

A Word from the Dean



Dear Reader,

Welcome to the CNHS Students' Newsletter for Spring 2020, where we reflect on our growth and achievements over the past semester. There is no doubt that the last few months have made us all appreciate the invaluable role of teamwork during times of crises

and led us to realize the need to stand and work together for a better future.

We are presently witnessing and living an unprecedented situation, which, as a global community, we are all doing our very best to understand and overcome. Despite the difficulties, I am humbled by the show of strength, resilience and compassion shown by each and every one of us. After a few weeks of

initial stress and working our way through a new system of "online" teaching and engagement, we can now proudly enjoy a sense of settlement and achievement. Looking back over the past few weeks, we can undoubtedly see that we are getting more in control of the situation. We can also pride ourselves in our newfound skills

and successes after having ventured outside our comfort zone. As we approach the end of the semester, we might stop and be grateful for having successfully, and at short notice, adapted to exceptional circumstances, whilst continuing to strive for excellence and the achievements of our goals.

Despite the challenges we faced, we continue to be productive and committed to our work while being aware of the changes in our environment.

In this newsletter we see how our students have managed to capture some glimpses of positivity and reflections in the past semester. We have six sections in this issue, which includes a dedicated space on the Coronavirus:

1. Events Carried out by CNHS at ZU
2. Events in UAE
3. What's at ZU

4. Student Gossip
5. Science Fun Facts
6. Coronavirus

We made it through the semester, and we are now ready for final exams. The online platform for Distance Teaching has been tested and is ready to operate, and we are ready to welcome you back in the Summer and Fall 2020. Let's continue to transform the current challenges into opportunities for growth and learning, like we always do!

Finally, I'm sure you will join me in wishing good luck to all our graduating students, who made it through a trying and final semester. Also, to all our exceptional CNHS graduates, who will continue to make us proud as they embark on their professional careers, I say well done.

Enjoy the newsletter and stay safe

Fares Howari,
Dean.

EVENTS

Environment, Health, and Safety (EHS)

INTERVIEW 1

9th February 2020
Dubai Campus

Dubai Civil Defense participated in the 4th annual EHS event that was held in Zayed university to raise the awareness on environment health and safety matters. They taught us how to behave correctly if there is a fire in the building. Furthermore, the instructor presents for us the correct way to hold and open the fire extinguisher. Moreover, he gave us some advices to increase the awareness level.



How Zayed University Prepared for Online Courses.

12th of March 2020
Dubai

Zayed university prepared a complete training program for the faculties in Dubai and Abu Dhabi. Each college has an expert in **Adobe Connect** called champion. In our department (CHNS), Dr. Shoaib Malik was responsible for training all the faculties to use this software.



INTERVIEW 2

9th February 2020
Dubai Campus

Dubai Police participated in the 4th annual EHS event that was held in Zayed university to raise the awareness on environment health and safety matters. They gave us some advises about cars and safety. The interesting thing was the accident feeling test. They provide a car and let the students to get in it. Then the car starts to become upside down to let you feel of the real accidents. What I learned from this test is to drive with caution.



FOOD SAFETY

9th of February 2020
Dubai

During the visit to the food safety booth they emphasized the importance of personal hygiene to food handlers for example having short nails, using a hair net, cover cuts using a blue band aid; blue band aid is used to easily spot the band aid if it fell during the preparation of food. In addition symptoms of food poisoning such as abdominal pain, vomiting, nausea, fever and dehydration. Furthermore ways to prevent food contamination and cross contamination during cooking for example using different chopping boards for fruit and another one for meat, they also provide British verification program known as HACCP.



EVENTS



Learning Difficulties Day

26th February 2019, Dubai

Learning difficulties are defined as difficulties in acquiring knowledge and skills to the normal level expected of those of the same age, especially because of mental disability or cognitive disorder. Examples are Auditory Processing Disorder (APD), Dyscalculia, Dysgraphia, Dyslexia, Language Processing Disorder, Non-Verbal Learning Disabilities, Visual

Perceptual/Visual Motor Deficit, and ADHD. Student accessibility services (SAS) organized an event to raise awareness about learning difficulties. We participated in the event as the Nutrition Club and we presented two posters describing the importance of healthy food, and the negative impacts of consuming preservatives, fast and junk food. Moreover, we did a small and simple activity for the students and the visitors to educate on the importance of being a healthy individual.



Highfield Booth

9th February 2020, Dubai

Highfield is a global leader in regulated and international qualifications, accredited programmers, training materials and e-learning, and the winner of the Queen's Award for Enterprise. they work with registered training centers in over 30 countries, delivering Highfield qualifications to over 2 million learners every year. they are one of the world's leading awarding organizations.

There qualifications include:

- Teaching and training qualifications
- Fire and safety qualifications
- Food safety qualifications
- First aid
- Food safety



Dubai Health Authority's Booth

9th February 2020
Dubai

Dubai's health authority it included many sections like blood pressure tasting, diabetes testing and an introduction to the corona virus. The doctor also talked briefly about the corona virus she stated that the corona virus:

- It comes originally from animals
- It's an aggressive form of a normal cold

She also mentioned ways to avoid the virus some include:

- Avoiding crowded area and if it's a necessity wear a mask.
- Covering the mouth when sneezing and coughing.
- Washing the hands regularly.



Jafza

Zayed University
Dubai

Jebel Ali Free Zone (Jafza) is the flagship free zone of DP World, and is an integral part of the DP World UAE Region's integrated business hub. The Free Zone has evolved into a trade catalyst and a smart business community that offers unprecedented growth

opportunities and market access. They are the leading Free Zone of the region that lies at the centre of trade and is part of a unique ecosystem that offers end to end solutions and growth opportunities to businesses that operate locally and globally.

