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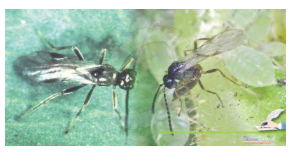
Masood Hasan, a leading technologist of the country and the father of chemical engineering of Pakistan, passed away after a glorious innings spread 95 years

Opinion on page 03

Shamail Abbas

OPINION

Physiology Of Relation Of Parastoid And Host



Danyal Haider Khan, Muhammad Zaryab Khan, Muhammad Ashir, Raees Saleem

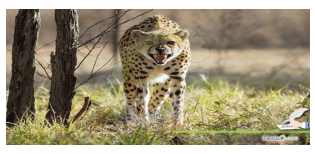
Environmental adaptability and physiological relationship with the host organism is one of the descriptive feature insect parastoids.

Alteration in the Physiology of Host

There has been significant potential of interaction with host in many true parasites and they assist them in many of their physiological processes and only kill them when the development stage of wasp is completed. First of all, the immune system reacts against the egg and juvenile stages of pararstoids which is the foremost threat these creature have to avoid.

Page No 03

Asiatic Cheetah Conservation Challenges



Saikat Kumar Basu

A latest camera trap image from Iran shows a critically endangered subspecies only after a long survey with camera traps.

The Asiatic cheetah now found only in Iran with numbers only approximately around fifty or less. Iran has been trying their best to save it from extinction; unfortunately that has got much harder as the latest economic sanctions imposed recently by USA has made international aids for conservation purpose to disappear. International donations is where they get most of the money required towards the cheetah conservation efforts.

Page No 04

Challenges In Winning Research Grants For Early-Career Researchers In Pakistan Seven Things You Should Know

M. Haseeb Shakil

The term "early-career researchers" refers to the professionals in their first four years of research activities.

Early career researchers face many challenges in funding, publications, and career progression.

When you start a career as a researcher, you have to balance many different professional tasks.

Early Career Researchers are often engaged in the community and institutional service, conducting research, presenting, and writing.

The first five to six years of your career is a time when you are expected to build up your research profile and professional resume.

There is pressure to secure research funding and publish articles.

Page No 04

TikTok, Zindagi Trust Extend Collab To Drive Digital Safety Awareness

TikTok and Zindagi Trust held a signing ceremony in front of the MoITT, which supported the Digital Safety programme.

With the backing of the Ministry of Information Technology and Telecommunications, TikTok and Zindagi Trust have announced an expansion of their partnership with the goal of raising awareness of digital safety.

Over 50,000 beneficiaries across 100 public schools in all of Pakistan's provinces will be impacted by this renewed partnership, which is a part of TikTok's global initiatives for Safer Internet Month. A bigger number of schools will have access to this campaign thanks to the Pakistan Telecom Foundation, which has also joined this partnership.

TikTok and Zindagi Trust held a signing ceremony in front of the MoITT, which supported the Digital Safety programme. Around 1800 students, teachers, and parents benefited from more than 20 workshops held in the first phase of this partnership, which was started last year, at the two government schools adopted by Zindagi Trust: SMB Fatima Jinnah and Khatoon-e-Pakistan.

The workshops covered a wide range of topics related to staying safe online, such as safety rules and the TikTok Community Guidelines. "We are happy to extend our partnership with Zindagi Trust, especially after the impact we were jointly able to create around digital safety awareness during the first phase," said Farah Tukan, Head of Government Relations and Public Policy – Middle East, Turkey, Africa, Pakistan, and South Asia at TikTok.

This extension is yet another positive step in maintaining the online security of our TikTok community in Pakistan. The government prioritizes working actively to create safer online environments, according to the federal minister of information technology and telecommunications.

The collaboration between Zindagi Trust and TikTok is a positive step towards educating young people about the need for digital safety and guiding them in that direction. For the benefit of our younger generation, we look forward to adding value to this partnership.

"We are fully committed to developing a cutting-edge digital infrastructure in Pakistan that guarantees a secure cyberspace and a supportive regulatory environment for everyone. We hope to foster e-governance, transparency, and financial inclusion by supporting this partnership between TikTok and Zindagi Trust, despite the many difficulties and dangers associated with the internet, such as fake news, data privacy, security...***Read More***

Young Doctors Advised To Learn Medical Skills From Seniors

Dr. Muhammad Shoaib stated that in order to advance their skills in practical aspects of the medical profession, doctors may actively participate in professional activities and workshops.

Young doctors should acquire the most expertise possible through cutting-edge research and technology, and they should take advantage of every opportunity to pick the brains of more experienced doctors for professional training and medical skills.

The president of the Pakistan College of Physicians and Surgeons (CPSP), Professor Dr. Muhammad Shoaib Shafi, made these remarks on Friday while serving as the chief guest at the Pakistan Society of Gastroenterology 2023's inaugural ceremony.

He stated that in order to advance their skills in the practical aspects of the medical profession, doctors may actively participate in professional activities and workshops.

He extended a warm welcome to the foreign delegates attending the conference and expressed gratitude to the entire organising team, including Professor Dr. Ghiyas-un-Nabi Tayyab, Professor Israr-ul-Haq Toor, for making it a success.He extended a warm welcome to the foreign delegates attending the conference and expressed gratitude to the entire organising team, including Professor Dr. Ghiyas-un-Nabi Tayyab, Professor Israr-ul-Haq Toor, for making it a success.

While highlighting the conference's goals and objectives, Dr. Ghiyas stated that doctors would be able to stay current on their knowledge thanks to the international conference. He claimed that these programmes were really advantageous for patients as well as medical staff.

Medical professionals from Thailand, America, Great Britain, Saudi Arabia, Canada, and other nations, along with Pakistani doctors, diagnosed liver, stomach, and intestinal diseases today and displayed their cutting-edge techniques, according to chief organiser Dr. Israr-ul-Haq Toor.

He added that doctors' professional and medical skills would be enhanced by the global research being done and that experiences related to the care and research of the elderly would have significant effects in the days to come.He stated that there would be numerous scientific question and answer sessions for the young doctors, and that the conference would last until Sunday, February 26...***Read More***

Russia Declares Interest To Contribute In Pakistan's Hydro Power Projects

Moscow has expressed interest in the 2160 MW Dasu stage-II hydropower project, as The News reported on Friday.

A senior official of the Economic Affairs Division claims that Russia has declared its interest in contributing electro-mechanical machinery to mega hydro power projects Diamer, Bhasha, and Dasu of Pakistan.

Moscow has expressed interest in the 2160 MW Dasu stage-II hydropower project, as The News reported on Friday. Additionally, the Moscow company "Power Machines" has offered to provide the electromechanical machinery for the Diamer-Bhasha Dam Project (4500 MW; comprising 12 units of 375 MW capacity each).

