Technology Roundup

A NEWS BULLETIN

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Forthcoming Tech Events

- International Conference on Robotics and Automation (ICRA)
- International Conference on Business Management and Social Innovation (ICBMSI)
- International Conference on Environmental Science and Green Technology (ICESGT)
- 170th International Conference on Recent Advances in Engineering and Technology (ICRAET)
- OMAN STEAM Education Conference
- Malaysia HR Teach Conference & Expo 2024
- ASME's Premier Conference on Smart Materials, Adaptive Structures, and Intelligent Systems

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COMSATS Forges Collaborative Partnerships With DGST-KP & RIHS

The partnerships aim to foster a conducive environment for research, innovation, and the application of technology to create impactful solutions for the benefit of society.

The Commission on Science and Technology for Sustainable Development in the South (COMSATS) has inked cooperative agreements with the Directorate General of Science and Technology, Government of Khyber Pakhtunkhwa (DGST-KP) and Rawal Institute of Health Sciences (RIHS). These agreements aim to foster collaboration in emerging technologies, focusing on technological solutions to address developmental challenges.

The agreement between COMSATS and DGST-KP was formally signed by Ambassador Dr. M. NafeesZakaria, Executive Director of COMSATS, and Dr. Sajid Hussain Shah, Director General of DGST-KP. The collaboration spans various areas, including IT and Digitalization, Climate Change and Environment, Human Resource Development, Skills Development, Electric Vehicles, Renewable Energy, Natural Resource Exploitation (Gemstones and Mines), Micro Hydro Plants, and Biomedicine.

World Science Day for Peace and Development 2023 celebration in Pakistan

Celebration of World Science Day for Peace and Development (WSDPD) on November 10 each year has become a regular programme of the Foundation. World Science Day was proclaimed by UNESCO in the year 2001, since then the Foundation in collaboration with the Ministry of Science & Technology and UNESCO is celebrating Science Day and organizes various activities like, Convention of Scientists, Speech Competition among students and Science Exhibitions.

The World Science Day for Peace and Development 2023 celebration in Pakistan underscores a collective commitment to building trust in science.

In commemoration of the World Science Day for Peace and Development, a collaborative initiative brought together the Commission on Science and Technology for Sustainable Development in the South (COMSATS), UNESCO-Islamabad Office, Pakistan Science Foundation (PSF), and ECO Science Foundation (ECOSF) for a Convention of Scientists at the Pakistan Science Foundation.

Since its inception in 2001, the annual celebration of the World Science Day for Peace and Development serves as a poignant reminder of the indispensable role of science in society. The event encourages public engagement in discussions surrounding emerging scientific issues.

This year's theme, 'Building Trust in Science,' places a spotlight on the pivotal role trust plays in the development and application of evidence-based solutions to address complex global challenges.

Recognizing the ever-growing impact of science on daily life and its influence on scientific work and societal perceptions, the partners in Pakistan chose to center their commemoration on 'Strengthening High-Quality and Equitable STEM Education for Sustainable Development.'

The Convention of Scientists, held at the Pakistan Science Foundation on November 15, 2023, brought together scientists, researchers, science communicators, government officials, and science journalists. The event provided a dynamic platform for thought-provoking discussions on the multifaceted importance of science, its interconnectedness with various aspects of people's lives, and its implications for sustainable development.

As part of the commemoration, the organizers planned three interactive sessions for students at the Pakistan Museum of Natural History on November 15 and 16, 2023.

These engaging sessions focus on hands-on activities, including DNA extraction from fruits, effective laboratory and science communication, and experiments exploring the concept of inertia. The initiatives aim to cultivate students' interest in STEM fields and inspire the next generation of scientists.

The World Science Day for Peace and Development 2023 celebration in Pakistan underscores a collective commitment to building trust in science. The emphasis on high-quality STEM education aligns with the broader vision of fostering sustainable development through science-based knowledge and education.

The event's theme, 'Building Trust in Science,' resonates with the global recognition of the importance of trust in scientific endeavors. Trust is closely linked to the understanding of scientific knowledge and plays a crucial role in informing science-based policy decisions. The celebration in Pakistan contributes to the international dialogue on the significance of science in promoting peace, development, and the well-being of societies.

