

ANNUAL REPORT

2021









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Zewail City



The Founder Message

The City has managed to attract world class scientists to join in this vision and to help Egypt become a major player in science and technology on the regional and global levels. Currently, research in fundamental physics, biomedicine, solar energy, nanotechnology and other fields is underway. We accepted the first and second cohorts of students to the University of Science and Technology; in the first year, 300 students were admitted out of 6000 applicants, a 5% rate that is comparable to those of Harvard and Yale! We have also appointed an effective team of staff at the City, and both the administrative building in Garden City and the campus on the 6th of October City, at the outskirts of Cairo, are now fully operational.



In addition, the construction at the New Campus is proceeding at a steady pace. A 200 acre premises in October Gardens were granted to the City to be built by the Engineering Authority of the Egyptian Armed Forces and the first phase of the new campus will be inaugurated before the fall of 2016

My commitment to support the project remains unwavered and I continue to lead its Board of Governance, which includes five Nobel laureates and distinguished national and international figures. Despite all of these achievements we still have many challenges, but numerous opportunities are expected to rise and to propel the national productivity into the developed-world level. With the commitment of Egyptians to this National Project, together with the cooperation with other research and educational institutions in the country and abroad, I am confident that we will succeed and prove the City's motto "Egypt Can" during this historic epoch of Egypt and Arab Awakening

Dr. Ahmed Zewail

Founder of Zewail City of Science and Technology

Our History

Zewail City of Science and Technology, and Innovation is a nonprofit, independent institution of learning, research and innovation. The concept of the City was proposed in 1999 and its cornerstone laid on January 1, 2000. After numerous delays, the project was revived by the Egyptian cabinet's decree on May 11, 2011 following the January 25 Revolution. The Cabinet proclaimed it a National Project for Scientific Renaissance and named it Zewail City of Science and Technology. On December 20, 2012, a special law for Zewail City was granted, allowing students to enroll at its university and Egypt to begin a new era of modern development in scientific research and technological production



In 2014, former Acting Egyptian President Adly Mansour issued a presidential decree granting the City a new campus on a 200-acre premises in the October Gardens of 6th of October City. This was followed by an order from President Abdel Fattah Al-Sisi to build the new campus by the Engineering Authority of the Armed Forces. Construction at the new location is proceeding at a steady pace; and when completed, the inauguration of this National Project will be honored by the presence of the Egyptian president and the City's Supreme Advisory Board members. Zewail City has successfully moved to the new campus at Ahmed Zewail Road, October Gardens, 6th of October City

Executive President Message

Dr. Mahmoud Abdrabou

Acting Executive President
Dean of Strategic Enrollment Management
&

Vision

Zewail City of Science, Technology and Innovation aims to have a transformative impact on society through elevating the education standards to a world-class and continual innovation in research, to lead the scientific development in Egypt.

Zewail City is the beacon of knowledge and innovation that will revive the leading role of Egypt in the whole region towards a prosperous future



Mission

Zewail City of Science, Technology, and Innovation with its constituents

The University of Science and Technology,

The Research Institutes

The Valley of Science and Technology

Is designed to build a scientific renaissance in Egypt and enrich society with the latest technologies that will allow solving all our strategic challenges.

The City Components



The University of Science and Technology which was established to prepare a new generation of scientists and entrepreneurs, a generation capable of thinking critically and creatively, mastering basic sciences and knowledgeable about the cutting edge interdisciplinary fields of basic and applied sciences and engineering.

The Research Institutes, world-class science is carried out and they also address strategic priorities and inherent problems relevant to the country; examples include treatments for epidemic and infectious diseases such as diabetes and Hepatitis C, which are widespread in Egypt. Research is currently underway to find alternative sources of energy including solar energy, which Egypt has in abundance.

The original research developed at the City is transferable to industry through the third component of the City: the Valley of Science and Technology. It will become the leading hub for high-tech innovation and development by attracting international corporations as well as incubating national startups and spin offs.

Awards & Accomplishments



RI and Research Accomplishments & Awards

New Centers

Sustainable Development Center (SDC)

The SDC (Sustainable Development Center) which acts for achieving management, governance, and innovation capacities of the higher education institutes. This center will be established with a developed mission, vision, strategic goals, and organizational structure for training, monitoring, evaluation, and consulting services in the field of SDGs implementation in higher education institutes.