During the Inter-Governmental Commission (IGC) meeting held in Islamabad from January 18–20, a representative of Russia reportedly offered to supply electromechanical machinery.

Pakistan announced that stage II of the Dasu project won't start before 2026, welcoming Russia's willingness to help with the projects' construction. While Pakistan has requested assistance in creating SCADA (supervisory control and data acquisition) systems and distribution system automation, the Russians are also interested in grid facilities.

More importantly, the Russians have requested information on the hydro power projects of Pakistan under consideration for development under the Government-to-Government (GtG) mode, which includes: I The Thakot 1, 2, and 3 Hydropower projects (ii) the Kari-Mashkur...***Read More***

Pakistani Invention Echotherapeutic Wave Device Wins US AUTM Award

"Our Pakistani colleagues deserve congratulations for coming up with their invention to improve the world for people with neurological diseases," said the organization's director.

On the final day of the "Association of University Technology Managers" (AUTM) in America, an Echotherapeutic Wave Device, a medical device created by a Pakistani university, won a significant award.

The recognition is given as part of the Better Place 2023 project and serves to highlight the unit's commercial viability. Experts from Pakistan's National University of Science and Technology College of Electrical and Mechanical Engineering (CME) developed it.

By emitting waves, this device lessens conditions like autism and cerebral palsy. Echo was recognised as a significant invention in the final round of AUTM 2023, which was held in Austin, Texas, in the United States. "Our Pakistani colleagues deserve congratulations for coming up with their invention to improve the world for people with neurological diseases," said Steve Susalka, the organization's director.The "Echotherapeutic Wave Device," as it is officially known, boosts nerve activity in the body and brain by sending out vibrational waves...***Read More***

Govt Adopting Unique Approach To Raise Polio Awareness

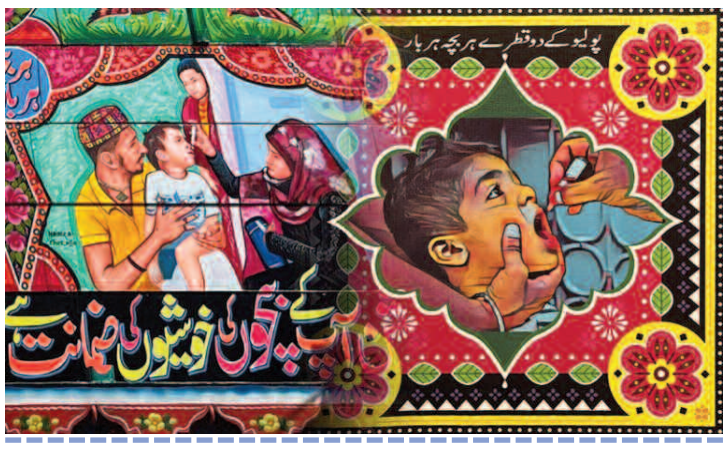
The Pakistani government is taking a novel approach to raising public awareness about polio by using locally produced truck art to help prevent the spread of the crippling virus.

The Pakistani government is taking a novel approach to raising public awareness about the polio by using locally produced truck art to help prevent the spread of the crippling virus.

Federal Minister for National Health Services said on Friday, at the launch of a new anti-polio campaign that the government would print public service messages in local languages on trucks travelling through Khyber Pakhtunkhwa and Afghanistan to educate the population.

He said that truck art was a unique and deep-rooted part of Pakistan's cultural heritage, which "will be now used for a cause to eradicate polio through educating people in high-risk areas". The government uses truck art to raise polio awareness.

He stated that the various appealing and persuasive messages about the polio and the importance of vaccination would be printed on the trucks in the four provinces' local languages for public understanding.



"We are working to develop a comprehensive strategy for polio eradication in the country. All available resources will be used for this purpose "According to minister.

He stated, "Vaccination is the most effective way to protect children from polio, despite the fact that there is no cure. Each time a child under the age of five is immunized, their immunity to the virus improves ".

He claimed that repeated immunizations had protected millions of children from polio, allowing almost all countries in the world, with the exception of Pakistan and Afghanistan, to become polio-free. Minister stated, "Vaccinating all children under the age of five is the only way to stop the virus. It is critical that parents and carers ensure...***Read More***

Provincial IT Minister Praises State Of Art Facility For Tech Startups

Pakistan needs more progressive facilities such as this one to facilitate the young entrepreneurs & thriving tech startups of Pakistan." Said Tanzila.

Provincial IT minister and the chairman of the Standing committee on Higher, Technical Education and Research in Sindh, praised for creating a state-of-the-art facility for tech startups to grow and thrive from while adding value to the startup ecosystem of Pakistan.

"Pakistan needs more progressive facilities such as this one to facilitate the young entrepreneurs & thriving tech startups of Pakistan," said Tanzila.

"I hope they succeed in their vision by enabling synergies and growth across the tech sector, especially during these tumultuous economic times. We will continue to support their initiatives." She added.

The event was attended by one of the few unicorns in the country presently, Jonas Deizun– the former co-Founder of Razor group that went on to raise over USD 1 billion. Jonas & his team are currently working on a generative AI-based tech startups' facility, Beam. So and occupy private offices in Pakistan.

They currently host 144 seats of which 70% capacity has been pre-booked and sold out or is in discussion with various Canadian, US & Pakistan based tech startups...***Read More***

Workshop Held To Identify Challenges Of Okara's Industrial Water Users

"Improved water governance will boost industrial output and contribute to GDP." M. Mazhar Okara Chamber of Commerce & Industry, delivered the welcome remarks.

To determine the difficulties faced by industrial water users in the district of Okara, the International Water Management Institute (IWMI) Pakistan organized a consultative workshop on water issues with the Okara Chamber of Commerce and Industry.

In welcoming the participants and stakeholders, Dr. Mohsin Hafeez, Country Representative for Pakistan and Regional Representative for Central Asia at the IWMI, emphasised the effects of climate change on Pakistan and its industrial sector.

He also discussed how IWMI Pakistan will improve water governance in district Okara through enhanced water availability for various sectors, particularly the industrial sector, as part of the FCDO-funded Water Resource Accountability in Pakistan (WRAP) Programme Component 1: Climate Resilient Solutions for Improving Water Governance (CRS-IWaG)....***Read More***

To Meet Oil Demand, CN-PK Collab Provide Hybrid Seeds To Farmers

The annual consumption of cooking oil in Pakistan is around 5 million tons, but due to the low economic potential of the oilseeds industry, farmers do not prefer it.

The annual consumption of cooking oil in Pakistan is around 5 million tons, but due to the low economic potential of the oilseeds industry, farmers do not prefer it. To meet demand, the country must import approximately 89 percent of its oil, costing the country 3.6 billion US dollars per year.

