The News of January 2025

Kuwait Foundation for the Advancement of Sciences Holds Symposium on Research and Technology Management and Strengthens Partnership with Kuwait Institute for Scientific Research

Kuwait Foundation for the Advancement of Sciences (KFAS) today inaugurated a specialized symposium on "Research and Technology Management and Activities," attended by a distinguished group of researchers and scientists. The symposium aims to highlight the Foundation's role in supporting scientific research and promoting sustainable development in Kuwait.

In his opening speech, the speaker congratulated the attendees on the occasion of the New Year, expressing his hope that it would be a year filled with scientific and technological achievements under the wise leadership of His Highness the Amir of the State of Kuwait, His Highness the Crown Prince, and His Highness the Prime Minister. He emphasized that scientific research and technological development are fundamental pillars in the country's journey of renaissance and progress.

He pointed out that the Foundation will soon celebrate its fiftieth anniversary, during which it has made significant contributions to supporting innovation and scientific development, and has contributed to addressing development challenges. He also mentioned the close partnership between KFAS and KISR, which has resulted in significant research achievements, including the funding of 86 research projects over the past five years, resulting in 7 patents and the support of 52 research papers for scientific publication.

By offering a key space for researchers to interact and exchange knowledge, this symposium aims to enhance the partnership between KFAS and KISR, driving further collaboration on sustainable development initiatives.

In concluding his speech, he expressed his gratitude to KFAS and its research management, praising the efforts of scientists and researchers in presenting valuable studies and research projects that contribute to the progress of Kuwait and the well-being of its people.



Spring Training Course

Kuwait Institute for Scientific Research: 41 Students Accepted into the 36th Spring Training Course

The Human Resources Department at KISR has announced the completion of personal interviews for students applying to the 36th Spring Training Course. The course is scheduled to take place during the mid-year school break, starting from January 19th to 29th, 2025. The program aims to cultivate a spirit of scientific research among the younger generation and to occupy their free time during the spring break, benefiting both them and their nation.

A total of 41 middle school students have been accepted to participate in the 36th Spring Training Program.



The 7th Annual Kid's Science Exhibition

Kuwait Institute for Scientific Research and the American University of the Middle East Launch the 7th Annual Kid's Science Exhibition

Kuwait Institute for Scientific Research (KISR), in collaboration with the American University of the Middle East (AUM), has launched the 7th Annual Kid's Science Exhibition. The three-day event is being held at the Al Assima Mall and continued until January 18th.

On this occasion, Dr. Faisal Al-Hamidan, Acting Director-General of KISR, emphasized that organizing this exhibition reflects the KISR's keenness to promote a culture of scientific creativity among children and develop their research skills. This aligns with KISR's ongoing efforts to prepare a scientifically aware and creative generation.

Al-Humaidan added that this year's exhibition coincides with "Kuwait, Capital of Arab Culture" initiative, which highlights the distinguished position of the State of Kuwait in the field of culture, including scientific culture. It also reaffirms the commitment of our political leadership to promote culture and scientific research in the country. This occasion, he noted, provides an opportunity to call for greater cooperation and joint action among scientific, cultural, and educational institutions to simplify the outputs of science, technology, and innovation, and to promote greater attention to scientific culture for our children and youth.

Mr. Abdulmohsen Al-Haroun, Director of Marketing and Commercialization Operations at KISR, pointed out the importance of these activities in shaping the scientists of the future, especially in light of rapid technological development and

the renewal of knowledge. He explained that investing in children from an early age is the foundation for scientific and societal progress.

For the second year in a row, the American University of the Middle East participated in the exhibition by presenting eight innovative scientific experiments. These were added to the research and scientific activities and models provided by the research and scientific departments at KISR; Energy and Building Research Center, Petroleum Research Center, Environment and Life Sciences Research Center, Science and Technology Sector, National Scientific and Technical Information Center, and Engineering Design & Equipment Maintenance Department. During the exhibition, researchers assist children in conducting simplified and diverse scientific experiments, including 11 experiments covering, for example, birds, desert plants, soil and its types, the impact of dust, and the rehabilitation of desert areas.

The event received support from a number of institutions interested in disseminating scientific culture and promoting scientific research; Scientific Center, Kuwait Cinema Company, Monkeys application, Naseej, in addition to Al Assima Mall, which hosted the exhibition for two consecutive years.

