and nature of the Adirondacks to your fingertips. Aside from the various exhibits, there are many live animals,

amphibians, insects, and fish for visitors to see up close and learn more about.

"A visit to the Wild Center is different than a lot of other natural history museums or science centres because everything is meant to be touched, played with, or opened," said Nick Gunn, one of the museum's staff members. "We want people to open drawers and feel and get a sense of nature on a visceral level." As of today, the Wild Center is vying for the number one spot...[Read More](#)

## Google's Largest Layoff Ever

Alphabet's headcount had increased 24% from 2021 to 2022, growing from 150,028 to 186,779, the company said in a September regulatory filing.

Google told employees in an email on Friday that it would be cutting 12,000 jobs, or 6% of its global workforce, in its largest layoff ever. In the email, CEO Sundar Pichai told employees that Google had hired aggressively over the past two years to match the dramatic growth it had experienced after the onset of the coronavirus pandemic.

Alphabet's headcount had increased 24% from 2021 to 2022, growing from 150,028 to 186,779, the company said in a September regulatory filing. However, much like other tech companies, the company now finds itself facing a different economic reality, Pichai explained, which forced it to make tough choices.

Employees affected by the layoffs in the U.S. have already received a notice in their emails. International employees may have to wait longer to find out if they were affected due to local laws.

"The fact that these changes will impact the lives of Googlers weighs heavily on me, and I take full responsibility for the deci-

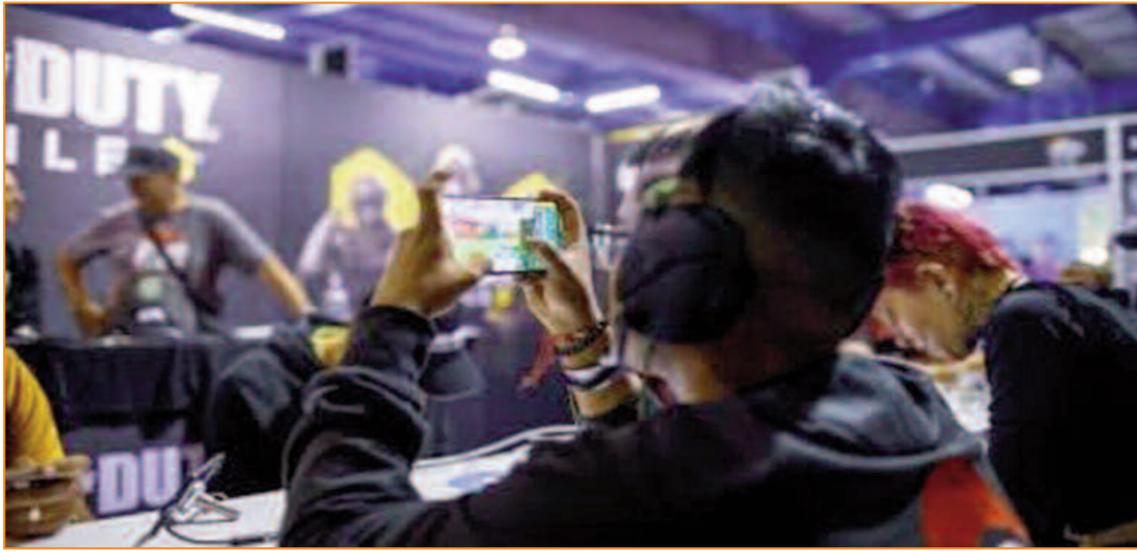
sions that led us here," Pichai said, adding that the company would be hosting a town hall on Monday to answer questions from employees.

The cuts will affect people across Alphabet, Google's parent company, and are a result of a "rigorous review" that aimed to ensure the company's workforce was in line with its highest priorities. One of those priorities is AI, according to Pichai's email.

The Google CEO went on to share the details of the company's severance packages for employees in the U.S. Google will pay employees during the layoff notification period, which will encompass a minimum of 60 days, and offer 16 weeks of

salary plus two weeks for every year they worked at the company. Google will accelerate at least 16 weeks of GSU vesting, or stock awards, and also pay out 2022 bonuses and remaining vacation time. The subject of bonuses has recently caused confusion at Google, which typically pays out bonuses in full in January. However, this year it will pay out 80% of bonuses in January and 20% in March, a sign the company was looking to cut immediate costs. After 2023, the company will pay out full bonuses in March, CNBC reported. In terms of health care, Google will provide layoff employees with 6 months of coverage...[Read More](#)





## African Carry1st, A Gaming Startup Raises \$27M

African Carry1st since its launch in 2018 has raised funding from investors such as Google via its Africa Investment Fund and Avenir Growth Capital.