Renewable Energy and Energy Efficiency Research Center (REEE) :

The REEE research center is concerned with the following topics: Renewable energy power plants design and optimization, Energy storage systems design and optimization, Grid integration of renewable energy and energy storage, Energy efficiency in industrial and commercial facilities, Control for optimal operation of renewable energy systems
The REEE research center has the following labs: Smart grid lab, Energy storage lab, Solar energy open lab, Control lab

Center of Excellence for Certified Reference Standards:

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.

Center of Scientific Excellence for Food Research & Analysis (CSEFRA) :

Center of Scientific Excellence for Food Research & Analysis (CSEFRA) which is funded by STIFA grant and directed by Dr. Ayman El-Shibiny, Director General for Research in the city. CSEFRA is the first specialized center in 6th Dr. Abdel Rahman Mayhoub

ACDIMA Award for Best Research:

October City which focuses on creating rapid & accurate testing services for food analysis such as water and agricultural products according to ISO standards.

Awards & Recognitions



Professor Salah Obayya

- Applied Computational Electromagnetics Society's highest award
- African Union Kwame Nkrumah Award for Scientific Excellence-AUKNASE



Professor Ibrahim El Sherbiny

- Khalifa Award for Education



Professor Rabeay Hassan

- Appointed as Africa's vice-ambassador from the International Society for Microbial Electrochemistry and Technology

Awards & Recognitions



Professor Mohamed El-Hadidy

- Elected as an Executive Committee Member from the Global Young Academy



Professor Mohamed Alkordi

- Fellow of the Royal Society of Chemistry, it is worth mentioning that the Fellowship of the Royal Society of Chemistry is granted to members of the Society who have made significant contributions to the chemical sciences and who have a distinguished record in the promotion and development of chemistry sciences.



Professor Nagwa El Badri

- The Women's Appreciation Award, the prestigious award is given to prominent Egyptian women who have scientific, social and economic achievements that have a positive impact on society.

Awards & Recognitions



Professor Abdel Rahman Mayhoub

- Mohamed Fareed Khamees Award for Research Excellence 2021
- ACDIMA Award for Best Research in applied pharmaceutical sciences



Professor Mohamed Farahat

- Abdul Hameed Shoman Award 2021, In "Basic Sciences - Computational Physics" in appreciation for his distinguished scientific output and his outstanding work in supervising graduate student studies.

Faculty and Staff Accomplishments & Awards



Faculty and Staff

Zewail City Keen on Scientific Development of the Staff

At Zewail City, scientific development is not limited to students, faculty members, and researchers only, but also extends to staff. In this context, Zewail City's Director of Finance, Dr. Hossam Othman, obtained his PhD degree in Accounting from the Faculty of Commerce at Cairo University. Dr. Othman was awarded the degree for his applied study on measuring the ability of financial and non-financial indicators to accurately predict the financial risks of businesses using neural network models



Three Zewail City Researchers Among Stanford University's 2021 List of Top 2% Scientists

Three researchers from Zewail City of Science, Technology and Innovation were named in Stanford University's 2021 list of the top 2% most-cited scientists in various scientific fields worldwide. Over 100,000 top scientists are on the list, representing more than 170 scientific fields. The list includes the following Zewail City scientists: Dr. Salah Obaya, the Founding Director of the Center for Photonics and Smart Materials; Dr. Ibrahim El-Sherbiny, Director of the Center for Materials Science; and Dr. Mohamed Farhat, Professor at the Center for Photonics and Smart Materials. The results of the study are based on the .Scopus database of the international publishing house Elsevier



Faculty and Staff

Ms. Toka Ahmed Participated in Imaging Africa Workshop Featured in Nature Methods

Earlier this year, Zewail City Researcher Toka A. Ahmed, research assistant and Ph.D. student at Zewail City's Center of Excellence for Stem Cells and Regenerative Medicine (CESC), attended the Imaging Africa Workshop and Symposium held at the University of Cape Town, South Africa. Ms. Toqa was selected for attending this academic workshop along with a few fellow researchers out of a pool of 700 applicants from 31 countries. As a novel experience for African scientists, the workshop has been featured in "Nature Methods" with Toqa's .photo during hands-on experiments



Zewail City Launches Website for Automatic Speech Recognition of Arabic Poem Rhymes

