



University of Science
and Technology



Research
Institutes



Valley of Science
and Technology

| General News

Dr. Mostafa Badawy Appointed as the Director of the Valley of Science & Technology



Zewail City of Science, Technology, and Innovation is pleased to announce the appointment of Dr. Mostafa Samir Badawy as the new director of the Valley of Science & Technology (VST).

Dr. Badawy is also the director of the Environmental Engineering Program at Zewail City's University of Science and Technology as well as the director of Zewail City's Sustainable Development Center. Dr. Badawy is an environmental expert specializing in domestic and industrial wastewater treatment, solid waste management, environmental projects planning, and capacity building. He has been involved in many water and wastewater management projects in Egypt and the Mediterranean region.

[More about Dr. Mostafa Badawy](#)

Zewail City Receives a STIFA Fund to Establish a Center of Scientific Excellence for Certified Reference Standards



Zewail City received a major fund of 19.5 Million EGP from the Science, Technology and Innovation Funding Authority (STIFA). This fund is for establishing a Center of Excellence for Certified Reference Standards (CECRS) which targets the synthesis of reference standard materials. The fund for the center has been awarded to Dr. Abdelrahman Mayhoub as a Principal Investigator (PI) and Dr. Mohamed Alkordi as a Co-PI. Dr. Mayhoub is an Associate Professor in

Dr. Mohamed El-Kordi is an Associate Professor in the Nanoscience program and Dr. Alkordi is the Director of the Materials Science Program. The new center to be established aims to nationalize the certified reference materials industry by assembling Egyptian expertise from synthetic chemistry, spectroscopic analysis, catalysis, and accreditation supported by cutting-edge facilities to support Egypt's strategic industries.

[More about Dr. Abdelrahman Mayhoub](#)

[More about Dr. Mohamed Al-Kordi](#)

[Read more about CECRS](#)

Zewail City Researchers File New Patents

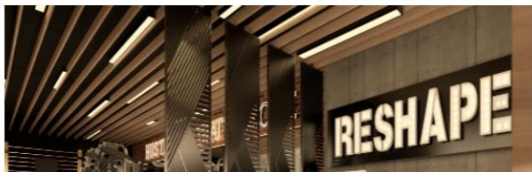


The Zewail City Valley of Science and Technology's Intellectual Property & Technology Transfer (IPTT) management unit with support from TICO-Zewail City filed three new patents to the Egyptian Patent Office on May 30, 2021. The patent applications were for inventions by research teams led by Dr. Ibrahim El-Sherbiny, Professor of nanoscience, Director of Nanoscience Program, and Director of the Center for Materials Science. The Nanoscience research assistants Dr. Shaymaa Abdelaleem and Dr. Ahmed Ghanem participated in the work of the first patent entitled "Innovative antimicrobial films incorporating smart nano-capsules for active packaging of meat." This innovation involves a new approach to integrate the smart nano-capsules that contain natural bioactive phenolic compounds, into films that will be used for active packaging/resistant-bacteria in meat.

The second invention was developed by the Nanoscience research assistants Dr. Ahmed Saeed and Dr. Shaymaa Abdel Aleem, and was titled "Smart Paper Sensors Based on Smartphone Android Application for Rapid Detection and Accurate Determination of Bacterial Spoilage in Meat Products". The sensors are based on the use of certain acid dyes that have high sensitivity to minute changes in pH values.

Finally, the third invention was originated from the contribution of the research assistant and pharmacist Noha Khalil. The patent application for this invention was filed under the title "Cyclodextrin derivatives-based hybrid nanofibrous films of ultimate tensile strength and instantaneous dissolution for the fast delivery of hydrophobic drugs in emergency cases." This invention involves the development of a new set of cyclodextrin derivatives-polymeric plasticizer hybrid nanofibrous films with an instantaneous dissolution ability and ultimate tensile strength.

A New Gym to be Built on Zewail City Campus



Zewail City coordinated with the Engineering Authority of the Armed Forces to build a new gym on campus. The gym would be built up to the highest standards to ensure the safety and comfort of its users. Building this gym is part of Zewail City's plan to provide a suitable environment for sports activities for students and staff.

[Partnerships](#)

[Suez Canal Bank Supports Distinguished Zewail City](#)

Students with Educational Scholarships

For the third year in a row, the Suez Canal Bank continues to support final-year students at Zewail City's University of Science and Technology. This continued support is due to what the city is accomplishing in creating a new generation capable of innovation and scientific research. A number of students were selected to receive the scholarships according to criteria established by the Zewail City administration. The established criteria guarantee equal opportunities among eligible students and ensure the continuity of students' benefits.

Dr. Mahmoud Abdrabou, Acting Executive President of Zewail City expressed his gratitude for the trust of the private sector in general and the Suez Canal Bank in particular for the strenuous efforts Zewail City is making in enriching the education and scientific research organization in Egypt.

Mr. Hussein Rifai, Chairman and Managing Director of Suez Canal Bank, indicated that the bank strategy aims to sustain social practices to support the society as a whole, and also support youth and entrepreneurs. Mr. Rifai said that this year, the Suez Canal Bank supported 13 students in various majors, including Nanotechnology and Nanoelectronics Engineering, Renewable Energy Engineering, Communications and Information Engineering, as well as Environmental Engineering, which contribute to the development of scientific research in Egypt.

| Events

Online Seminar by Zewail City's NANENG and REE Programs on Portable and Scalable High Voltage Automotive Circuits

Motivation – Automotive ICs

- Electronic control in Automotive is increasing (less hydraulics/mechanics). Power semiconductors are the key.