The collaborative efforts of COMSATS, UNESCO-Islamabad Office, PSF, and ECOSF in observing the World Science Day for Peace and Development 2023 in Pakistan reflect a commitment to advancing scientific knowledge, fostering trust, and inspiring the next generation of scientists through innovative STEM education initiatives.

Pakistan Starts Sovereign VC Fund to Lure Startup Investors Back

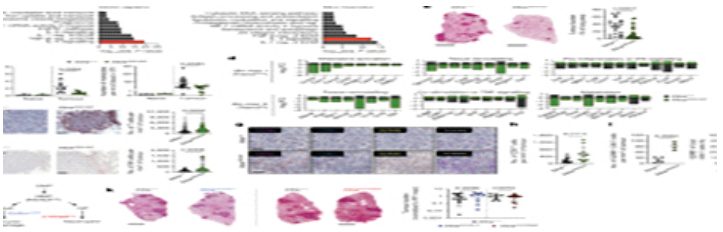
Pakistan is launching a venture capital fund for local early-stage startups, seeking to lure global investors back to the South Asian country. The fund aims to allocate as much as $10 million annually, Umar Saif, Pakistan's minister for information technology and telecommunications, said in an interview.It'll back companies that manage to gather most of the round from other sources, targeting startups seeking $2 million to $3 million, he said. The government wants to give global investors an additional incentive to back young Pakistani companies. Fundraising by the country's startups has slumped to a fraction of the record $700 million they garnered over 2021 and 2022, according to Invest2Innovate. Venture investors pulled back from emerging markets as economies slowed and interest rates and inflation levels jumped. “Pakistan is setting up this fund where they want to entice global investors at an early stage,” Saif said in Islamabad. Saif, a graduate of the Massachusetts Institute of Technology and Cambridge University, is a startup industry veteran. He launched a state-backed incubation program in 2012, years before the nation's startup economy took off. He is now part of an interim

administration in charge until a February general election. Among Saif's other goals is the introduction of a mandatory internship program for university students. Pakistan's tech industry lags behind other emerging markets partly because a majority of graduates aren't skilled enough for employment, he said. To further help the tech industry, Saif plans to create a network of offices for freelancers. He's also proposing to make Pakistan a hub in China's project to connect with Africa and Europe through a fiber-optic cable. Pakistan can be used as a base to link Central Asia into the project, Saif said.

Pakistan Unveils Strategic Plan for Climate Action, Sustainable Growth

Pakistan's Ministry of Planning, Development, and Special Initiatives on Sunday launched a far-reaching plan to combat climate change while promoting sustainable development, as outlined in the National Climate Change Policy (NCCP). The NCCP, approved in 2021, aims to integrate climate change considerations with other national policies and build climate-resilient infrastructure, advancing sustained economic growth.A key element of the policy is the National Climate Finance Strategy (NCFS), developed to identify priority sectors and amplify climate finance. The NCFS is described as pivotal to Pakistan's commitment to the Paris Agreement, emphasizing the mobilization of private sector investment, international climate finance, and carbon markets.

A type of allergy medicine might help treat lung cancer

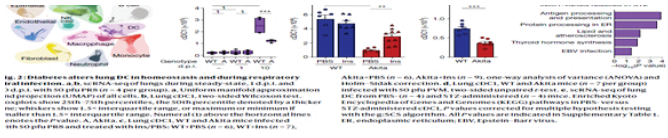


Researchers at the Icahn School of Medicine at Mount Sinai have identified an allergy pathway that, when blocked, unleashes antitumor immunity in mouse models of non-small cell lung cancer (NSCLC). And in an early parallel study in humans, combining immunotherapy with dupilumab -- an Interleukin-4 (IL-4) receptor-blocking antibody widely used for treating allergies and asthma -- boosted patients' immune systems, with one out of the six experiencing significant tumor reduction. "A big focus of our program TARGET is to use single cell technology and artificial intelligence to identify molecular immune programs that can dampen tumor immune response to checkpoint blockade." Also known as a PD1 inhibitor, checkpoint blockade is a type of cancer immunotherapy that can unleash the cancer-killing activity of T cells.

