

A SCIENTIFIC BENT OF MIND

Her Excellency Sarah bint Yousef Al Amiri: the face of scientific advancement and research in the UAE.

"Science is the main engine for the progress and development of society." This is the unwavering belief of Her Excellency Sarah bint Yousef Al Amiri, the UAE's Minister of State for Advanced Sciences, and an Emirati icon for scientific progress.

The UAE plans to use advanced sciences to address future challenges and support the objectives of its 2071 Centennial Plan, which focuses on education, economy, government development and community cohesion. The vision's objectives also include the development of education, with a focus on advanced technology and engineering. In April, the UAE also launched its National Advanced Science Agenda 2031, putting the spotlight on creating a balanced and sustainable scientific environment by backing science and related sectors, and empowering Emirati scientists and creative minds by providing them with the necessary resources required to transform their scientific knowledge into practical reality.

"Promoting the advanced sciences environment in the UAE is the best investment in making the future and a key tool to turn the creativity of human mind into reality," said His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, at the launch of Agenda 2031. His Highness wants to make the UAE a hub for advanced science and a top destination for brilliant minds across the scientific community, and he put the highly accomplished Sarah bint Yousef Al Amiri in charge of the mission, appointing her to Minister of State for Advanced Sciences during a cabinet reshuffle last October.

Her Excellency is the face of Emirati scientific progress throughout the country and beyond after she represented the UAE at the World Economic Forum, in Davos, Switzerland, earlier this year, where she participated in several sessions that discussed the future of governance in the Arab world, global >

A portrait of a smiling woman wearing a black hijab, set against a background filled with various scientific and mathematical symbols and diagrams. The background includes chemical formulas like CaO , NH_4Cl , H_2S , and BeCl_2 , as well as mathematical expressions like $E=mc^2$, $F=ma$, and $K=\frac{1}{4\pi\epsilon_0}$. There are also diagrams of a telescope, a person in a spacesuit, a radiation symbol, and a beaker. The text "ARAB CONTRIBUTION" is visible in the upper right corner of the background.



Above: Work on the 'Hope Probe' to explore Mars at the The Mohammed bin Rashid Space Centre

Right: Her Excellency Sarah bint Yusef Al Amiri at the World Economic Forum in Switzerland

perspectives on science and the role of multilateral cooperation in promoting scientific research and preparing a flexible environment for overall international cooperation.

The idea of a relatively small and young nation like the UAE aspiring to become a global science hub may seem farfetched to those unfamiliar with the country's drive and ambition. But Her Excellency says the UAE is steadily moving along the planned trajectory for scientific growth in the country. During the World Economic Forum, she pointed out that the UAE is already emerging as a global model of a nation that provides an environment conducive to scientific research and development. Science and knowledge sharing is being actively pursued across all sectors, huge monetary investments are being made in this direction accompanied by massive sustained efforts to motivate science learners, researchers and innovators.

She quotes the Emirates Mars Exploration project – of which she is Deputy Project Manager and Science Lead – as a prime example of the UAE's commitment to advanced sciences. Speaking at the Aspen Abu Dhabi Ideas Forum in 2017, Her Excellency said: "The Emirates Mars Mission is about creating opportunities in science and technology specifically



for scientists of the future. It's about creating venues for youth and engaging them in the development process." The UAE's Mars mission is significant for the whole Arab world given that over a decade ago, this opportunity wasn't available to Arab youth.



Left: Her Excellency with UAE Vice President, Prime Minister and Ruler of Dubai His Highness Sheikh Mohammed bin Rashid Al Maktoum on the occasion of the inauguration of the UAE's Advanced Science Agenda 2031

Below: Her Excellency with Princess Haya bint Hussein

Despite the massive effort and resources being poured into advanced sciences, Sarah bint Yousef Al Amiri knows progress cannot be achieved without global cooperation. "As a small nation we can only find solutions to the challenges we are facing today with collaboration," she told the World Economic Forum. "We are not a large population and we can't tackle every field of science that we are required to tackle. There are many countries around the world at that point, that want to enter into cutting-edge scientific research." Countries like the UAE have to be housed within the larger global ecosystem of scientific development, she says.

The Minister of State is in charge of overseeing the implementation of the Advanced Science Agenda, which is the result of painstaking efforts of more than 100 experts from 50 leading private and public entities and in cooperation with 55 supportive bodies.

As the head of the Emirates Scientists Council, Sarah bint Yousef Al Amiri is working with some of the country's most prominent scientists and researchers such as Professor Ghaleb Ali Al Hadrami Al Breiki, an Emirati researcher in the field of food science, who holds the position of Associate Provost for Research at UAE University; Dr Arif Sultan Al Hammadi, Director and Executive Vice President of Khalifa University of Science and Technology; and Dr Habiba Alsafar, Director of the Khalifa University Centre for Biotechnology and Assistant Professor of Biomedical Engineering at the university, who is credited with identifying a gene strongly associated with the prevalence of Type 2 diabetes among the Emirati population.

Scientific diplomacy is another important part of the UAE's commitment to advanced sciences. Under it, the Ministry of Advanced Sciences will establish enhanced cooperation between the UAE and international research institutes. The Mohammed bin Rashid Space Centre is already working closely with the University of Colorado, the University of California Berkeley and Arizona State University for the Emirates Mars Mission.

Her Excellency also points to the newly established Mohammed bin Rashid Centre for Future Research as an example of the UAE's desire to collaborate with the wider scientific community. Established in December 2017, the centre has promised to provide support to 3,000 scientists for research on space science and technology. Together with other UAE authorities, her team is working on an initiative to attract talent to the UAE. In this context, the new visa system that eases visa requirements for scientists will play an important role.

Sarah bint Yousef Al Amiri may have been in office for just over six months but her goals for the Ministry are very clear. "The advancement of science and technology through research is a key element in shaping the future of the UAE, and achieving the vision of our wise leadership in sustaining development and creating a better future for coming generations. Science is the main engine for the progress and development of society; it is essential for realising the UAE Vision 2021 and the UAE 2071 Centennial Plan, and harmonising scientific efforts to transform key sectors and build a sustainable knowledge economy."