The Khalil21 website provides automatic identification of Arabic poem rhythmic meters (wazn), transcription of Arabic poems into the so-called Aroodhi forms, and a binary code of the rhyme sequence known as Al-Khalily code. Dr. Mustafa Al-Shafei, Professor in the CIE Program, is in charge of the Khalil21 site and the technologies implemented in the site in collaboration with Dr. Abdul Karim Al-Zahrani, Professor of Arabic Language at King Fahd University of Petroleum and Minerals in the Kingdom of Saudi Arabia. The Khalil21 website is named after the famous Arab scientist Al-Khalil Ben Ahmed Al-Farahedy (718-786 AH.), .who first classified and characterized the Arabic poem rhythmic meters

رسم	أبجدية	نوع النص
أقرب بيت قبل الشكل		
أقرب بيت بعد الشكل		
نسبة التشابه		
البحر		
الكثافة العروضية		
الأنفعالات		
الترميز الخليلي		
المقاطع الصوتية		
معلومات إضافية		

Zewail City
of Science, Technology and Innovation


مدينة زويل

للعلم والتكنولوجيا والابتكار

الخليل ٢١

لتتعرف على أبيات الشعر وأوزانها من التسجيل الصوتي

وخصيف التوثيق جادته به

مرحلة من مخرج أو قادم

40388

عدد الأبيات المدخلة

Faculty and Staff

Dr. Mahmoud Moharam Collaborates on a Research Project Funded by the US Department of Energy

Dr. Mahmoud Taha Moharam, Assistant Professor in the Environmental Engineering Program at Zewail City's University of Science and Technology, is a Co-Investigator in an international research team who earned an 800,000 USD grant from the United States Department of Energy. This research project aims to experimentally and computationally investigate thermal hydraulics and safety systems in very high-temperature reactors which are nominated as the potential design for the fourth generation of nuclear reactors. This project will last for three years and will be led by Prof. Muthanna Al-Dahhan from the Missouri University of Science and Technology in the United States



Dr. Eman Badr Joins Scientific Innovation Committee for "Talents in Arabic" Festival

Dr. Eman Badr, Assistant Professor in the Biomedical Sciences Program at Zewail City's University of Science and Technology, has been selected as a member of the Scientific Innovation Committee for the "Talents in Arabic" festival. The festival is organized by the Ministry of Youth and Sports for the first time to discover young talents from the age of 8-17. The festival covers all fields such as art, science, literacy, and sports



Students and Alumni Accomplishments & Awards



Students and Alumni

Winning the "Best Creativity Award" in NASA Space Apps Competition

A team of students from Zewail City's University of Science and Technology won the "Best Creativity Award" in the NASA Space Apps Competition which was held in October 2021 in Cairo; a local hackathon for coders, scientists, designers, and technologists. Zewail City team, named "To Infinity & Beyond", included Moustafa Ashmawy and Kareem ElOzaeri from the Communications and Information Engineering Program, Mohamed Abdelsalam from the Nanotechnology and Nanoelectronics Engineering, and Phelopater Ramsis from the Renewable Energy Engineering Program. The team's project revolved around fixing CO₂ and CO to generate methanol fuel. The fixation reaction is done under specific high temperatures and pressure. This solution provides fuel, stabilizes Earth's CO₂ percentage, and provides a continuous source of water and hydropower.

Winning Second Place in Cairo Water Week's Best Graduation Project Competition

A team of students from the Environmental Engineering Program at Zewail City's University of Science and Technology won second place in the Best Graduation Project competition. The competition was held during the "Cairo Water Week" conference organized by the Ministry of Water Resources and Irrigation. The Zewail City team included five students: Ashrakat Osama, Elaf Seif, Loay Khaled, Omar Abdallah, and Yasmeen Diab. The graduation project submitted by the Zewail City team was completed under the supervision of Dr. Yehya Imam, Assistant Professor in the Environmental Engineering Program. The project dealt with the design of artificial lakes to provide an opportunity for residents in urban areas to reconnect with nature without

Winning Third Place in the International Microelectronics Olympiad

Khaled Hammouda, a student in Zewail City's Nanotechnology and Nanoelectronics Engineering Program, won third place this year in the 16th International Microelectronics Olympiad that was held last October. The Olympiad was organized under the supervision of Synopsys, a leading company in electronic design automation technology. The Awarding ceremony was attended by the Armenian Deputy Minister of High Tech Industry Robert Khachatryan.