"Using single cell technologies, we discovered that the immune cells infiltrating lung cancers, as well as other cancers we studied, exhibited characteristics of a 'type 2' immune response, which is commonly associated with allergic conditions like eczema and asthma," says first study author Nelson LaMarche, PhD, a postdoctoral research fellow in the lab of Dr. Merad.

Their findings validate our commitment to funding research across the entire discovery continuum, from the lab to clinical implementation, driven by cutting-edge technology and data. We're eager to witness our support delivering new hope by uncovering pathways to enhance checkpoint blockade responses. We champion this discovery and take pride in being part of its journey from lab to clinic, reinforcing our commitment to transforming lives," says Jill O'Donnell-Tormey, PhD, CEO and director of scientific affairs at CRI.

Why people with diabetes are more prone to respiratory risk



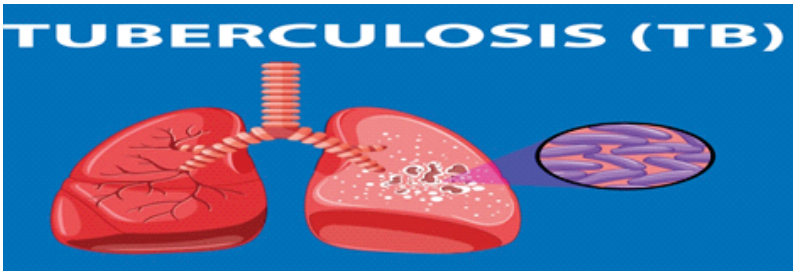
Research has revealed how, in diabetics, high levels of blood sugar disrupt the function of key cell subsets in the lungs that regulate the immune response. It also identifies a potential strategy for reversing this susceptibility and saving lives.For decades, it has been known that people with diabetes are at a substantially increased risk of developing severe lung disease if they become infected with viruses such as influenza, as well as with bacteria and fungi. When the COVID-19 pandemic started in early 2020, this mysterious phenomenon gained even more pressing importance: It became clear that people with diabetes were at a significantly higher risk of coming down with severe, even fatal, lung disease after developing a serious form of the virus, but no one understood why. In fact, some 35 percent of people with COVID-19 who died during the pandemic had diabetes.

Now, research conducted at the Weizmann Institute of Science and published in Nature has revealed how, in diabetics, high levels of blood sugar disrupt the function of key cell subsets in the lungs that regulate the immune response. It also identifies a potential strategy for reversing this susceptibility and saving lives.

Importantly, the scientists discovered how high sugar levels in diabetic mice disrupt the normal function of lung dendritic cells during infection. Altered sugar metabolism in these cells led to the accumulation of metabolic byproducts that markedly disrupted the normal regulation of gene expression, leading to aberrant immune protein production. "This could explain why the functioning of these cells is disturbed in diabetes, and why the immune system is unable to generate an effective anti-infection defense," says Kolodziejczyk, a postdoctoral fellow who co-led the study as a first coauthor.

To build better tuberculosis vaccines, researchers develop new model by leveraging an old vaccine

Each year, tuberculosis (TB) kills more people than any other infectious disease, falling out of the top spot only temporarily during the COVID-19 pandemic.

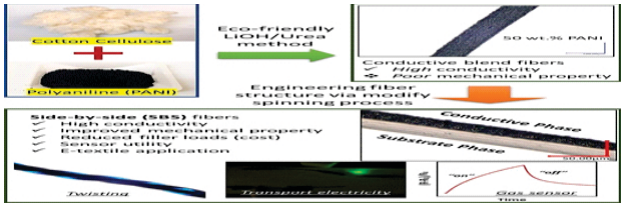


Despite TB's wide reach and some lost progress during the COVID-19 pandemic, researchers believe it is possible to eradicate TB through advances in vaccine development and public health. To cross the finish line, scientists must find ways to test new vaccines rapidly to prevent TB infections more effectively.Hoft, who also serves as professor and chair of infectious diseases, allergy, and immunology at the Saint Louis University School of Medicine, sought data that could only be gathered by challenging the human immune system directly. This approach, Hoft hypothesized, could provide answers to some TB unknowns. For example, TB animal models do not fully mimic how the bacteria behaves in people, and vaccine developers do not have well-defined data about what TB immune responses offer optimal protection against the bacteria.