Ghazanfar Ali, Evyol Group's head of marketing, told Xinhua that it took them ten years to develop hybrid seeds variety that is compatible with the local climate, produces a good yield, and is good for human health.

When discussing the crop's potential, he stated that its standard 2 kg pack is enough to cultivate 2 acres of land, and the farmer can get 1.5 tons of yield out of it, which is more than 10% more than the yield from other varieties currently available in Pakistan.

Zhou Xusheng, director of Wuhan Qingfa Hesheng Seed Company's international business department, told Xinhua that his company is working on transferring technology to Pakistan to make it more efficient in smart agriculture.

"Through this project, we hope to transfer harvesting technology so that farmers can use attachments on harvesters they already own to reduce waste," he explained. His company also plans to install processing units across the country, so that people in villages can install them and produce processed oil for themselves and sell it to others, according to Zhou.

He stated that the hybrid seed is suitable for the environment throughout Pakistan, and this year they sold 11 tons of seeds across the country, which will be cultivated on 20,000 acres, with a target of 100 tons for next year, which will bring a significant change to Pakistan by assisting the country in becoming self-sufficient in edible oil production.

Zhou added that the Chinese company will also buy back some of the farmers' canola harvest and send it to edible oil factories so that both farmers and factory owners can realise the potential and health benefits of the oil.

"Pakistan spends a lot of money to import oil and only receives the finished product. However, when oil is produced locally, it creates job opportunities, builds an industrial chain, and uses the cakes left over from oil extraction as a high-energy canola meal for cattle," he went on to say. Chattha stated that they have over 800 cows in the dairy farms in the area and that, in order to provide them with good quality food...***Read More***

British Council Pakistan Announces Scholarships For Women In STEM

The scholarship program, which is in collaboration with 21 universities in the UK, "will offer scholars a fully-funded master's degree or an Early Academic Fellowship at a UK university.

The third cohort of Scholarships for Women in STEM (science, technology, engineering and math) was made public on Friday by the British Council Pakistan .

In a press release, it was stated that more than 100 scholarships were available for women STEM scholars from Asia and the Americas to pursue a master's degree in the UK, 48 of which were designated for women STEM scholars from Pakistan and other South Asian nations. These scholarships were given out on a merit basis without regard to a particular country's cap.

Through their exposure to the knowledge in the renowned STEM fields in the UK, the selected women scholars will be able to advance their careers in STEM and encourage research and innovation in their own nations.

The scholarship programme, which is in collaboration with 21 universities in the UK, "will offer scholars a fully-funded master's degree or an Early Academic Fellowship at a UK university, including covering tuition fees, stipend, travel expenses, visa fees, health coverage fees, special support for mothers, and English language support," it said.

By actively participating in the alumni network, the scholars will have a long-lasting platform to connect with the UK and encourage the next generation of female STEM professionals. 15 women scholars from Pakistan were among the 115 scholars chosen worldwide for the previous cohort, according to the statement. Amir Ramzan, Country Director for the British Council in Pakistan, said "UK has a world-renowned higher education sector...***Read More***

Government To Establish Science & IT Uni In Parachinar: Minister

This science and information technology IT university at Parachinar will allow students to receive top-notch higher education right in their own backyards.

The government will establish a public sector science and information technology IT university at Parachinar in the Kurram tribal district, according to the federal minister for overseas Pakistanis and human resource development, who made the announcement on Friday.

This science and information technology IT university at Parachinar will allow students to receive top-notch higher education right in their own backyards. These opinions were shared by Minister during a meeting at the civil secretariat with Khyber Pakhtunkhwa's interim minister for higher education, Justice (Retd) Irshad Qaiser.

A lot of students in the Kurram district would be able to save time and money by attending the university, according to him, so its establishment was urgently needed.

The minister claimed that land was available for the university's construction, which would take some time, so it should be established in Parachinar using existing structures. He claimed that the government was supporting technical education and had plans to send about one million educated Pakistanis abroad to find work.

In November of last year, the Minister met with Dr. Mukhtar Ahmed, Chairman of the Higher Education Commission (HEC), to discuss this.

In order to ensure that students in the region could pursue higher education without difficulty and without being denied their fundamental right to higher education,...***Read More***

Experts Urge To Adopt Treated Wastewater Technology In Agriculture

This practise is becoming more popular around the world as a result of the need to increase food production and the world's growing water scarcity.

Experts at an international debate at the University of Agriculture Faisalabad advocated for the use of treated wastewater technology in agriculture to combat irrigation water shortages and droughts.

This practise is becoming more popular around the world as a result of the need to increase food production and the world's growing water scarcity.

They spoke at an international seminar on "Agroecological and social interventions of reused water irrigation in a gastroenteritis context," co-hosted by the University of Agriculture Faisalabad's Departments of Agronomy and Rural Sociology. Prof. Dr. Iqrar Ahmad Khan, Vice Chancellor...***Read More***

Pakistan's Wind Power Projects To Supply Electricity To National Grid

All 36 WPPs will become operational, according to Chairman of the Pakistan Wind Energy Association, though it is unlikely that they will be dispatched at full capacity.

Wind power projects (WPPs) in Pakistan are anticipated to begin transmitting electricity to the national grid in the following 10 days after months of nominal power generation.

All 36 WPPs will become operational, according to Rumman Arshad Dar, Chairman of the Pakistan Wind Energy Association, though it is unlikely that they will be dispatched at full capacity.

Transmission lines from these projects in the Sindh regions of Jhimpir and Gharo to the national grid are currently blocked, infringing on the 2006 Policy for Development of Renewable Energy for Power Generation.

The overproduction of electricity in the South region has slowed down the flow of electricity into the North region, delaying the dispatch of WPPs.

The South region has recently seen a surge in newly installed capacity, from wind and coal to nuclear, and this has caused the transmission network to "choke." As of December 2022, wind power capacity makes up only 2.5% of the country's total energy mix, despite having a 4.5% installed capacity share.

The Pakistan Wind Energy Association intends to meet with the National Electric Power Regulatory Authority and the National Power Control Center in the second half of March to develop a long-term solution to the curtailment issue faced by Wind power projects.

The NPCC will begin deploying WPPs in about 10 days. To be able to plan ahead and shut down non-renewable plants when there is wind, the NPCC has demanded wind forecasts.

Transmission line construction slowed down for a number of reasons, including a sharp increase in cement and steel prices, widespread flooding, and complications resulting from right-of-way issues.

In order to produce electricity, wind turbines are primarily used in wind power or wind energy. In comparison to burning fossil fuels, wind energy is a well-liked, environmentally friendly, renewable energy source.