Annual Science Festival for 2021

The Zewail City Science Festival was held for the sixth year in a row under the theme "Back to The Future" in which the participants traversed different eras that have had an impact on the present besides using scientific and historical evidence to predict the future. The festival was held in the period from September 19 to 22 and was attended by around 2,000 participants including students from different Egyptian universities and schools. Many scientific sketches were presented and participants had the opportunity to learn about interesting topics that raise curiosity and broaden horizons.

Students and Alumni

Researcher Wins the Second Place in the Egyptian Junior Researcher Competition

Youssef El-Sherif, a Junior Research Assistant from Zewail City's Center of Excellence for Stem Cell and Regenerative Medicine (CESC) won the Second place in the biotechnology track in the 12th Egyptian Junior Researcher Competition hosted by Nile University. The winning research "Novel approach for increasing the Reprogramming of Human iPSCs: Exosome based Transfection" was supervised by Dr. Nagwa El-Badry, the .Founding Chair of the Biomedical Sciences Program and CESC Director

The first student from Zewail City to obtain a Ph.D

Hazem Eldahshan, an Aerospace Engineering, 2018 alumnus, has received his Ph.D. in Computational Solid Mechanics and Materials from Ecole Des Mines De Paris, France. Dr. Hazem is the first Zewail City alumnus to receive a Ph.D. He went down the Ph.D. track directly after graduation as his Bachelor's degree was equivalent to a three-year European Bachelor's degree and a two-year Master's degree

Two Teams Win First Place in the Egyptian Junior Researcher Competition

Two student teams from Zewail City's University of Science and Technology won first place in the Junior Egyptian Researcher Competition. The competition was organized by Nile University in collaboration with Zewail City's TICO. The AQUA team, which consists of 4 students from the Environmental Engineering program, won first place in the biotechnology track of the competition with their project idea to solve the problem of water hyacinth. Another team from the Renewable Energy Engineering program won first place in the engineering and applied sciences track of the competition with their project idea to fabricate wind .turbine blades

New Units



New Units

Academic Advising

Academic

(program selection – study skills – at-risk detection – rules & regulations)

Personal

(soft skills – goal setting – career path – physical, mental, or psychological problems)

Social

(development – social integration and acceptance – responsibility)

Next Generation Leaders Program: A series of lectures and training sessions in leadership and management in partnership with the student government

Alumni Annual Gathering

Mentorship Program: A series of lectures and training sessions in leadership and management in partnership with the student government

Periodic meetings to discuss their studies, future plans and professional careers

Alumni Talks: Periodic professional meetings where one of the alumni gives a talk about their current work, publications or achievements

Ambassadors Program: ZC alumni are located in more than 22 countries around the globe. An ambassador for ZC alumni and for all Egyptian students is assigned for each country to connect the alumni in the region together and offer needed support

Honorary Awards program: Annual funding opportunities through different awards to fund projects in Sustainable Development, Green Energy, Physics and Biomedical Sciences.

Alumni Association Association Programs:

Ranking & Accreditation



Ranking and Accreditation

ABET Accreditation

The university is in the process of obtaining international accreditation from the International Accreditation Commission in Engineering and Technology in the United States of America ABET by the end of the academic year 2021/2022 for four programs in Science and Engineering tracks, they are Biomedical Sciences, Environmental Engineering, Communications and Information Engineering, and Nanotechnology and .Nanoelectronics Engineering



Times Higher education Ranking

Zewail City ranked first among the Egyptian universities and tenth among the Arab world in the Times Higher .Education Arab University Rankings 2021

The University of Science & Technology in Zewail City was selected among 125 universities in 14 Arab countries. This indicator measures the performance of universities through many variables, the most important of .which are teaching, scientific research, research outputs and international reputation