Mycobacterium tuberculosis, the bacteria that cause TB, however, is too dangerous for human challenge with the fully pathogenic bacteria. The team needed to find another, safer

way to challenge the human immune system to find answers to their questions.
Hoft found a workaround in the Bacillus Calmette-Guérin (BCG) vaccine.
The most widely used vaccine in history, with more than 4 billion doses given to patients since 1921, the BCG vaccine contains a live but weakened version of the TB bacteria. The BCG vaccine is given to newborns to reduce their TB risk, but it is less effective against pulmonary TB and often wanes in effectiveness, providing little to no protection in adults.
With the BCG vaccine, Hoft saw a chance to gather data about TB in a human study without the risk of exposing participants to full strength M. tuberculosis bacteria. To test this idea, the researchers gave 92 healthy adults the BCG vaccine, with participants receiving one of four different doses.
With participants' immune response to the BCG vaccine serving as a proxy for their exposure to a true infection, the researchers gathered much-needed data about how the immune system responds when it encounters TB.
The team applied a battery of analysis methods to samples collected from the BCG challenge sites and blood, looking for associations between BCG at the injection site, and immune responses as well as gene expression changes in blood.
The findings open up new doors for TB vaccine development.
"Our findings are important for two reasons," Hoft said. "First, this approach could enable us to screen new TB vaccines early in the pipeline and prioritize the most promising concepts, saving time and money."
"Second, we have a model to better determine what a new vaccine needs to do to protect against TB. We will be able to identify biomarkers indicating whether new vaccines could better protect someone against TB."

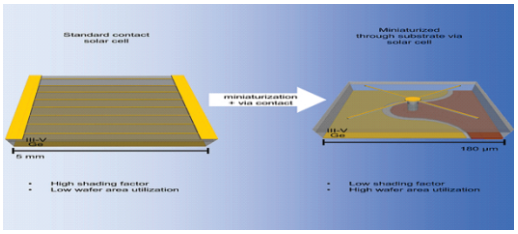
New conductive, cotton-based fiber developed for smart textiles



A single strand of fiber developed at Washington State University has the flexibility of cotton and the electric conductivity of a polymer, called polyaniline.The new material has shown good potential for wearable e-textiles. The researchers tested the fibers with a system that powered an LED light and another that sensed ammonia gas. While intrinsically conductive, polyaniline is brittle and by itself, cannot be made into a fiber for textiles. To solve this, the researchers dissolved cotton cellulose from recycled t-shirts into a solution and the conductive polymer into another separate solution.
The newly developed material showed good potential for wearable e-textiles.
The WSU researchers tested the fibers with a system that powered an LED light and another that sensed ammonia gas, detailing their findings in the journal Carbohydrate Polymers.
The result showed good interfacial bonding, meaning the molecules from the different materials would stay together through stretching and bending.
Achieving the right mixture at the interface of cotton cellulose and polyaniline was a delicate balance, Liu said.
"We wanted these two solutions to work so that when the cotton and the conductive polymer contact each other they mix to a certain degree to kind of glue together, but we didn't want them to mix too much, otherwise the conductivity would be reduced," she said.

Revolutionary breakthrough in the manufacture of photovoltaic cells

The University of Ottawa, together with national and international partners, has achieved a world first by manufacturing the first back-contact micrometric photovoltaic cells.The cells, with a size twice the thickness of a strand of hair, have significant advantages over conventional solar technologies, reducing electrode-induced shadowing by 95% and potentially lowering energy production costs by up to three times.



The technological breakthrough -- led by Mathieu de Lafontaine, a postdoctoral researcher at the University of Ottawa and a part-time physics professor; and Karin Hinzer, vice-dean, research, and University Research Chair in Photonic Devices for Energy at the Faculty of Engineering -- paves the way for a new era of miniaturization in the field of electronic devices.

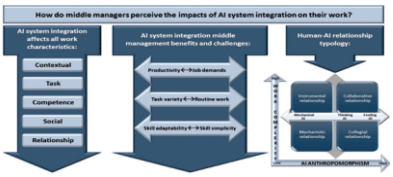
The micrometric photovoltaic cell manufacturing process involved a partnership between the University of Ottawa, the Université de Sherbrooke in Quebec and the Laboratoire des Technologies de la Microélectronique in Grenoble, France.