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"Programming today is a race between software engineers striving to build bigger and better idiot-proof programs, and the Universe trying to produce bigger and better idiots. So far, the Universe is winning."

--Nick Cook

Shamail Abbas

Organizations like COMSTECH (Commission for Science and Technology for OIC) remains ineffective due to inappropriate leadership, vision and guidance

While Science Consumes, Technology Produces A Tribute To Engr Masood Hasan

Engr Masood Hasan, a leading technologist of the country and the father of chemical engineering (Chem-1) of Pakistan, passed away after a glorious innings spread over 95 years.

The Defence Production sector was developed under his vision and leadership during the decade of the 1970s. Pakistan Aeronautical Complex Kamra, Heavy Industries Taxila, expansion of Pakistan Ordinance Factories, reorganization of SUPARCO and several other smaller projects were started during that period. After completing his masters in Industrial Chemistry from the Punjab University, he went on to study Chemical Engineering at the Case Western Reserve University USA from where he received an MS Degree in 1948.

He was hired by Unilever and attended their executive management programme in UK. There was no looking back; the 'Technologist' had been launched. He started local manufacturing of several Unilever products that included Dalda Banaspati as well. From there he moved to Wazir Ali Industries for the launch of Tullo Banaspati and Treet Soap.

Masood Hasan moved back to Lahore in the 1960s where he launched a consulting firm by the name of EWP Consultants which played a key role in bringing the first-generation computer to Pakistan. Later he founded United Consultants before being appointed Federal Secretary Defence Production by the Bhutto regime. He was not alone; with him, several technocrats were inducted through lateral entry into senior administrative positions.

The Defence Production sector was developed under his vision and leadership during the decade of the 1970s. Pakistan Aeronautical Complex Kamra, Heavy Industries Taxila, expansion of Pakistan Ordinance Factories, reorganization of SUPARCO and several other smaller projects were started during that period.

Masood Hasan maternal uncle Hamid Ghani, who was Chief Engineer in Pakistan Railways at the time of Partition, was appointed Project Manager to build POF Wah in 1953. After completing the ordnance factory, he was sent to build the Karachi Shipyard. Between the two, half of Pakistan's basic industrialization took place. They remain, unsung heroes of the country, as they neither sought publicity nor self-projection. While Ghani Sahib is buried in Karachi, Hasan Sahib chose Lahore.

He served briefly with the Zia regime and returned to his home town to launch another consulting firm by the name of EMMAY Associates where he worked till his retirement about ten years ago. During this period the Doon School Boys got together to build Chand Bagh School on the Muridke-Sheikhupura link road on the pattern of their founding institution.

In the 1973 version the idea was dropped and it is time to revisit this approach as there is dichotomy between the NAB laws and the Common Law that our courts follow

It is a not-for-profit residential school where students are taught social responsibilities to keep their campus and surrounding localities clean. It is the Doon School version of Pakistan. Lt. Gen (R) Ghulam Jillani Khan and Hasan Sahib, both Doon School alumni, led this project from the front with a vision to develop university-level education at the same location. With a campus spread over 190 acres it will perhaps one day emerge as an Education City.

In 2017 he was invited to speak at the annual Dr Khalifa Abdul Hakim Lecture Series where he delivered a very powerful speech on 'Technology and Development'. He strongly advocated the need of developing and applying appropriate technologies leading to socio-economic development. His definition of technology was simple," A tool to solve problems all sorts".

According to him, there was a time when people approached philosophers for answers, now technology has taken over that role, for which qualified technologists are needed. Scientific research world over has resulted in technological advancement through a well-developed framework and linkage between academia and industry. This approach has not been adopted by the Islamic Ummah.

Organizations like COMSTECH (Commission for Science and Technology for OIC) remains ineffective due to inappropriate leadership, vision and guidance. In the decade of the 1970s, the National Commission for Science and Technology, which reported directly to the Prime Minister, was established to foster technological growth but it remains dormant due to bureaucratic control. Technical ministries like Science and Technology should be led by technocrats rather than bureaucrats.

Unfortunately, in the land of the pure the importance of technology is grossly misunderstood and overlooked. Technology is the application of science to produce products and facilitate human effort. Technology takes over where science reaches its limit. What works in the laboratory under controlled conditions has to be mass produced by understanding and application of technology.

While science consumes, technology produces. I had the opportunity of working on his team for over a decade before taking on the Chairmanship of the Pakistan Science Foundation. His parting words were, "One can achieve a lot if one does not seek credit or personal benefits". That was the generation that laid the foundations of the new land.

Pakistan needs Technology to move forward and become an Asian Tiger like China, Malaysia, Singapore, Taiwan, and South Korea our derailment has to come to an end

Together we worked on projects of national importance. In the 1990s the Saindak Copper and Gold project had started. Due to lack of large-scale commercial mining experience in the country, the venture was in trouble from day one. It was my first opening in the land of the pure. While we did our best to ensure complete transfer of technology together with building a trained work force, no one within the organization or the federal ministry was interested.

It seemed everyone had their own agenda to seek personal benefits.

Despite warnings the entire project was handed over to the Chinese contractor, who have been mining there for the last about 20 years and now seek extension to dig out the remaining copper, gold and silver.

Had the transfer of technology taken place at that time we would have been in a position to develop the Reko Diq project ourselves instead of the big mess that we face today. He insisted on Administrative Accountability instead of judicial that we have today. Masood Hasan propagated the development of Standard Operating Procedures (SOPs) as a first step towards accountability. He always quoted Article 212 of the constitution of 1972 that called for the establishment of Administrative Courts for this purpose. In the 1973 version the idea was dropped and it is time to revisit this approach as there is dichotomy between the NAB laws and the Common Law that our courts follow. As Hasan Sahib was a close friend of Ikramullah Niazi, a fellow engineer and father of Imran Khan, he has been briefed about this approach of effective accountability.

In the year 2002, together we prepared the first Shadow Budget of the country from the platform of the Lahore Chamber of Commerce and Industry (LCCI). We proposed massive increases in the areas of education and health while balancing the budget. The criticism of the current budget (2020-2021) continues while no one has done any homework to present alternative figures of proposed expenditures. Political parties in the country no longer work for common good of the citizens, instead they have become anchors of status quo.

interesting reading: Powassan Virus Infection—A Novel Reemerging Tick-Borne Disease

Corona has reset the world economic order; the aftershocks of the pandemic have to be catered for. A lot of planning is required both by the government and the opposition. Small but mandatory items like face masks are out of reach of the daily wage earners.