African Carry1st since its launch in 2018 has raised funding from investors such as Google via its Africa Investment Fund and Avenir Growth Capital.

But more impressive is its backing from top-tier funds focused on web3 and gaming: Andreessen Horowitz (a16z), Konvoy Ventures and now Bitkraft Ventures, the lead investor in its newly announced \$27 million pre-Series B round.

Both a16z and Konvoy participated in this financing round, which included TTV Capital, Alumni Ventures, Lateral Frontiers VC and Kepple Ventures.

"We now have, in our minds,

the three best funds that focus on gaming and web3. And so it just adds even more resources, perspective and assistance to help us achieve our goals," chief executive officer Cordell Robbin-Coker told TechCrunch in an interview.

Last January, African Carry1st announced a \$20 million Series A extension round, which followed the \$6 million it raised in May 2021 from several investors, including Riot Games, the developer and publisher behind the most-played PC game globally, League of Legends.

Sometime last year, Carry1st and Riot Games strengthened that investment by signing a partnership where the South African outfit agreed to pilot local payments for the American video game developer starting in 2023. In other words, Carry1st will act as

Riot's payments partner in Africa.

Robbin-Coker, on the call, said the partnership leverages Pay1st, the gaming startup's monetization-as-a-service platform used for the company's games and that of third-party publishers.

In 2018 when Carry1st launched, it was a game studio that conceptualized, developed and launched mobile games (starting with Carry1st Trivia). While the company still makes its games or recently began acquiring games to improve, relaunch and publish at scale (Mine Rescue and Gebeta), Carry1st also exclusively licenses third-party games.

Pay1st is the embedded finance platform that helps the startup make revenue from both categories: owned games and third-party games, of which Riot Games is one of its clients.

"The partnership [with Riot Games] is our big initiative this year because we built all this cool tech around payments and digital commerce, and we leveraged it only for our games," remarked the CEO, who founded Carry1st with Lucy Hoffman and Tinotenda Mundangepfupfu.

"But we figured that we may as well leverage the opportunity to partner with awesome big game companies that maybe aren't yet ready to license their games to us fully but would like to make more money in the region and understand how profitable Africa can be for them."

Meanwhile, the CEO mentioned on the call that the four-year-old gaming startup has other partnerships, including a "large game licensing deal that we're excited about..." [Read More](#)

## South Africa Signs Science Cooperation MoU With Turkey



South Africa and Turkey have signed a memorandum of understanding (MoU) to facilitate cooperation in science, technology and innovation (STI) between the two countries.

South Africa and Turkey have signed a memorandum of understanding (MoU) to facilitate cooperation in science, technology and innovation (STI) between the two countries.

The MoU was signed by South African Higher Education, Science and Innovation Minister Dr. Blade Nzimande and Turkey Foreign Minister Mevlüt Çavuşoğlu, in Pretoria.

But while the South African Ministry of Higher Education, Science and Innovation announced the establishment of the MoU on Friday, the actual signing ceremony had taken place last Tuesday. No reason for the delay in the announcement was given.

"Both South Africa and Turkey recognize the importance of science and technology in the development of their respective national economies, and the ability of [STI] to improve the standard of living of communities," highlighted the Ministry in its statement.

"The partnership will promote inter-institutional cooperation, exchange of scientists, researchers, technical experts, scholars, joint research, as well as the exchange of science, innovation and technological policy information in advancing science diplomacy between the two countries."

The Ministry added that Nzimande believed that the partnership would benefit both parties. He specifically referred to the spheres of capacity building, the development of scholarly STI cooperation and joint research.

The Ministry further pointed out that the two countries had maintained a "strategic" relationship since 1991. This covered political, economic and cultural relations. The signing of the MoU, it said, would deepen bilateral relations... [Read More](#)

## UNESCO Officially Recognises Senegal As Origin Of Jollof Rice



UNESCO has officially recognised Senegal as the origin of Jollof rice, settling a long-standing debate between West African nations Ghana, Nigeria and Senegal.

UNESCO has officially recognised Senegal as the origin of Jollof rice, settling a long-standing debate between West African nations Ghana, Nigeria and Senegal.