"These micrometric photovoltaic cells have remarkable characteristics, including an extremely small size and significantly reduced shadowing. Those properties lend themselves to various applications, from densification of electronic devices to areas such as solar cells, lightweight nuclear batteries for space exploration and miniaturization of devices for telecommunications and the internet of things," Hinzer says.

"This technological breakthrough promises significant benefits for society. Less expensive, more powerful solar cells will help accelerate the energy shift. Lightweight nuclear batteries will facilitate space exploration, and miniaturization of devices will contribute to the growth of the internet of things and lead to more powerful computers and smartphones," de Lafontaine says.

This international partnership between Canada and France illustrates the importance of innovation and research in micromanufacturing, leading the way to a future in which technology will become more powerful and accessible than ever.

AI alters middle managers' work



The introduction of artificial intelligence is a significant part of the digital transformation bringing challenges and changes to the job descriptions among management. A study conducted at the University of Eastern Finland shows that integrating artificial intelligence systems into service teams increases demands imposed on middle management in the financial services field. In that sector, the advent of artificial intelligence has been fast and AI applications can implement a large proportion of routine work that was previously done by people. Many professionals in the service sector work in teams which include both humans and artificial intelligence systems, which sets new expectations on interactions, human relations, and leadership.The study analysed how middle management had experienced the effects of integration of artificial intelligence systems on their job descriptions in financial services.

"The productivity of work grows when routine tasks can be passed on to artificial intelligence. On the other hand, a fast pace of change makes work more demanding, and the integration of artificial intelligence makes it necessary to learn new things constantly. Variation in work assignments increases and managers can focus their time better on developing the work and

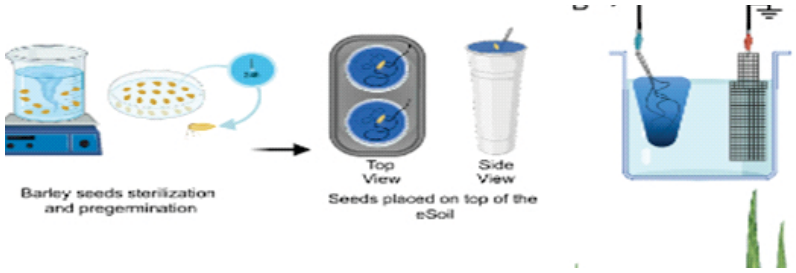
on innovations. Surprisingly, new kinds of routine work also increase, because the operations of artificial intelligence need to be monitored and checked," says Assistant Professor Jonna Koponen.

"Artificial intelligence was sometimes given a name, and some teams even discussed who might be the mother or father of artificial intelligence. This led to different types of relationships between people and artificial intelligence, which should be considered when introducing or applying artificial intelligence systems in the future. In addition, the employees were concerned about their continued employment, and did not always take an exclusively positive view of the introduction of new artificial intelligence solutions," Professor Saara Julkunen explains.

Aspects observed in the study showed that managing service teams with integrated artificial intelligence requires new skills and knowledge of middle management, such as technological understanding and skills, interactive skills and emotional intelligence, problem-solving skills, and the ability to manage and adapt to continuous change.

"Artificial intelligence systems cannot yet take over all human management in areas such as the motivation and inspiration of team members. This is why skills in interaction and empathy should be emphasised when selecting new employees for managerial positions which emphasise the management of teams integrated with artificial intelligence," Koponen observes.

Electronic 'soil' enhances crop growth



Barley seedlings grow on average 50% more when their root system is stimulated electrically through a new cultivation substrate. In a study published in the journal PNAS, researchers from Linköping University have developed an electrically conductive "soil" for soilless cultivation, known as hydroponics."The world population is increasing, and we also have climate change. So it's clear that we won't be able to cover the food demands of the planet with only the already existing agricultural methods. But with hydroponics we can grow food also in urban environments in very controlled settings," says Eleni Stavrinidou, associate professor at the Laboratory of Organic Electronics at Linköping University, and leader of the Electronic Plants group.

Her research group has now developed an electrically conductive cultivation substrate tailored to hydroponic cultivation which they call eSoil.