Construction Progress



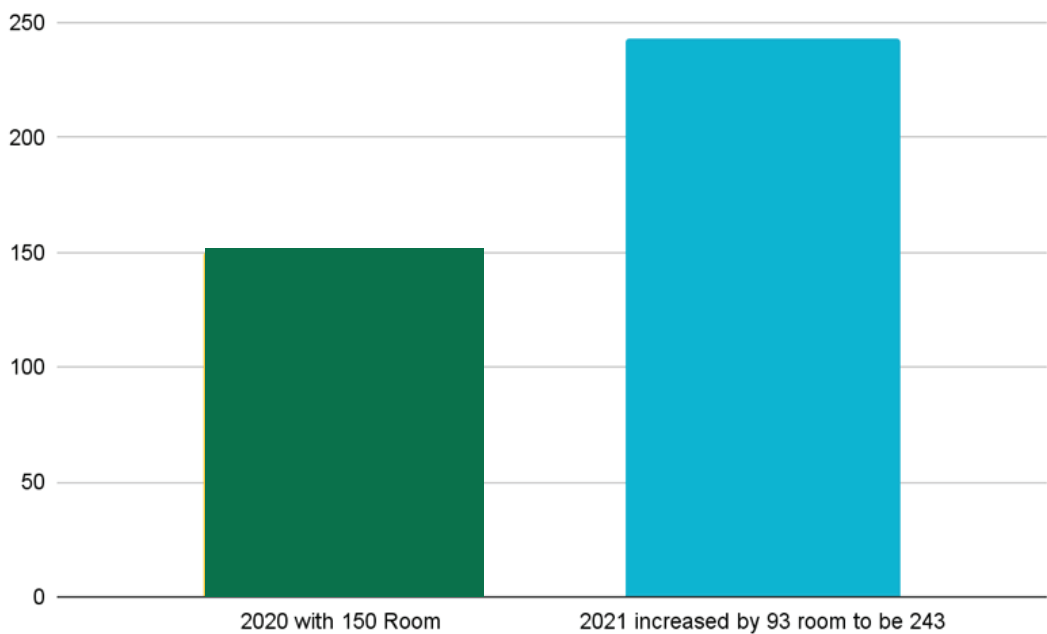
City Development



Adding **93**
rooms with
full furniture

Clusters **3**
Female **2**
Male **1**

Total of
243
Rooms



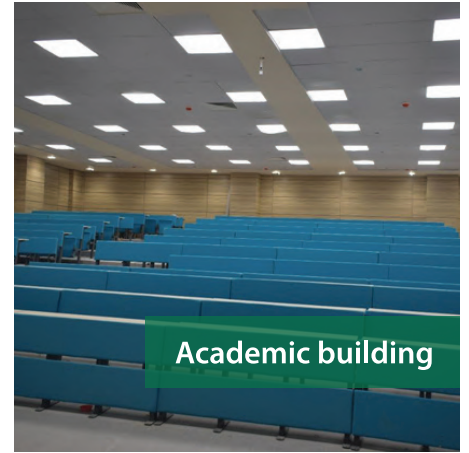
City Development



GYM



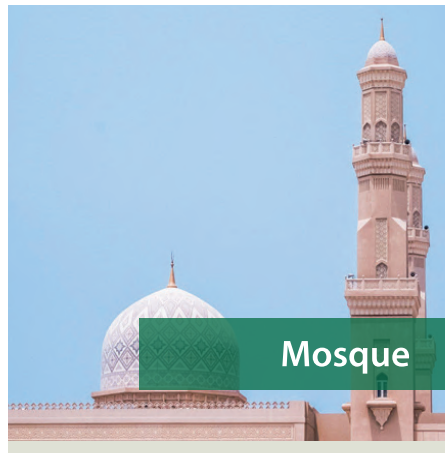
18 Landscape Afforestation



Academic building



Cafeteria



Mosque

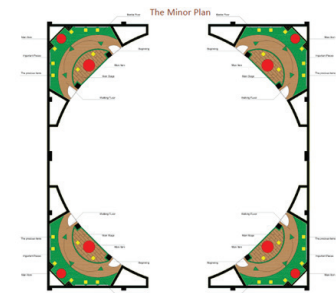


Power Plant

In contracting to build a Power Plant with the capacity of 3.7 MWatt giving around 6.0 GWatt hour yearly, It will be a step to green city and save around 8 million EGP yearly

Dr. Ahmed Zewail Museum

Dr. Ahmed Zewail wished "to inspire young Egyptians to go into science and technology and walk through to see science "achievements



Partnership



Partnership

GIZ Protocol

The City has trained and accredited more than 100 engineers of the most talented Egyptian youth to satisfy the Egyptian Society's ambition in the planning field of water and wastewater



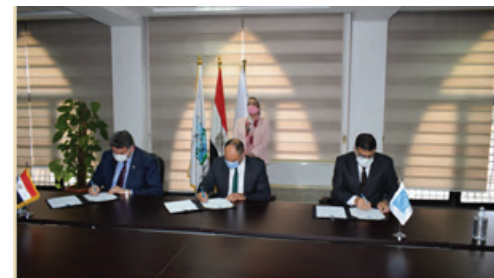
Workshop in the field of science and mathematics with Misr El Kheir