Research shows that Jollof rice originated during the entrenchment of colonial rule in West Africa between 1860 and 1940 when French colonizers

replaced existing food crops with broken rice imported from Indochina.

UNESCO has officially recognised Senegal as the origin of Jollof rice, also known as Ceebu jën in Senegal, settling a long-standing debate between West African nations Ghana, Nigeria and Senegal. The dish, which is a staple in West African cuisine, is made of rice and fish, accompanied by vegetables and sometimes tomatoes. According to research by The Conversation Africa, the origins of Jollof rice can be traced... [Read More](#)

## Africa To Get New \$1B Spaceport In Djibouti

The \$1 billion Djibouti spaceport project will also involve the construction of a port facility, a power grid and a highway to ensure the reliable transportation of aerospace materials.

Africa could soon get a new spaceport after Djibouti signed a partnership deal with Hong Kong Aerospace Technology to build a facility to launch satellites and rockets in the northern Obock region.

According to the preliminary deal, the Djibouti government will "provide the necessary land (minimum 10 sq. km and with a term of not less than 35 years) and all the necessary assistance to build and operate the Djiboutian Spaceport."



The \$1 billion Djibouti spaceport project will also involve the construction of a port facility, a power grid and a highway to ensure the reliable transportation of aerospace materials.

The deal's signing was presided over by the president of Djibouti, Ismail Omar Guelleh, and the project is set to be completed in the next five years. The spaceport is a massive milestone for Africa, making it the first orbital spaceport on African soil.

The preliminary deal, signed in partnership with Touch road International Holdings Group, clears the path for a formal contract signing, planned for March 2023.

A statement by Hong Kong Aerospace Technology notes, "the project would enable the Group to leverage on the resources of the Republic of Djibouti and the business connection of Touch road in Africa, and allow the Group a smooth entrance into the aerospace business in the Republic of Djibouti."

According to Victor Mwangera, Head of the Department... [Read More](#)

## Urban Population Is Declining Human Interactions With Nature



The study reveals that the destruction of natural areas combined with a strong increase in urban population is leading to a growing spatial distance

between humans and nature.

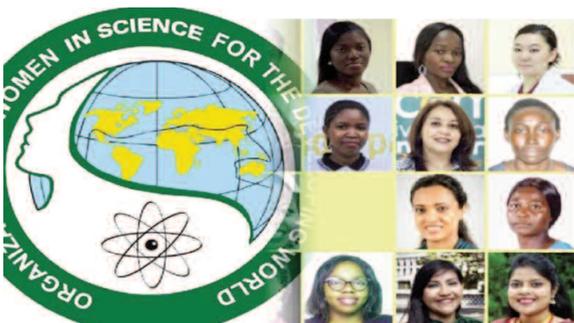
The notion that human interactions with nature are declining due to urban population is widely believed, yet there is little con-

crete evidence to support it. In an effort to gain a clearer understanding of this issue, scientists studied the average distance from people's homes to the nearest areas with minimal human impact, over the past decade.

They discovered that currently, humans on average live 9.7 km away from a natural area, which is 7% farther than in 2000. Europe and East Asia have the greatest average distances to natural areas, for example, 22 km in Germany and 16 km in France.

"What is striking is that all other countries in the world are following a similar pattern," explains... [Read More](#)

## OWSD Announces Early Career Fellowships For 25 Women



The Organization for Women in Science for the Developing World (OWSD) announced that 25 women have been granted the 2022 Early Career Fellowships.

The Organization for Women in Science for the Developing World (OWSD) announced that 25 women have been granted the 2022 Early Career Fellowships.

These scientists will receive up to USD 50,000 to lead research projects and establish research groups at their home institutions to maintain an international standard of research and attract scholars from all over the world to collaborate.

OWSD's early career fellowships support outstanding women scientists to lead impor-

tant research projects and create centers of international excellence in the institutes where they are employed. These institutes are based in the 66 countries identified by OWSD as 'scientifically and technologically lagging' (39 are in Africa). As well as funds to build up laboratories and purchase equipment, the flexible grant pays special attention to the challenges that women researchers face and can be used to hire MSc students and technicians, invite international speakers, produce webinars, develop training programs as well as establish connections with industry. During the 3-year fellowship, fellows will receive specific training... [Read More](#)

## Nambatya Uses Modern Tech For Efficacy Of Traditional Medicines

Grace Nambatya Kyeeyune uses modern technology and clinical trials to help validate the efficacy and safety of products of based on traditional medicines.