The Linköping University researchers have shown that barley seedlings grown in the conductive "soil" grew up to 50% more in 15 days when their roots were stimulated electrically.

Hydroponic cultivation means that plants grow without soil, needing only water, nutrients and something their roots can attach to -- a substrate.

It is a closed system that enables water recirculation so that each seedling gets exactly the nutrients it needs.

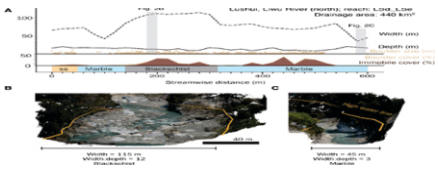
Therefore, very little water is required and all nutrients remain in the system, which is not possible in traditional cultivation.

Hydroponics also enables vertical cultivation in large towers to maximise space efficiency.

Crops already being cultivated in this manner include lettuce, herbs and some vegetables.

Grains are not typically grown in hydroponics apart for their use as fodder.
In this study the researchers show that barley seedlings can be cultivated using hydroponics and that they have a better growth rate thanks to electrical stimulation.
"In this way, we can get seedlings to grow faster with less resources. We don't yet know how it actually works, which biological mechanisms that are involved. What we have found is that seedlings process nitrogen more effectively, but it's not clear yet how the electrical stimulation impacts this process," says Eleni Starvrinidou.
Mineral wool is often used as cultivation substrate in hydroponics.
Not only is this non-biodegradable, it is also produced with a very energy intensive process.
The electronic cultivation substrate eSoil is made of cellulose, the most abundant biopolymer, mixed with a conductive polymer called PEDOT.
This combination as such is not new, but this is the first time it has been used for plant cultivation and for creating an interface for plants in this manner.

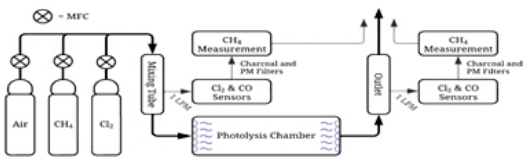
Drones capture new clues about how water shapes mountain ranges over time



Drones flying along miles of rivers in the steep, mountainous terrain of central Taiwan and mapping the rock properties have revealed new clues about how water helps shape mountains over geological time, according to a team led by Penn State scientists.The researchers found a link between the size of boulders in the rivers and the steepness of the rivers. The link shows how rock properties can influence the relationship between tectonic processes happening deep underground and how mountainous landscapes change shape. They reported in the journal Science Advances.
As tectonic plates collide and form mountain ranges, rocks that were previously buried in the Earth's crust are pushed to the surface in a process called uplift. The temperature and pressure that these rocks experience leads to variability in rock properties -- like rock hardness or the spacing and orientation of fractures -- that then affect how easily they are eroded by elements at the surface, the scientists said.
"Determining the controls on river incision into rock is important for understanding how mountain ranges evolve over geologic time," DiBiase said. "But some key parameters for testing models of river incision, such as flow depth and sediment cover, are difficult to measure at large scales."

Researchers Invent 'Methane Cleaner': Could Become a Permanent Fixture in Cattle and Pig Barns

In a spectacular new study, researchers from the University of Copenhagen have used light and chlorine to eradicate low-concentration methane from air. The result gets us closer to being able to remove greenhouse gases from livestock housing, biogas production plants and wastewater treatment plants to benefit the climate. The research has just been published in the journal *Environmental Research Letters*.The Intergovernmental Panel on Climate Change (IPCC) has determined that reducing methane gas emissions will immediately reduce the rise in global temperatures.



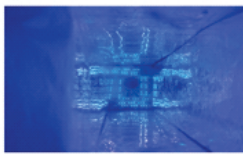


Figure 3. Flow chart of the laboratory setup. The main flow is shown with the larger black arrows. The smaller grey arrows sh the measurement streams. The gas input is controlled with mass flow controllers (MFCs). The photolysis chamber has a volur of 90 l, and can be seen with the lights on in the photo on the right.

The gas is up to 85 times more potent of a greenhouse gas than CO2, and more than half of it is emitted by human sources, with cattle and fossil fuel production accounting for the largest share.