In cooperation with Misr El Kheir Foundation and with the support of the National Bank of Egypt, under the supervision of the Ministry of Education, hosted 52 teachers and students from 25 to 29 September to present a training workshop in the field of science and mathematics



Zewail City Signs a Cooperation Protocol with Egypt's Ministry of Environment

A cooperation protocol was signed between Egypt's Ministry of Environment and Zewail City of Science, Technology and Innovation. The protocol paves the way for Zewail City's Sustainable Development Center to work in cooperation with the Ministry of Environment to prepare environmental awareness programs at the national level



Cooperation Protocol Signed between Zewail City's Sustainable Development Center and Elkomy Group

A cooperation protocol has been signed between Zewail City's Sustainable Development Center and Elkomy Group which is one of the leading companies in the field of sustainable development based on green and circular economies to cope with local and global needs. The company gives special attention to training and to developing the skills of youth to help them overcome challenges and achieve remarkable results that would contribute to boosting the green economy sector in Egypt



The Launching of Eagle Academy for New Graduates with Eagle Chemicals

Zewail City and Eagle Chemicals are about to launch Eagle Academy in January 2022. The academy is to be located in the Industrial Zone of the 6th of October City in Giza. The academy will start its activities with a training program designed for fresh graduates with degrees in chemistry, chemical engineering, and environmental engineering. The program includes tailored courses, development sessions, job shadowing, and practical learning in labs. The aim is to provide trainees with theoretical and practical technical knowledge in addition to administrative and business-related experiences



Donor list & Fundraising news highlights



Donor list & Fundraising News Highlights

Banks



Foundations



Corporate



Donor list & Fundraising News Highlights



- Faisal Islamic Bank provides full scholarships for distinguished students
- Sawiris Foundation for social development provides full scholarships for distinguished students
- USAID Foundation for social development provides full scholarships for distinguished students
- The Egyptian Refining Company (ERC) provides full scholarships for distinguished students
- Misr Elkheir Foundation provides partial scholarships for distinguished students
- His eminence the Grand Imam of Al-Azhar Dr. Ahmed Al-Tayeb met Dr. Mahmoud Abdrabou, Acting Executive President of Zewail City for Science, Technology and Innovation, at his office in Al-Azhar, in the presence of Major General Amr Lotfy, Secretary-General of the Egyptian House of Zakat and Charity. The Egyptian House of Zakat and Charity continues to support the outstanding students for the third year in a row, as Zakat House supports 30 full scholarships for superlative students

Donor list & Fundraising News Highlights

- Zewail City hosted an official visit by Telecom Egypt “WE” in the presence of Ms. Naglaa Nassir, Head of the Social Responsibility Sector. The meeting witnessed Dr. Mahmoud Abdrabou, Acting Executive President of Zewail City, and the university students who are currently supported by WE, in efforts to strengthen the partnership between Zewail City and WE
- EGE senior management team, headed by Ms. Nora Amir, Head of Communications & Corporate Relations, visited Zewail City. The visit comes as a continuation of the cooperation between EGE and Zewail City where the Export Credit Guarantee Co. of Egypt supports the educational sector in parallel with its social responsibility role
- Zewail City, in cooperation with Misr El Kheir Foundation and with the support of the National Bank of Egypt, under the supervision of the Ministry of Education, hosted 52 teachers and students from 25 to 29 September to present a training workshop in the field of science and mathematics. The workshop included the basic scientific subjects: physics, chemistry, mathematics, and biology. The training was delivered by a team of professors, researchers, and students from the University of Science and Technology in Zewail City in an innovative way through a full working day that includes scientific and applied lectures in the City’s laboratories, which provides a unique practical simulation in addition to intellectual activities that help create an atmosphere of creativity and thinking
- QNB ALAHLI, supported Zewail City Science Festival and became its platinum sponsor for this year's festival
- Suez Canal Bank organized awareness sessions for university of Science and Technology in Zewail City students about entrepreneurship, Corporate social responsibility, financial inclusion, and the importance of digital technology as part of the bank initiative to support youth and entrepreneurship
- National Bank Of Kuwait organized awareness sessions for university of Science and Technology in Zewail City students about financial inclusion, and the importance of digital technology as part of the bank initiative to support youth and entrepreneurship