Danyal Haider Khan

In contrast, juvenile hormone (JH) biosynthesis in vitro by corpora allata explanted from host early last (5th) instar larvae, is slightly affected by T. nigriceps parasitism, as is JH metabolism. However, the resulting higher JH titre in early 5th instar larvae parasitized by T. nigriceps, before pupal commitment, may contribute to their developmental arrest

Physiology Of Relation Of Parastoid And Host

By Danyal Haider Khan, Muhammad Zaryab Khan, Muhammad Ashir, Raees Saleem

Environmental adaptability and physiological relationship with the host organism is one of the descriptive feature insect parastoids.

Alteration in the Physiology of Host

There has been significant potential of interaction with host in many true parasites and they assist them in many of their physiological processes and only kill them when the development stage of wasp is completed. First of all, the immune system reacts against the egg and juvenile stages of pararstoids which is the foremost threat these creature have to avoid. Furthermore these parastoids have to alter the chemical and metabolic processes of the host organism to make favorable environment for its reproductive succession. The most unique and highly developed mechanism of altering host metabolic and physiological processes is found in the parasites of order Hymenoptera, in which the combination of regulation factors not only of embryonic origin but also of maternal origin. An obligate symbiotic virus that has a very specific life cycle and belongs to the family of Poldnaviridae is found in association with the larvae of endophagous lepidopteran parastoids and it is linked directly to the lives of both host and parastoids.

Genome of wasp contain all types of viruses into their constitution as proviruses that they pass through germline, Double stranded circular DNA molecules of viral particles are produced in the female ovary. In the host, PDV gene expression is responsible for several pathological symptoms observed in parasitized individuals, such as suppression of the immune system and disruption of the endocrine balance. These alterations of host physiology and development are of fundamental importance to the parasitoid progeny, which, in their absence, would be killed by host blood cells (haemocytes) and would not find the appropriate biochemical milieu required for growth and development. A endophagous parasitoid of the tobacco budworm carries a polydnavirus (TnBV), actively replicating in the wasp's ovary.

Nutrient acquisition and Allocation from host :

Nutrient acquisition and allocation strategies of parasitoids are strongly linked to two components of life-history: (i) egg production and (ii) mode of parasitism. For the former, parasitoids can be divided into pro-ovigenic species that emerge as adults with a fixed complement of mature eggs and synovigenic species that continue to mature eggs during the adult stage. Pro-ovigenic parasitoids allocate nutrient reserves during the adult stage to maintenance, while synovigenic parasitoids confront the decision of whether to allocate reserves to egg production, maintenance, or both. Parasitoids actually exhibit a continuum of ovigeny that can be indexed. Relatively few species are strictly pro-ovigenic and synovigeny ranges from species that emerge with most eggs mature to species that emerge with no mature eggs while in another study parasitoids were divided into idiobionts, whose hosts cease development after parasitism and koinobionts, whose hosts remain mobile and continue to grow. All idiobionts are either ectoparasitoids that paralyze their hosts or endoparasitoids that parasitize sessile host stages like eggs or pupae. Most koinobionts in contrast are endoparasitoids that parasitize insect larvae. Egg production and mode of parasitism strategies are also interrelated. Parasitoids that exhibit extreme synovigeny, for example, are all idiobionts that produce yolk-rich (anhydropic) eggs and low ovigenic indices, whereas koinobionts tend to produce yolkdeficient (hydropic) eggs and have high ovigenic indices. Since idiobionts parasitize hosts of static size, selection favors oviposition on larger, late-stage hosts, which suffer lower mortality rates and thus select for larger egg sizes and concomitantly lower fecundities . Most idiobionts are also ectoparasitoids whose eggs require a pre-packaged yolk source for development. Reciprocally, the ability of koinobionts to attack hosts of variable size favors parasitism of early stage larval hosts that suffer higher mortality rates and thus, favor smaller eggs and larger fecundities. The production of smaller, yolk-deficient eggs is also probably favored in koinobionts by: (i) endoparasitism and access to host nutrients for embryonic development; and (ii) the inability of koinobionts to feed on the mobile, often aggressive, hosts they attack.

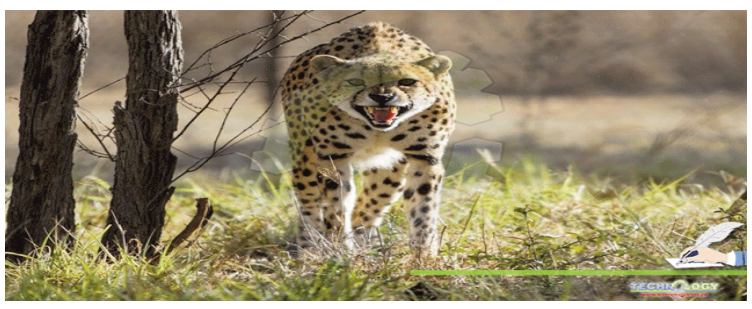
Role of viral Particals in Parasitism:

When T. nigricepsoviposits, it injects into the host body the egg along with TnBV particles, which contain the segmented viral genome. The parasitoid embryo is surrounded by a serosal membrane that, at hatching, dissociates into single rounded cells, the teratocytes . These cells freely float in the host haemocoel, and, as the parasitoid larva develops, they increase in size and ploidy level, without undergoing division. TnBV and teratocytes are the two major host regulation factors, respectively of maternal and embryonic origin, responsible for the physiological alterations induced by parasitization. The functional and molecular bases of host disguise, mediated by T. nigriceps parasitism, are currently being investigated in our laboratories.

The disruption mechanism of host hormonal balance has been further studied, and TnBV genes...***Read More***

Saikat Kumar Basu

Lack of cooperation and egoistic approach of India and Iran destroyed the reintroduction of Asiatic lions in Iran in exchange for reintroduction of Asiatic cheetahs into India.



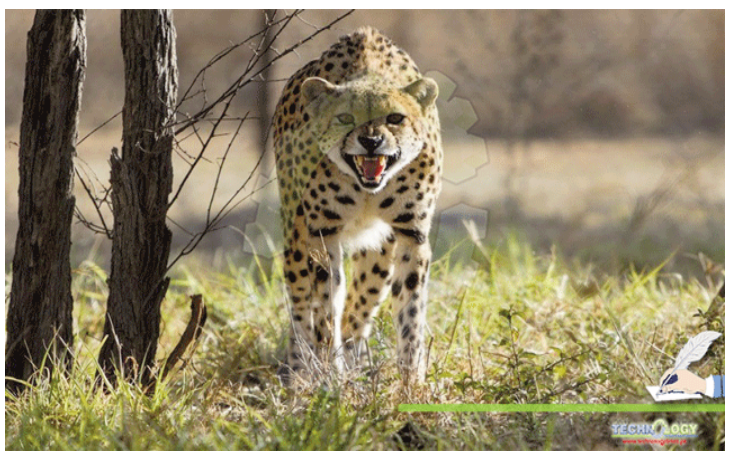
Asiatic Cheetah Conservation Challenges

A latest camera trap image from Iran shows a critically endangered sub-species only after a long survey with camera traps.