A unique new method developed by a research team at the University of Copenhagen's Department of Chemistry and spin-out company Ambient Carbon has succeeded in removing methane from air.

"A large part of our methane emissions comes from millions of low-concentration point sources like cattle and pig barns. In practice, methane from these sources has been impossible to concentrate into higher levels or remove. But our new result proves that it is possible using the reaction chamber that we've have built," says Matthew Stanley Johnson, the UCPH atmospheric chemistry professor who led the study.

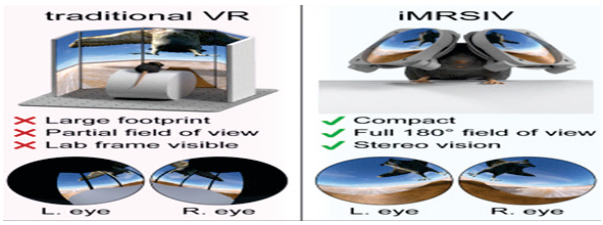
Earlier, Johnson presented the research results at COP 28 in Dubai via an online connection and in Washington D.C. at the National Academy of Sciences, which advises the US government on science and technology.

"Methane decomposes at a snail's pace because the gas isn't especially happy about reacting with other things in the atmosphere. However, we've discovered that, with the help of light and chlorine, we can trigger a reaction and break down the methane roughly 100 million times faster than in nature," explains Johnson.

Source: University of Copenhagen - Faculty of Science. "Researchers invent 'methane cleaner': Could become a permanent fixture in cattle and pig barns." ScienceDaily.

Immersive VR goggles for mice unlock new potential for brain science

Northwestern University researchers have developed new virtual reality (VR) goggles for mice. Besides just being cute, these miniature goggles provide more immersive experiences for mice living in laboratory settings. By more faithfully simulating natural environments, the researchers can more accurately and precisely study the neural circuitry that underlies behavior.Compared to current state-of-the-art systems, which simply surround mice with computer or projection screens, the new goggles provide a leap in advancement. In current systems, mice can still see the lab environment peeking out from behind the screens, and the screens' flat nature cannot convey three-dimensional (3D) depth. In another disadvantage, researchers have been unable to easily mount screens above mice's heads to simulate overhead threats, such as looming birds of prey.



The new VR goggles bypass all those issues. And, as VR grows in popularity, the goggles also could help researchers glean new insights into how the human brain adapts and reacts to repeated VR exposure -- an area that is currently little understood.

The research will be published on Friday (Dec. 8) in the journal Neuron. It marks the first time researchers have used a VR system to simulate an overhead threat.

"For the past 15 years, we have been using VR systems for mice," said Northwestern's Daniel Dombeck, the study's senior author. "So far, labs have been using big computer or projection screens to surround an animal. For humans, this is like watching a TV in your living room. You still see your couch and your walls. There are cues around you, telling you that you aren't inside the scene. Now think about putting on VR goggles, like Oculus Rift, that take up your full vision. You don't see anything but the projected scene, and a different scene is projected into each eye to create depth information. That's been missing for mice."

Dombeck is a professor of neurobiology at Northwestern's Weinberg College of Arts and Sciences. His laboratory is a leader in developing VR-based systems and high-resolution, laser-based imaging systems for animal research.

SOURCES AND IMAGE CREDITS

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FORTHCOMING TECH EVENTS

PAKISTAN

- Rethinking Teaching (RTT): A Course (Re)Design Workshop January 18 - 23, 2024. Teaching & Learning Commons, Aga Khan University - Stadium Road Campus, Karachi http://www.aku.edu/
- International Applied Business Research Conferences(IABRC) (21st - 22nd feb,2024) Avenue International Islamic University Islamabad www.iiui.edu.pk
- International Workshop on Curriculum Development Through Project Based Learning and CDIO January 9th,2024 , Avenue Allama Iqbal Auditorium, Faisal Mosque, Islamabad Supported By British Council International Islamic University Islamabad.