Zewail in Numbers



Zewail in Numbers

New Schools



Business School

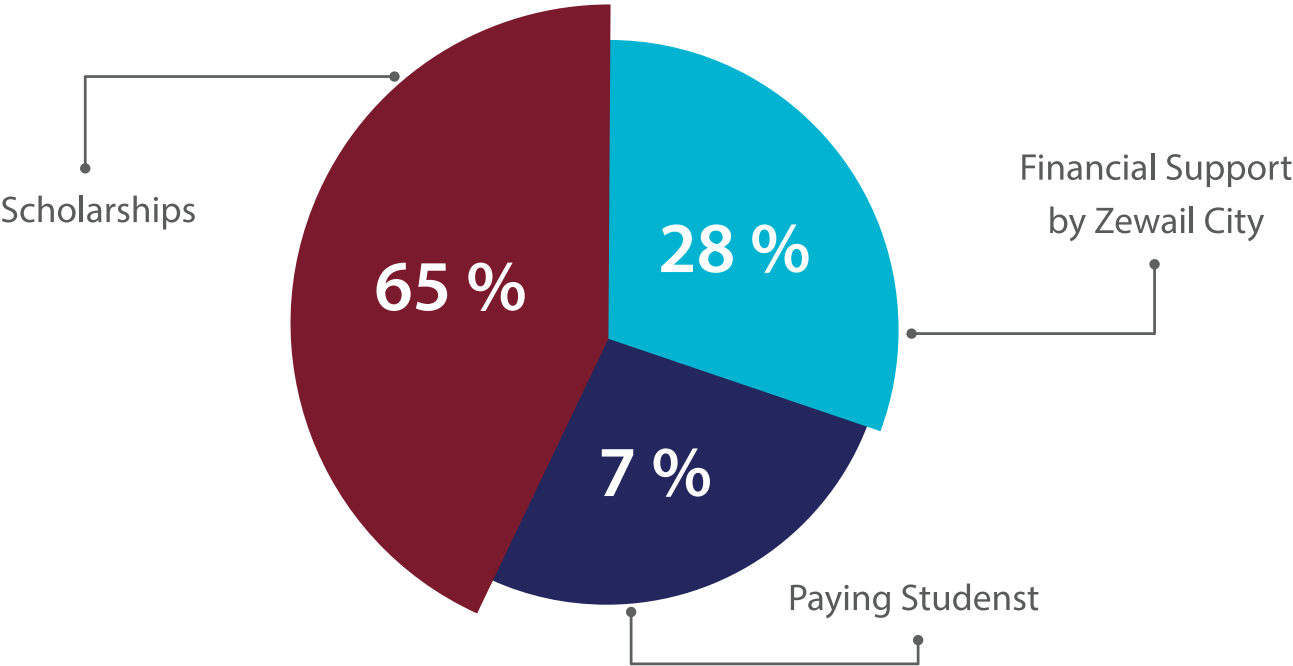
Policies and Regulation to be Submitted to SCU by Feb 2022



Computational Sciences & Artificial Intelligence

Policies and Regulation to be Submitted to SCU by March 2022

Student Financial Distribution



Zewail in Numbers

■ Admission and Financial Support Statistics

20%
Increase of New
Students and Full Paying
Students

Avg of Financial support
is **58%**

Zewail City offers various
types of financial Support
around to about **90%** of
the students

■ Academic Year Analysis - 2020/2021

Numbers of Enrolled (Bachelor)
944

Number of graduates (bachelor's degree)
146

Number of students enrolled -
postgraduate students
51

Number of graduates - postgraduate students
11

■ Alumni Statistics

In July 2021 total number of graduates was 162 and more than 85% of our graduates have started their career successfully:

Hired in local and multinational **35%**
companies plus some of them are hired
as TAs and RAs at Zewail City

40% Pursuing their post
graduate studies

12% Started their military services

2% Have started their own companies

Zewail in Numbers



Total
Research Fund
2021

37.59 M EGP



Total number of
grants in 2021

14 Grant



Total publications
in 2021

272
publication



THE - **1st** among Egyptian Universities
and 10th among Arab Universities in
the Times Higher Education
Arab University Rankings



Nature Index:
4th in the
Top 10
institutions from
Egypt in 2021



ESTABLISHED 2000
INAUGURATED 2011

www.zewailcity.edu.eg



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



www.facebook.com/ZewailCity



www.instagram.com/zewailcityst