Grace Nambatya Kyeeyune uses modern technology and clinical trials to help validate the efficacy and safety of products of based on traditional medicines.

Grace Nambatya Kyeeyune is a natural products research scientist and director of research at the Natural Chemotherapeutics Research Institute (NCRI) in Kampala, which is a part of the Ugandan Ministry of Health that is dedicated to evaluating efficacy for traditional medicines.

She graduated with a bachelor's degree in chemistry from Makerere University in Kampala in 1984, and then joined the NCRI as a scientific officer in the chemistry division.

But it was a bout of eczema, and a failed herbal treatment for it, that motivated her to dive

deeper into medicinal chemistry, earning a master's in 1989 and then a PhD in 1993 at Loughborough University, UK.

There, she learnt methods for extracting drugs from herbs and identifying their mode of action in humans. Now, she is one of the leading natural-products researchers in Uganda, overseeing the evaluation of medicinal plants for treatment efficacy of traditional medicines and safety at the NCRI.

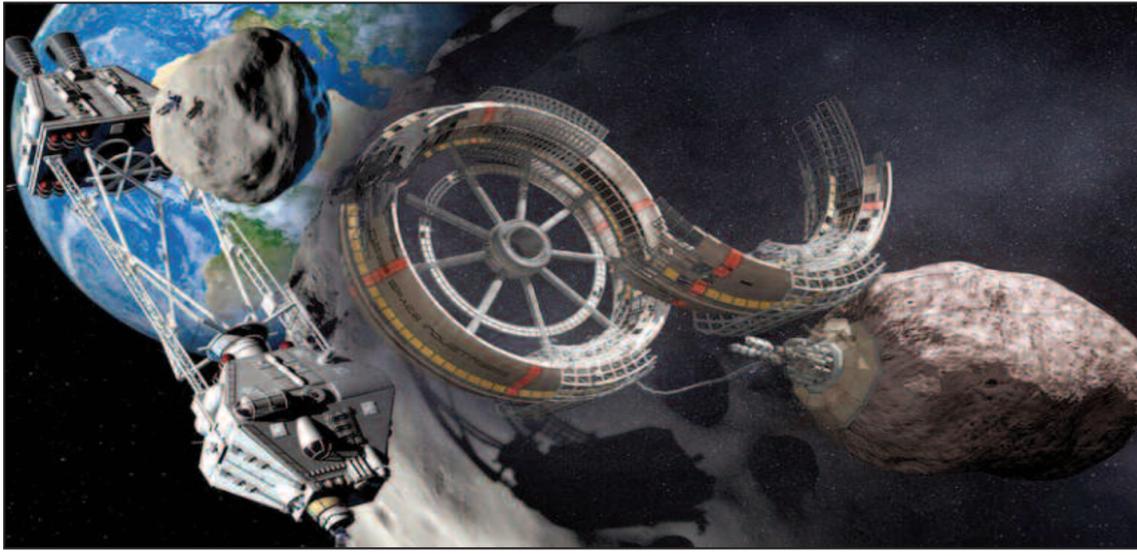
How did you first get interest-

ed in traditional medicine and using modern scientific methods to study them?

My grandfather, like other Africans of his time, used traditional medicine to treat several ailments. As children, we would be given baths in an extract made from the leaves of the omwoloola tree (Entada abyssinica) to treat skin infections, among other conditions.

But my professional interest in traditional medicine was inspired... [Read More](#)





## AstroForge Startup Strives To Be The First Deep Space Mining Firm

AstroForge seeks to capitalize on the rapidly evolving state of the spaceflight industry and become the first firm to mine for metals in deep space.

AstroForge has announced an ambitious commercial mission to observe a distant asteroid—an important step for the California startup as it strives to become the world's first deep space mining company.

AstroForge seeks to capitalize on the rapidly evolving state of the spaceflight industry and become the first firm to mine for metals in deep space. The California startup raised \$13 million in seed funding last year—its first year of existence—and has now formally announced two mining-related

missions that are scheduled to launch within the calendar year.

The company is partnering with several others to make it happen, including OrbAstro, Dawn Aerospace, and Intuitive Machines.