The Asiatic cheetah now found only in Iran with numbers only approximately around fifty or less. Iran has been trying their best to save it from extinction; unfortunately that has got much harder as the latest economic sanctions imposed recently by USA has made international aids for conservation purpose to disappear. International donations is where they get most of the money required towards the cheetah conservation efforts.

It is sad that Asiatic cheetahs are doomed for extinction in next three decades. Iran is neither capable of conservation as well successful captive breeding gnif the species. Not will they share the animals with adjacent countries where they have more funding and necessary resources for multiplication and conservation of the species. Unfortunately international geopolitics together with failed diplomacy and related socio-political reasons have been an aggravating factor promoting the path for rapid extinction of Asiatic cheetahs. Where international cooperation has been necessary, diplomatic, economic and political isolation of Iran from the rest of the world is responsible for the rapid demise of the majestic indigenous big cat species from the continent of Asia. India is experimentally introducing African cheetahs into the country under surveillance and monitoring with species collected from South Africa and Namibia. The animals will possibly do good and multiply in India; but they are genetically different from the Asiatic cheetah. Lack of cooperation and egoistic approach of India and Iran destroyed the reintroduction of Asiatic lions in Iran in exchange for reintroduction of Asiatic cheetahs into India. Unfortunately, the political mess and lack of vision and maturity trimmed the bud of conservation efforts before it could take shape. How unfortunate it is that we are silently looking towards the extinction of an apex predator from the ecosystem due to our inaction and political and diplomatic differences. India has repeatedly tried to get this species to be reintroduced in a few former ranges, but different sanctions and slow bureaucratic and diplomatic actions have impacted this ambitious project in the past several times.,

However, there are opposite views to such reintroduction efforts too. Many opponents of the project has raised the question as why should other animals be trapped and relocated for an animal that is not even native. According to them it is more of a business proposition than wildlife conservation effort. Prominent opponents raised the points as "Ranks and books can only get you to a certain point. Common sense and survival in the wild for the wild is when you'll understand that it's wrong.



They are trapping leopards fencing huge areas and the ultimate goal is to have 36 cheetahs in our country in one park…cheetahs need 1000s of square kilometres…next is going to be some other park and wildlife that will suffer for a African cheetah and the tourists that want to see it. This is not a ecological decision. Pure business and fame. We can't take care of what we have and bringing animals from a different country…great decision by high ranking officials that haven't been to most of the forests. With all due respect when you know the ground reality of our native Wildlife than its hard to understand the "introduction" not reintroduction of none native species. One of the high ranking officials you speak about is like family…it doesn't mean that it's right. If we really wanted to conserve cheetahs we would help Iran not buy them from Africa".

It is important to note that conservation is not just a fight between native species vs the introduced or reintroduced species; the animal is introduced to create a natural ecosystem. Here the ecosystem is being created for an animal alien to our subcontinent because of which other native species will pay the price.

The Asiatic cheetah and the African cheetahs are two distinctly different subspecies inhabiting historically two entirely different continents. We cannot consider to be the same by their external morphological similarities while neglecting their deep genetic differences. The debate is whether it is a good idea to introduce non-native species from different countries and invest crucial time and funds that could be used for native wilderness and conservation of local wildlife.

It is quite well documented that there has been only a handful successful incidents of captive breeding of Asiatic cheetahs; hence their numbers have been declining possibly due to genetic bottlenecks such as small stock population with low genetic diversity and virulence; and they are fast disappearing from most of their traditional range in Iran. Still others argue that Iran has been a complete failure in conservation due to lack of properly trained conservation experts, lack of specialists and veteneriants well experienced in the breeding of big cats, lack of funding, focus and interest in cheetah conservation due to unstable national and international political turmoil Iran has been deeply embedded in for decades. Some wildlife experts suggest that we don't have the space for a species like the cheetah in India. Huge lands for grassland enclosures don't exist here. If they did the great Indian bustard would not be critically endangered. The major factor prompting the extinction of wild Asiatic cheetahs from India has been loss of suitable habitat, prey base and over exploitation in terms of poaching and trophy hunting. If they were left in huge enclosures in a good grassland with ample prey base, constant surveillance abs monitoring, they may breed successfully under partial nature based captivity. However, there is no guarantee abs the whole project of reintroduction of cheetahs in India could be an utter failure!

We have many native species that can help in grassland scrubland conservation without huge enclosures; but, not as glamourous as the Asiatic cheetahs. Hence the concept of trapped animals to serve as reintroduced cheetah's prey base can backfire. The idea of creation of an artificial habitat for a non-native apex predatory species in a natural ecosystem suitable only for native species may not work out as is being hyped in the media and hyper conservation enthusiasts.

The supporters of Asiatic cheetahs reintroduction has on the other hand asked the pertinent question that crippling economic sanctions against Iran or any other country deemed as not "toeing the line" only effects mostly the poor. Money gets diverted away from communities and other worthwhile activities like conservation.

The people at the top will be unaffected by the sanctions. How many decades have these sanctions been going on? What has actually changed or achieved? Absolutely nothing.

The poor will get poorer and cheetahs maybe well disappear forever. Hence, if Iran is repeatedly failing to protect the species which is destined for sure extinction in the not so distant future; why not partially preserve the other sub species to at least have the species protected in another continent.

We may not be able to save the Asiatic cheetahs in the coming few decades; but, we can at keastcexoand the range of African cheetahs into Asia over time. What is the best solution, only time has the real answer.

Muhammad Haseeb Shakil

Lack of necessary collaborations with key stakeholders including relevant industries among others

Challenges In Winning Research Grants For Early-Career Researchers In Pakistan Seven Things You Should Know

The term "early-career researchers" refers to the professionals in their first four years of research activities. Early career researchers face many challenges in funding, publications, and career progression.

When you start a career as a researcher, you have to balance many different professional tasks. Early Career Researchers are often engaged in the community and institutional service, conducting research, presenting, and writing. The first five to six years of your career is a time when you are expected to build up your research profile and professional resume. There is pressure to secure research funding and publish articles.

Seven things you should know

Lack of Planning

An effective plan is vital for a research grant because it identifies and helps define your focus and objectives while also outlining your project from start to end. Effective planning is essential for applying for a grant or internal company funding. Before you start writing your proposal, you'll have to make sure that:

Develop a specific, meaningful, and actionable plan for what you want to do

How your plan will achieve positive results?