The exhibition continues its journey as an innovative educational platform that combines entertainment and learning, in a step that contributes to building a generation capable of facing the challenges of the future with science and creativity. The exhibition has been held for the seventh year in a row since its launch in 2018, and the number of children participating in it so far has reached approximately 5,087 children. This year aims to attract more children, reflecting KISR's commitment to developing its intellectual abilities and enhancing scientific excellence.


KISR







IAEA Experts in Kuwait to Review Nuclear Security Plan

Al-Awadhi: Visit includes meetings with relevant authorities and a technical workshop

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A delegation from the International Atomic Energy Agency (IAEA) will arrive in Kuwait on Monday for a visit that will last until Thursday, January 30th. The delegation will be reviewing Kuwait's comprehensive nuclear security support plan. As part of this visit, KISR, in cooperation with the Radiation Protection Department at the Ministry of Health, will organize a workshop that will be attended by IAEA experts during the visit.

On this occasion, the Executive Commissioner for International Cooperation at KISR and National Liaison Officer with the International Atomic Energy Agency, Dr. Nader Al-Awadhi, stated that the delegation will hold a series of meetings over four days with the participation of a number of officials and specialists from national institutions. During these meetings, various issues will be discussed, which will also be raised in the workshop. He pointed out that the main purpose of the workshop is to review the achievements of Kuwait's nuclear security support plan, update it to assess it, and identify additional nuclear security needs that must be met and prioritized in order to maintain an effective and sustainable nuclear security system. He explained that the workshop will address the six functional areas of the International Nuclear Security Support Plan, namely: national policy and strategy, legislative and regulatory framework, deterrence, detection, response, assurance, and continuous improvement.

Al-Awadhi pointed out that Kuwait is a party to the Treaty on the Non-Proliferation of Nuclear Weapons and to all agreements related to nuclear security, and is committed to applying the safeguards of the International Atomic Energy Agency for nuclear and radioactive materials. Within the framework of this commitment, the State of Kuwait is working to enhance its nuclear security by taking the necessary measures to prevent the illicit trafficking of nuclear and radioactive materials.

He added that Kuwait was one of the first countries in the region to prepare a comprehensive nuclear security support plan in 2009 in cooperation with the International Atomic Energy Agency and with the participation of all relevant national authorities: the Ministry of Interior, the Ministry of Health/Radiation Protection Department, the Kuwait Institute for Scientific Research/Office of the National Liaison Officer, the General Administration of Customs, the Ministry of Defense, and the Fire Force. This plan aims to support national efforts to enhance nuclear security in cooperation with the International Atomic Energy Agency, and the plan seeks to achieve many national objectives, including: assessing the current status of nuclear security, identifying areas that need improvement, and providing technical and training assistance.

Regarding the participants in these meetings, the Executive Commissioner of KISR and National Liaison Officer with the International Atomic Energy Agency, Dr. Nader Al-Awadhi, stated that 40 participants representing a number of national authorities will participate, including the Ministry of Health (Radiation Protection Department), the Ministry of Foreign Affairs, the Ministry of Interior (Civil Defense, Coast Guard General Administration, General Administration of Facilities Security, General Administration of Border Security, General Administration of Criminal Evidence, General Administration of Information), the Fire Force, the General Administration of Customs, in addition to the organizing body, the Kuwait Institute for Scientific Research.







Official Visit to Discuss Cooperation Between KISR and the Food and Agriculture Organization of the United Nations (FAO)

KISR hosted His Excellency Mr. Thanawat Tiensin, Assistant Director-General and Director of the Animal Production and Health Division at the Food and Agriculture Organization of the United Nations (FAO), and his accompanying delegation.

The delegation met with Dr. Faisal Al-Hamaidan, Acting Director-General of KISR, Dr. Afaf Al-Nasser, Acting Executive Director of the Center for Environmental and Life Sciences Research, and a number of researchers and specialists at KISR.

During the visit, ways to develop joint projects in the fields of scientific and technical research were discussed. KISR presented some of its current initiatives, and ideas were exchanged on sustainable agricultural innovations. His Excellency Mr. Thanawat expressed great interest in the applications of scientific research in improving the productivity of the agricultural and livestock sectors in the region.

Mr. Thanawat stated that he had searched the FAO archives and found no record of a visit by a high-level FAO official to Kuwait in the past twenty years. This visit marks the first of its kind at this level, and KISR is proud to have organized it. He thanked KISR for its efforts in making this visit a success and for the warm welcome extended to the delegation.