Space is the place, as Sun Ra famously said, and it most certainly has plenty to offer, including rare-earth metals like platinum, gold, iridium, palladium, and osmium, among other minerals. Materials on a single asteroid could fetch trillions of dollars, making asteroid mining a tantalizing prospect.

This idea has been around for decades, but the excessive costs associated with the endeavor have largely made it impossible. That's changing, however, as it's

never been more affordable to launch rockets and manufacture satellites and spacecraft.

AstroForge is targeting platinum-group metals, or PGMs, which are used across a variety of industries. The precious rare-earth metal palladium, for example, is used in catalytic converters, which is why these automotive components are often targeted by thieves. "With a finite supply of precious metals on Earth, we have no other choice than to look to deep space to source cost-effective and sustainable materials," Matt Galich, CEO and co-founder of AstroForge, said in a statement.

The first of AstroForge's two missions is slated to launch in April. A SpaceX Falcon 9 rocket

will launch a 6U cubesat packed with asteroid-like materials. Working in Earth orbit, the OrbAstro-built cubesat will attempt to vaporize and sort the materials into their elemental components. The second mission, scheduled to launch in October, raises the stakes. A Falcon 9 rideshare mission chartered by Intuitive Machines will attempt to send a spacecraft, called Brokk-2, to an asteroid in a heliocentric orbit located 22 million miles (35.4 million kilometers) away. Brokk-2, based on OrbAstro's ORB-50 satellite bus, will observe the target asteroid from a distance in preparation for the company's first bona fide asteroid retrieval mission...[Read More](#)

## Shell Energy Considers Leaving UK, Putting Jobs At Risk



The Coventry-based company provides energy to 1.4 million UK homes and broadband to approximately 500,000 people.

Shell Energy is considering leaving the energy sector, putting up to 2,000 UK jobs at risk. In the face of "tough market conditions," the company announced a "strategic review" of its operations in the United Kingdom, the Netherlands, and Germany.

The Coventry-based company provides energy to 1.4 million UK homes and broadband to approximately 500,000 people.

"No decisions have yet been made on the way forward," a spokesperson said, adding that the review could take months. The company stated that it wanted to "maximise value" and "address performance in difficult market conditions," but did not elaborate on what this meant for job opportunities.

One possibility is to withdraw from the home energy market entirely. Energy companies have been restricted by the Ofgem cap, which will change in April, on how much suppliers can charge for the energy they sell. The cap means firms are obliged to set prices below what it costs them to buy wholesale gas and electricity.

It was reported in May 2022 that 30 energy companies had ceased operations in the UK since August 2021. Shell stated that it remained committed to its business model of producing, buying, trading, transporting, and selling energy globally.

"Our priority remains to ensure that our customers in those countries continue to receive a reliable and affordable energy supply, as well as to provide support for customers who are struggling with energy costs and wider cost-of-living pressures," the company added.

Shell Energy Retail Limited is the UK consumer-facing arm of Shell's energy business. It provides gas, electricity, and broadband services to residential and small business customers in the United Kingdom...[Read More](#)

## Samsung Electronics Announces Launch Of First Flat Mini LED Model



"The gaming monitor market is only going to get bigger, and gamers are now seeking more out of their monitors," said Hoon Chung, Executive Vice President of Visual Display Business at Samsung Electronics.

Samsung Electronics today announced the global launch of Odyssey Neo G7 (Model name: G70NC), the company's first flat Mini-LED model, adding a new form factor to the industry-leading Odyssey lineup. The new monitor delivers a large screen designed to give gamers a more comprehensive range of vision and details — inviting them to the worlds of their games with lifelike picture quality.

"The gaming monitor market is only going to get bigger, and gamers are now seeking more out of their monitors," said Hoon Chung, Executive Vice President of Visual Display Business at Samsung Electronics.

"We are not just delivering better gaming experience — we are rebuilding new smart capabilities into our screens that give gamers an all-in-one place for technology and entertainment. Our innovations are enabling gamers everywhere to stay absorbed in their games with visual performance that enhances...[Read More](#)

## Expanding Seaweed Farming Can Address Planet's Food Security

Seaweed has great potential as a superfood and a building block for products including plastics, fibers and fuel.

Seaweed has great potential as a superfood and a building block for products including plastics, fibers and fuel. Expanding seaweed farming could help reduce demand for crops on land and global GHGs from agriculture by up to 2.6B tonnes of CO2e per year.