You are locating an agency or organization that funds a project that you have in your mind

If you don't think about what you will need to do it properly, you could fail, wasting your effort and those who have helped you.

Lack of clarity on the objectives of the research proposal

The most common issue seen in research proposals is a lack of clarity about project aims and objectives. It's a problem that can lead to project rejection. A good project title, its aims, and clear objectives should be well explained to convince the funding agency. As a general rule of thumb, an early career researcher should aim for a fairly narrow focus that can be explained and defended easily. A researcher should also know the difference between aims (the goal) and objectives (how you'll achieve the goal).

Time management

For beginners, time management might be quite challenging. Self-discipline is essential, not only in setting your timetables but also in managing family and work time. Remember, if you feel you are not quite coping with all there is in this job, try outsourcing some of it. Efficient

Planning is a key to effective time management. It is best to have a structured plan in mind at the beginning of your career. Several project and planning tools are available online which helps to keep your project on track. If you don't think through your project then it could waste your time.

Respect the research grant application process

Funding agencies have grant cycles, proposal deadlines, and specific areas of interest. The best proposal will not mean much to a funder whose funding priorities lie elsewhere. Likewise, a funder cannot likely provide grants outside of their standard grant application cycle, outside of a dire emergency. Contacting the funder early in the application process is also a good idea. Funders can often provide valuable insight into their priorities and processes before you submit a grant proposal.

Before submission, your institutional reviewers may ask you to submit additional information, provide clarifications, or make changes to your proposal.

Likewise, after you submit a proposal, a funder may have a similar ask. Always respond to comments from internal and external reviewers.

Lack of necessary collaborations with key stakeholders including relevant industries among others

Most projects involve various sorts of stakeholders like professional groups, advocacy groups,

or business interests. Stakeholders' involvement is extremely important for advancement in tasks of projects. Lack of stakeholder collaboration will lead to inadequately established techniques.

The poor performance of your project can be a result of a lack of necessary collaborations.

Stakeholders bring new knowledge and expertise from different experiences and perspectives which can elevate your project from research to widespread change. They can provide data, and resources and contributes to effective decision-making.

Lack of understanding of post-funding project life (sustainability)

Sustainability refers to organizations being able to maintain, projects and their benefits over a projected lifetime. Sustainability can be measured in three contexts: Financial sustainability, Organizational sustainability, and Programme sustainability. Grants are given to assist projects for a set length of time by funders. They are concerned about the project's ability to continue after the funding period. As a result, before giving money, funders will closely examine sustainability plans. Funders seek confidence that their money will be well spent, that the funds will have a long-term impact and that the funds will continue to help the target community long after the grant has ended.

Misunderstanding of the relevance of the ongoing public problem

Irrelevant information cannot impress a reviewer because each reviewer has many grants to read. The involvement of irrelevant problems and irrelevant focus in the grant will lose the interest of the reviewer.

The grant should have a relevant problem that impacts the community and can sustain itself over a long time. Irrelevant problems cannot impress a reviewer and it causes rejection of grants.

Author: Muhammad Haseeb Shakil.

Hackers Exploit ChatGPT Tool To Write Malicious Codes

As hackers become smarter and more advanced, the cybersecurity industry must become more resourceful in order to combat AI-powered exploitation.

Artificial intelligence (AI) has undoubtedly brought many benefits to humanity. However, the bad guys benefit from it as well. Hackers are now using the popular ChatGPT tool to write malicious codes.

According to Palo Alto Networks, cyber attackers can now instruct ChatGPT to write malicious code, with astounding results. Sean Duca, its Asia Pacific and Japan regional vice-president and chief security officer, stated that AI has always been a two-edged sword.

"Based on its input learning programme, AI tools can be trained to mimic human behaviour. Coding and curating malicious codes, if no rules are in place to prevent AI from doing so, can be one of the technology's side effects "He stated.

"Malicious code written by AI tools has the potential to be more harmful than code written by humans. While the developers of ChatGPT have stated unequivocally that the AI-powered tool has the ability to challenge incorrect premises and reject inappropriate requests, it is expected to have some false negatives and positives for the time being. Criminals who intend to break the rules can find a way around the loopholes by playing between the gaps in AI's judgements."

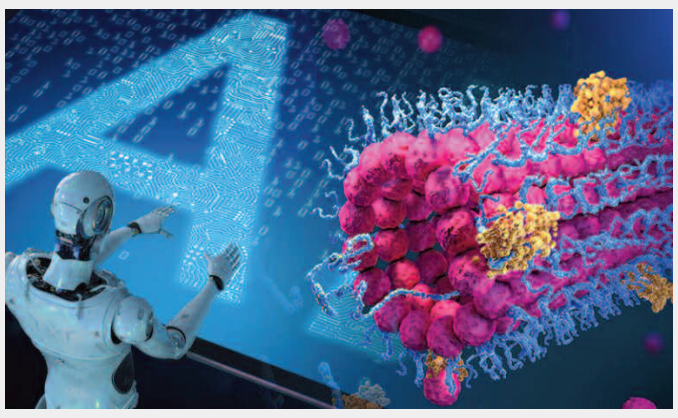
One of the most serious risks of AI tools being capable of creating malicious code is how much it improves the efficiency of creating dangerous tools. Even the most experienced hackers, according to Duca, can spend up to an hour developing a script that can infiltrate a target via a software vulnerability.

"This, however, can be accomplished in a matter of seconds using OpenAI's ChatGPT. This, like other automation, has the potential to increase the number of attacks by these threat actors." Almost every industry has increased its use of AI to automate their software supply chain.

"While cybersecurity providers use AI to identify and filter malicious codes/phishing links, threat actors use similar technologies to increase their efficiency and ensure their 'business' is profitable," Duca explained.

"Because of how simple it is to create malware, he believes the cybersecurity sector will be disrupted in a variety of ways."...***Read More***

Researchers Uses Powered AI To Design Luciferases Enzymes



Luciferases enzymes, as the name implies, catalyze chemical reactions that emit light; they are responsible for the firefly's flare.

Researchers used machine learning-powered AI to design luciferases enzymes, never-before-existing proteins that accelerate biochemical reactions in living organisms in a scientific first. Enzymes are responsible for a wide range of critical processes, including digestion, muscle building, and breathing.

A team led by the University of Washington's Institute for Protein Design, along with colleagues from UCLA and China's Xi'an Jiaotong University, used an artificial intelligence engine to create new luciferases. Luciferases enzymes, as the name implies, catalyze chemical reactions that emit light; they are responsible for the firefly's flare. In a scientific first, researchers used machine learning-powered AI to design previously unknown enzymes. "Living organisms are remarkable chemists," said David Baker, a UW biochemistry professor and the study's senior author.