On the sidelines of the visit, a tour was organized to introduce the delegation to KISR's facilities and laboratories, showcasing modern research techniques and equipment. The delegation expressed great interest in the new technologies based on scientific innovation.

Researchers at the Environmental and Life Sciences Center discussed the latest developments in animal production, including sustainable breeding and nutrition techniques. A number of researchers from various scientific disciplines participated

in the tour, leading to fruitful discussions on the challenges and opportunities in this field.

His Excellency Mr. Thanawat expressed his appreciation for the efforts of KISR, commending the innovative research conducted by KISR that contributes to the development of the agricultural and livestock sectors in Kuwait. In his speech, he emphasized the importance of international cooperation in exchanging knowledge and expertise, stressing the need to join efforts to find effective solutions.

Within the context of the visit, it was agreed to establish close relations between KISR and the Food and Agriculture Organization of the United Nations (FAO) to enhance scientific exchange programs. The importance of these relations in supporting research and developing innovations that benefit local communities was emphasized.

At the conclusion of the visit, His Excellency Mr. Thanawat expressed his gratitude for the warm welcome he received from KISR, commending Kuwait's commitment to innovation and scientific research. He affirmed the continuation of cooperation and knowledge exchange to ensure a more sustainable agricultural future.

This visit follows the successful International Camel and Food Security Conference organized by KISR in October, in cooperation with the World Organization for Animal Health and the Food and Agriculture Organization of the United Nations (FAO), as part of the International Year of Camelids and with the support of the Kuwait Foundation for the Advancement of Sciences. This is part of KISR’s efforts to strengthen strategic partnerships with international reference organizations in the fields of food security, sustainable environment, and One Health, contributing to driving sustainable development in Kuwait and enhancing the ability to address future challenges in the livestock and agricultural sector, in support of environmental sustainability and food security systems.





Kuwait Institute for Scientific Research Concludes 36th Annual Spring Student Training Program

Under the patronage of the Acting Director-General of KISR, Dr. Faisal Al-Hamidan, the 36th Spring Student Training Program, organized by the Human Resources Development Department, concluded successfully. The program hosted 39 students from the intermediate school level for a two-week period. Participants engaged in a variety of interactive activities designed to cultivate research and inquiry skills, while also fostering scientific and innovative thinking.

Dr. Faisal Al-Hamidan expressed his pride in the active engagement of the students, emphasizing the program's value as an optimal use of leisure time. He highlighted its role in enhancing the capabilities of young people and preparing future generations, a matter of increasing importance as Kuwait embarks on a new phase of development under the guidance of its leadership. This new phase, he noted, is characterized by greater openness to broader, more sustainable, and impactful developmental horizons.

Mrs. Mona Al-Failakawi, Director of the Human Resources Development Department, detailed the diverse range of activities incorporated into the program. These included laboratory experiments and the construction of scientific models, all geared towards stimulating critical and creative thinking. The program also featured practical applications that bridged the gap between theoretical knowledge and hands-on experience, thereby refining students' skills and encouraging exploration and self-directed learning.

Speaking on behalf of the participants, student Sheikha Al-Hamidan conveyed her gratitude to KISR for organizing the program. She described the experience as enriching and productive, providing a valuable opportunity to learn about the

scientific research environment firsthand, which in turn fueled their passion and desire to explore new fields.

KISR has been committed to organizing these training programs annually for over 36 years. This reflects its vision of empowering students, developing their research skills, and instilling a culture of innovation. Such initiatives contribute to enriching their scientific knowledge and preparing them for future challenges and opportunities.







KISR Achieves a New Scientific Breakthrough: Success in Obtaining Shim Fish Juveniles from Broodstock in Ponds for the First Time in the Middle East

Kuwait Institute for Scientific Research (KISR), represented by the Environment and Life Sciences Research Center, has announced a new scientific achievement: the successful completion of the culture cycle of shim fish for the first time in the Middle East. KISR was able to produce fish larvae from shim mothers that were raised in ponds using a closed system for water circulation with high purity, providing a suitable environment for this type of fish with precise scientific standards and specifications.

In this regard, the Acting Director-General of KISR, Dr. Faisal Al-Hamidan, stated that KISR dedicates this first-of-its-kind achievement in the Middle East to the Kuwaiti community. The completion of the shim fish culture cycle was achieved by obtaining young fish from captive mothers that were raised in KISR's special breeding ponds. This is considered a unique scientific achievement that contributes to advancing development in the country's aquaculture industry, providing food security on the one hand, and raising the name of the State of Kuwait high in various scientific forums worldwide.