New research published in Nature Sustainability shows that expanding global seaweed farming could offer a sustainable alternative to land-based agricultural expansion and go a long way toward addressing the plan-



et's food security, biodiversity loss, and climate-change challenges.

A group of Australian researchers — led by Scott Spillias from the University of Queensland's School of Earth and Environmental Science, who collaborated with a research team from the University of Queensland, the International Institute for Applied Systems Analysis (IIASA), CSIRO and the University of Tasmania — investigated whether seaweed offered a sustainable alternative to land-based agricultural expansion to meet the world's growing need for food and materials.

Spillias started this work as part of his IIASA Young Scientists Summer Program project when he participated in the program in the summer of 2021.

"Seaweed has great commercial and environmental potential as a nutritious food and a building block for products including animal feed, plastics, fibers, diesel and ethanol," he explains. "Our study found that expanding seaweed...[Read More](#)

## Single Oil Spill In Gulf Can Disrupt Global Gas Supply



A maritime area holds the highest risk for single oil spill in the Gulf which can have devastating consequences locally and

globally. A maritime area three times the size of the city of London holds the highest risk for single

oil spill in the Gulf which can have devastating consequences locally and globally.

Over the last year, the world's energy market has been highly volatile. The warmer-than-average winter in Europe helped avoid a gas crisis this year, but the forecast for the next winter is unclear as instabilities persist. More than 20% of global liquefied natural gas exports originate from a single port in Qatar.

A new research paper pinpoints the location of what the authors call a "high vulnerability zone," where a single oil spill could cause liquefied natural gas export facilities...[Read More](#)

## Hogwarts Legacy Bans From Largest Gaming Forum



ResetEra general manager B-Dubs posted a statement on behalf of the gaming forum moderation team accusing Rowling of using her influence to "push transphobic legislation."

Discussion of Hogwarts Legacy has been banned from one of the world's largest gaming forums amid controversy surrounding JK Rowling. The upcoming video game — set in the world of Harry Potter — looks set to be one of the biggest releases of the year, but gaming forum ResetEra has now banned all talk of the release on its platform due to alleged transphobic comments by author Rowling.

In a statement shared by PC Gamer, ResetEra general manag-

er B-Dubs posted a statement on behalf of the gaming forum moderation team accusing Rowling of using her influence to "push transphobic legislation."

It reads: "After continued internal discussion, we began to start outlining the issues put forth by Rowling and the game in question and each time, and as we discussed it all, we kept coming back to the simple fact that Rowling is not only a bigot but is actively pushing, in her position as a wealthy and famous individual, for legislation that will hurt trans people. "That she uses the influence and money gained from her success with Harry Potter to push transphobic legislation...[Read More](#)

## MASK Architects' BAOBAB Resorts To Address Africa's Water Crisis

MASK Architects actively wishes to create self-sufficient communities, by initiating a system where a part of community funds other by being part of tourism.

Influenced by the approach of building community architecture, where innovation, sustainability, and technology come together to cater to water crisis of Africa, expanding tourism industry, and community engagement, is the BAOBAB Luxury Safari Resorts by MASK Architects.

The project proposal consists of a variety of modules as interventions that could fit into any green landscape and function on sustainable strategies, along with mindfully building communities.

The intent behind the BAOBAB Luxury Safari lodges was twofold—to create environmental solutions based on restorative generation processes, finding

a balance between sustainable landscape strategies and technology, and to create self-sufficient communities in the region.

All of which is an attempt at addressing basic need for water

crisis of Africa accessibility for all people, to ensure prevention of hunger and diseases. The project proposed, indirectly, then, looks at bringing in communities to build an independent, healthy lifestyle, redefining the concept of 'luxury' in terms of living.

"Water sources would not be a luxury reserved for the people; water is the source of life for all people and we want to cater water crisis of Africa. It is our mission to provide a unique experience to users by blending beautiful,

attractive, and smart designs with technology and to respond to the needs of users living in the region," share the designers

at MASK Architects, whose soon-to-be-realised project will be the world's first eco-tourism safari lodge.

Through this project, MASK Architects actively wishes to create self-sufficient communities, by initiating a system where a part of the community funds the other by being part of tourism.

They believe that Africa's fear of starvation and scarcity can be combated by providing spaces and open land for agriculture and dairy farming and that these eco-spaces can deliver that in any area, creating an interesting contrast of fabrics that will merge to form a lively environment...[Read More](#)