"Instead of using toxic chemicals or extreme heat, they use gentle enzymes to break down or build up whatever they require. If we could create new enzymes, we would be able to produce renewable chemicals and biofuels." Design of deep learning: There has recently been a flood of news about AI-powered creations, particularly text generators like ChatGPT and image generators like the wonderfully named DALL-E.However, similar AI has found a place in the discovery of new drugs, proteins, and antibodies.

A Boston-based startup has developed an AI model that uses the same image-creation technique as DALL-E to design brand new artificial proteins....***Read More***

New Model Uses Wastewater Samples To Forecast COVID-19 Infections

Testing wastewater samples for COVID to predict surges in clinical cases gained attention. Since the beginning of the pandemic, scientists have been researching this approach.

A new mathematical model that uses wastewater samples to accurately predict the number of clinical COVID-19 cases in a community five days ahead of time Masaaki Kitajima, an environmental engineer at Hokkaido University, and colleagues in Japan developed and validated the approach.

It could assist healthcare providers in better tailoring infection control policies, particularly when clinical surveillance is lacking. The findings were published in the journal Environment International.

Testing wastewater samples for SARS-CoV-2 to predict surges in clinical cases has gained attention. Since the beginning of the pandemic, scientists have been researching this approach.

However, current methods aren't particularly sensitive, and they can only detect increasing cases without forecasting their numbers within a community....***Read More***

Hogwarts Legacy Sell 12 Mln Copies In Two Weeks: WB Games

WB Games president David Haddad told Variety earlier this week that players had already logged 280 million hours in Hogwarts Legacy.

WB Games confirmed that Hogwarts Legacy has sold 12 million copies in just two weeks. This is the company's biggest game launch, earning $850 million (roughly Rs. 7,026 crore) in global sales across PC, PS5, and Xbox Series S/X. While a Harry Potter AAA open-world title was always going to be popular, its impact on the franchise as a whole is incredible.

According to a press release from parent company Warner Bros. Discovery, there has been an increase in fan engagement on Wizarding World Digital (the Harry Potter website), with 300 percent more unique visitor traffic in the first 10 days of February compared to the normal average.

WB Games president David Haddad told Variety earlier this week that players had already logged 280 million hours in Hogwarts Legacy. This figure is based on the period from launch to February 22, and thus excludes the 72-hour early access playtime available to those who pre-ordered the Deluxe Edition. Indeed, Hogwarts Legacy greatly benefited from early access, propelling it to the top of the Twitch charts with 1.28 million peak concurrent viewers. It has now surpassed Cyberpunk 2077 as the most popular single-player game on the platform.

Sure, some of it can be attributed to item drops and streamer drama centred on author J.K. Rowling's boycott, but it is still a massive accomplishment. According to the report, players grew 393 million magical plants, defeated 1.25 billion dark wizards, and brewed 242 million potions. "Our development team at Avalanche delivered an amazing, high-quality Wizarding World experience that truly fulfils...***Read More***

Japan Urged To Delay Discharge Of Nuclear Contaminated Wastewater

The importance of science and data in guiding political decisions on the proposed discharge of Fukushima nuclear-contaminated wastewater from Japan has been reaffirmed by Pacific Islands Forum (PIF) leaders.

Pacific Islands Forum (PIF) leaders reaffirmed on Friday the importance of science and data in guiding Japan's decision on the discharge of Fukushima nuclear-contaminated wastewater.

"On the matter of the planned release by the government of Japan of Advanced Liquid Processing System (ALPS)-treated water, forum leaders reaffirmed the importance of science and data to guide political decisions on the proposed discharge," outgoing PIF Chair and Fijian Prime Minister Sitiveni Rabuka said after the conclusion of the PIF special leaders' meeting. Meanwhile, incoming PIF Chair and Cook Islands Prime Minister Mark Brown stressed on Friday that Japan's nuclear-contaminated wastewater discharge must be done safely. He expressed his pleasure at recently travelling to Japan as part of the PIF delegation to express their concerns about the potential release of nuclear-contaminated wastewater...***Read More***

Kerbal Space Program Amazes Fans With Dedication To Real Science

Kerbal Space Program has received a UI refresh that makes the HUD feel more like a cockpit, and time warping has been improved to speed up time while hurtling through space.

Kerbal Space Program is one of the greatest pieces of edutainment ever created, and I don't say that lightly. For its dedication to real science, the space programme and rocketry simulator gained a massive following, as well as the support of several space agencies and space launch companies around the world. Despite its accolades, Kerbal's zeal for orbital trajectories and delta-can V's be intimidating. It's, uh, rocket science. Developer Intercept Games, on the other hand, clearly wanted to make these systems more approachable for new players for its sequel, and new interactive tutorials go a long way towards that end. None of this is to say that the series' designers have dumbed it down. You can rest assured that the signature customizability and attention to scientific realism are still present...***Raed More***

Ocean Fisheries Experts Win Nobel Prize For Environment

Fisheries experts Daniel Pauly and Rashid Sumaila have won the University of Southern California's Tyler Prize for Environmental Achievement for 2023.

Fisheries experts Daniel Pauly and Rashid Sumaila have won the University of Southern California's Tyler Prize for Environmental Achievement for 2023. The award, dubbed the "Nobel Prize for the Environment," includes a $250,000 prize to be split between the two laureates.

Both Pauly and Sumaila have stated that they would like to use the Nobel Prize for Environment to spread the message that all fishing on the high seas, or areas of the ocean that are not under national jurisdiction, must be prohibited.

Ocean fisheries experts Daniel Pauly and Rashid Sumaila have been awarded the 2023 Tyler Prize for Environmental Achievement, also known as the "Nobel Prize for the Environment," for their scientific achievements.

Pauly and Sumaila, who work at the Institute for the Oceans and Fisheries at the University of British Columbia (UBC) in Vancouver, have spent decades researching human impacts on marine ecosystems, including overfishing, and their findings have been widely used to inform fisheries management decisions.

Both laureates hold positions as University Killam Professors at UBC, the highest possible honour the university can bestow upon a member of the faculty.

Pauly was born in France and was kidnapped as a child. At 17, he escaped to Germany and earned a doctorate in fisheries biology, zoology, and physical oceanography from the University of Kiel. He joined the UBC faculty in 1994 as a fisheries scientist and coined the term "shifting baseline" to measure environmental change.

In 1999, he founded the Sea Around Us initiative to identify and qualify global fisheries trends. He is also the founder of FishBase.org, an online encyclopedia of more than 30,000 fish species.

Sumaila is a fisheries economist with roots in Ghana and Nigeria and a doctorate in economics from the University of Bergen in Norway. He has worked in fisheries across the world and is one of the most widely cited experts on fisheries economics...***Read More***