Dr. Afaf Al-Nasser, Executive Director of the Environment and Life Sciences Research Center, expressed her pride in this unprecedented achievement, as KISR is considered the first research institution in the world to begin conducting scientific studies to develop the culture technology of this important type of fish since 2021. The team from the Center succeeded in recording this success within a period not exceeding three years, as the project began in June 2021 and shim fish juveniles were

successfully produced in captivity for the first time during May 2024 and successfully raised in KISR's facilities.

The project manager, researcher Amani Al-Yaqout, an aquaculture expert and the originator of the idea of studying the culture of shim fish from the Environment and Life Sciences Research Center, stated that this new achievement is the first in the Middle East region in terms of laying the foundations for conducting research and developing the culture technology of this important type of fish. This achievement is also the first globally and is represented in raising shim fish in ponds in a closed system and obtaining young fish in captivity naturally and without the use of any spawning stimulants, as well as fattening the fish using low-salinity water to commercial size. The closed system is the ideal type of aquaculture systems that can be used in the State of Kuwait as it contributes to the preservation of limited groundwater and allows control of the environmental requirements suitable for culturing various types of fish and crustaceans.

The head of the shim fish culture team, Mr. Musaed Al-Roumi, praised the efforts of the team and expressed his gratitude to everyone who actively contributed to this wonderful achievement from KISR's employees for their success in completing this wonderful scientific and applied achievement in record time. Al-Roumi also praised the efforts of the Integrated Fish and Shrimp Farming Technologies Company (Salia) and its participation in financing the first part of the project, which is the breeding of larvae, and also through scientific participation with the KISR's researchers in applying research on breeding shim fish for the first time using low-salinity water in the company's facilities.

Dr. Turki Al-Saeed, Director of the Coastal and Marine Resources Program at the Environment and Life Sciences Research Center, explained that this creative project is being implemented with funding from Kuwait Foundation for the Advancement of Sciences. Dr. Al-Saeed explained that this commercially important species has

been placed on the list of endangered species since 2014, due to several factors, including: overfishing, the high salinity of water due to the lack of fresh water flowing into the northern Arabian Gulf in recent years, water pollution, and the destruction of marine environment habitats, which threatens fish and marine organisms in general. He added that natural fisheries provide only 15% of the local market's needs, which leads to high prices for seafood products.

Al-Yaqout stated that this important success was an additional work to the basic project objectives, and that this success will contribute quickly to the development of the aquaculture industry and the advancement of the private sector in this new field in Kuwait, providing food security and preserving the natural stock of shim fish and protecting it from the risk of extinction and disappearance from the Arabian Gulf.

The fish larvae breeding expert at KISR, researcher Salim Al-Daqour from the Environment and Life Sciences Research Center, mentioned that studying the development of shim fish larvae and determining the environmental and nutritional requirements to reach their healthy growth for the first time in the world is a source of pride. This scientific achievement will be published in leading peer-reviewed scientific papers in the scientific community worldwide, and it will also be presented at international conferences as it is a high-value Kuwaiti scientific achievement that is added to the record of Kuwait's achievements.

Mr. Mohammad Al-Kandari, head of the shim fish mothers' fishing team from the territorial waters and studying their whereabouts, and Mr. Ali Taqi from the fishing and fish farming team, added that this achievement was an exceptional and distinguished challenge and was crowned with success and represents a scientific precedence for Kuwait, where shim fish were caught from the territorial waters and raised in the Institute's facilities to become productive mothers, which allows the opportunity to obtain young shim fish in large numbers successfully.

Al-Yaqout added that the wonderful efforts made by the distinguished team, including Dr. Azad Ismail, head of the Fish and Crustacean Diseases Control Laboratory, Mr. Shogo Kuwahara, head of breeding fish mothers and producing larvae at KISR, Mr. Adnan Al-Alawi and the workers in fish farming, including Mr. Mohammad Abdul Hafeez, Mr. Ramadan Muhammad, Mr. Bilal Miha, Mr. Charles Arupta, Ms. Rahila Sayed, Mr. Hamdi Mubarak, Mr. Hamada Mubarak, and Mr. Atef Saleh, who had a major role in the success and completion of this project in record time.