INTERNATIONAL

- International Conference on Robotics and Automation (ICRA) , Date: January 7th, 2024, Venue: Dubai, United Arab Emirates
- International Conference on Business Management and Social Innovation (ICBMSI) , Date: January 8th, 2024, Venue: London, United Kingdom
- International Conference on Environmental Science and Green Technology (ICESGT) , Date: February 10th, 2024, Venue: Sydney, Australia
- 170th International Conference on Recent Advances in Engineering and Technology (ICRAET) , Date: February 21st, 2024, Venue: Bangkok, Thailand
- OMAN STEAM Education Conference , Date: February 21st, 2024, Venue: Muscat , Oman
  Malaysia HR Teach Conference & Expo 2024 , Date:March 5th, 2024, Venue: Kuala Lumpur, Malaysia
- ASME's Premier Conference on Smart Materials, Adaptive Structures, and Intelligent Systems , Date:September 9th , 2024, Venue: Atlanta, United States of America
  AccessAbilities Expo 2024 , Date:October 7th ,2024, Venue: Dubai, United Arab Emirates

TECH AND TRADE OFFERS

Shah Trading Corporation

About Shah Trading Corporation

Shah Trading Corporation is the name of quality and trust. we are importer and distributor of Alphakill Alphamost 10SC, Alphakill Mostyn SRD 13, Vipona Fipronill 25 EC, Brobait Anticoagulant Roadenticide Wax Blocks and Vehicle Mountable Fog Generators With An Excellence of 38 years.
Shah Trading Corporation have done many projects with biggest

companies and clients all over pakistan with its High Quality Services and products ,known for the clean-up mission of insects anywhere.
We have been located on Ferozepur Road Lahore From the start of the business and providing services as well with high quality products

Our Services

- Fumigation Services
- Anti-Termite Treatments
- Spray Fogging Services
- Rat Treatment Services
- Lizard Control Services
- All Kind of Small Insect Treatment Services

Contact Us

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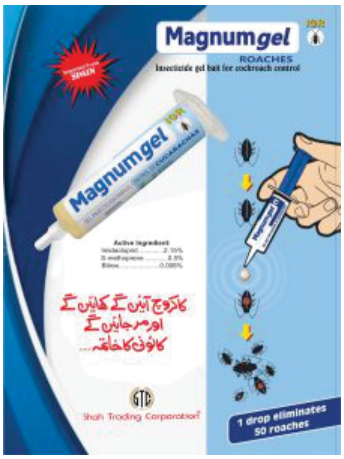
Email: info@shahtradingcorp.com
Web: https://shahtradingcorp.com



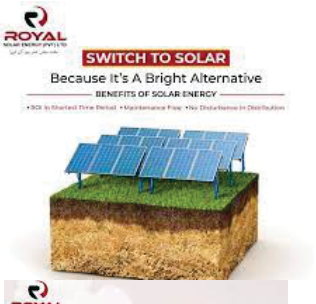
Royal Solar Energy Pvt

Royal Solar Energy

About Royal Solar Energy Pvt

Royal Solar Energy Pvt. Ltd is an Importer, and wholesale distributor of solar PV system components with warehouses in Multan, Lahore, Faisalabad, Islamabad, and Karachi, providing service across Pakistan. We carry residential and commercial grid-tie products and products for industrial and small off-grid applications.
With over eight years of combined experience, we understand the challenges of the market and have made it our mission to provide high-quality, reliable, and innovative products with honest and friendly service. We proudly employ trained solar individuals with a background in renewable energy.

We continuously train our employees for changes in technology and refresh their previous learning. Additionally, staying updated with industry trends, emerging technologies, and consumer behavior is crucial to stay ahead in the ever-evolving digital landscape.



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Our Services

- Residential
- Commercial
- Agriculture

About PASTIC

PASTIC serves as a gateway for Scientific & Technological Information for R&D by catering to the information needs of researchers, entrepreneurs, industrialists, educationists, policy makers and planners through anticipatory and responsive information services.

Technology Information Section works exclusively for support and promotion of technological information on trade and industry in the country.

"Technology Roundup" is a news bulletin that provides latest and innovative technology news, and forthcoming events. It also promotes products, technologies and services globally in sectors such as Agro Industry, Bio-Technology, Building Material, Business, Chemicals, Electronics, Energy, Fisheries, Food Processing, Machinery, Packaging, Mining, Pharmaceuticals and Textiles.

Please give us your feedback and address queries to tis.pastic@gmail.com