Benefits

- Longer life expectancy for vehicles.
- Connected cars, higher road safety.



In future, 50% of the cost of the car will be dominated by its electronic content.



Zewail City's Nanotechnology and Nanoelectronics Engineering (NANENG) Program, Renewable Energy Engineering (REE) Program, and the student union, hosted an online seminar on Saturday, June 5. The guest speaker for this event was Dr. Sri Navaneeth Easwaran, from Texas Instruments in the USA, who presented the design steps of smart power circuits for automotive applications such as airbag control circuits in vehicles. The seminar was moderated by Dr. Dina El-Damak, Assistant Professor in the NANENG Program, and Dr. Amgad El-Deib, Director of Renewable Energy Engineering (REE) Program (also the manager of the Industrial Engagement Unit and director of the Smart Grids laboratory). The seminar was attended by more than 20 students and faculty members and was concluded with a Q&A session.

[Watch the session](#)

"Banking on Brains" Competition Held During Abu Dhabi Bank's Visit to Zewail City

Zewail City and the Abu Dhabi Commercial Bank held a technology event and competition titled "Banking on Brains" with a focus on a new challenge celebrating intelligence, creativity, and youth potential.

The Abu Dhabi Bank had a booth at Zewail City's Basic Sciences Building from May 24 to 26, 2021. Through this booth, the bank offered services including opening free accounts and two insightful sessions about financial inclusion, in addition to the "Banking on Brains" competition that aims to find an innovative banking solution to the financial challenges. The competition was exclusive to Zewail students and was team-based with 2 to 4 members per team. The selection of the winners was based on those who provide the best theses. The winners will be honored and will receive gold coins provided by the bank.

| Faculty News

Re-election of Dr. Muhammad Al-Hadidi as Executive Committee Member for the Global Youth Academy

The Global Young Academy (GYA) announced in its annual general meeting the election of Dr. Muhammad Al-Hadidi, a Professor in Zewail City's Biomedical Sciences Program, to the GYA Executive Committee for the second time with the vote of the majority of GYA members. Accordingly, Dr. Al-Hadidi will continue to represent Zewail City in the GYA Executive Committee until mid-June 2022.

[More about Dr. Muhammad Al-Hadidi](#)

Dr. El-Shibiny and His Research Team Published a New Review Paper on the Role of Phages in Pandemics

The research team highlighted the impacts of the misuse of antibiotics on global public health due to the emergence of MDR bacteria and the importance to seek alternative treatments against MDR bacteria. To this end, phage therapy has been proposed as a promising tool to reduce the emergence of MDR and prevent future global public health concerns that could lead to incalculable human and economic losses.

[More about Dr. Ayman El-Shibiny](#)

[Read the paper](#)

Monthly Highlights

| University of Science & Technology (UST)

UST has 9 undergraduate academic programs: 5 engineering majors and 4 science majors, along with 13 graduate programs: 7 M.Sc. and 6 Ph.Ds. This month we highlight the Engineering Mathematics postgraduate programs.

M.Sc. & Ph.D. in Engineering Mathematics

Mathematics is one of the crucial components that act as a bridge between science, engineering, and technology. The Mathematics program aims to provide engineers with solid mathematical foundations and modern mathematical tools to assist in modeling and understanding real-world problems. In addition to the ability to employ SW packages to solve mathematical problems and to efficiently integrate them with the in-house models developed by the researcher. The Mathematics program offers the following concentrations: Optimization and Operational Research and Stochastic Modelling.

| Research Institutes (RI)

The Research Institutes at Zewail City produce research that touches the daily lives of Egyptians through solving inherent and prevailing problems in several areas, such as health, technology, energy, and water. This will ultimately create sustainable development through industries built on the outputs of scientific research.

Center of Genomics

Our mission is to integrate biological knowledge from the molecular, cellular, individual, and population levels and to apply this knowledge toward the prevention, diagnosis, and treatment of disease.

The CG employs a multidisciplinary approach to better understand how genomes function in both health and disease. Many tools used in genomic research are applied, including physiological, imaging, molecular, and computational techniques, with the aim of transforming genetic discoveries into new methods of treating and diagnosing disease.

This knowledge will generate new health innovations and will help identify novel drug targets.

| Valley of Science and Technology

The mission of VST is to ensure that Zewail City research outcomes are being protected and utilized into industrial products and services needed by society and the local market in the first place and then the foreign markets. The VST is a multiple-unit component of Zewail City. This month's highlight is:

Industry Engagement Unit

Collaboration with the outstanding science and technology representatives opens a new window of innovation for firm companies to be able to put together innovative products. This fastens the pace of development and polishes the quality of the products.

Zewail City strongly believes that the intensity and quality of bridging between Academia and Industry highly boost the productivity of the innovative system.

Get in touch



Zewail City for Science, Technology and Innovation

Plot 12578, Ahmed Zewail Road, October Gardens, 6th of October City, Giza, Egypt