With all the right resources in one place, Jafza has the foundation for you to tap into fresh opportunities with suppliers, trade partners and logistics providers to reduce your costs and increase your profits.



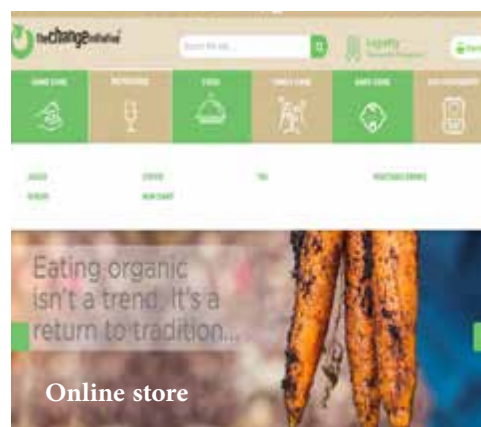
Activites in UAE

THE CHANGE INITIATIVE

Zayed University
Dubai.

The Change Initiative is a Dubai store that sells green products. The renovated two-story store sells fully organic eco-friendly products. In 2010, the building officially became the world's most sustainable building, getting 107 points out of a possible 110 for the LEED Platinum certification. The store is made from green recyclable material, contains a solar power station with PV panels on the rooftop, and a recycling and water reclaiming system.

Founded in 2008, The Change Initiative is proudly home grown in the UAE. What began as a simple passion to provide consumers with environmentally friendly, socially responsible, healthy choices has grown into a highly respected

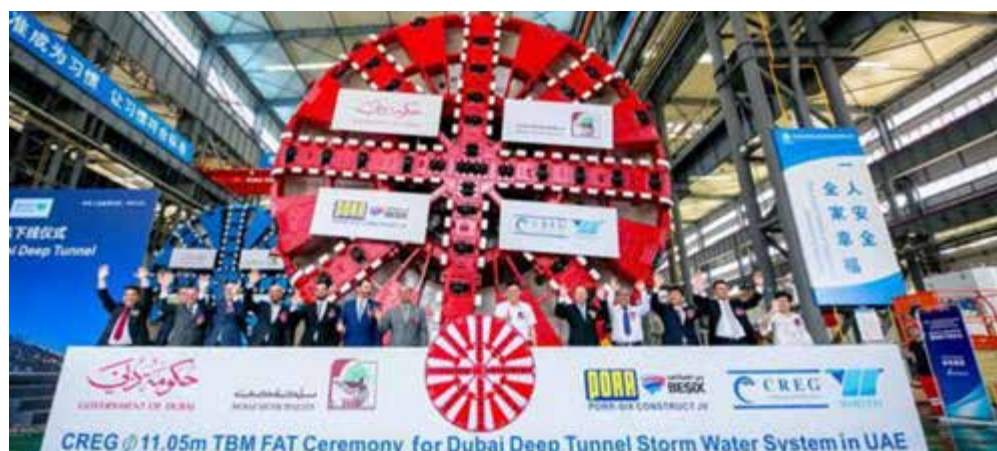


distribution business that represents many of the world's most respected, ethically responsible, food and non-food brands. They distribute to over 400 retail outlets, within the UAE and other Middle Eastern countries, across various channels.

They have a dedicated team of sales personnel, merchandisers, promoters and marketing professionals to efficiently market their brands to target consumers by providing stand-out, on-shelf visibility and consumer product benefit education. A state-of-the-art warehousing and logistics infrastructure support our outstanding service levels.

The Change Initiative is part of Mazrui International LLC, a conglomerate group of companies based in Abu Dhabi. The group consists of more than 85 companies operating in the oil & gas, construction, retail, industrial, healthcare, education, logistics, property, and investment management services.

Dubai's deep-water tunnel project



Building period (2017 – 2019)

This prestigious project was awarded by Dubai Municipality, and holds an estimated contract value of AED 1.3 billion with a construction period of 1,095 days. The objective of the project

is to collect and convey groundwater and storm water runoff from the Dubai World Central area (about 135 km²) and adjacent communities (about 245 km²) which will be discharged into the Gulf.

The drainage system of the tunnel needs to

be strong enough to cope with increasing urbanization, severe rainfall and high-level groundwater. This groundbreaking tunnel will tackle both rainwater and groundwater and will drain almost 40% of the entire urban area of Dubai and including the flagship project Dubai South, with Al Maktoum International Airport, the Expo 2020 site and several other emerging developments.

The purpose of the tunnel is to drain storm water from the Jebel Ali area to the sea. The tunnel will have 4 deep shafts (14-20m diameter, 40 to 45m deep), to connect the connection chambers with the tunnel. 4 connection chambers (one at each drop shaft) will collect/connect water from the storm water network to



the shafts. 2 micro-tunnels (3m diameter / 380m long each) will be built below Sheikh Mohammed bin Zayed road and minor MEP works will take place which include Penstock valves, electrical works, flow monitoring, among others.

ACTIVITIES IN UAE

Milset Expo-Sciences International (ESI)

Zayed Universit
Abu Dhabi



The Milset Expo-Sciences International (ESI) 2019 is the largest event in UAE focusing exclusively on the scientific creativity of young aspirant scientists from all over the world. ESI is an initiative of the International Movement for Leisure Activities in Science and Technology (MILSET), a non-governmental, non-profit and politically independent youth organization, which aims at developing scientific culture among young people through the organization of science-and-technology programs.

Expo-Sciences International also is a noncompetitive multicultural exhibition that showcase STEAM (Science, Technology, Engineering, Arts and Mathematics) projects developed by children and youth from around the world, as well as interactive exhibits by STEAM-related institutions.

More than 1,200 students from around the globe are spending this



week in the capital city of the United Arab Emirates, Abu Dhabi, for an international science initiative.

Youth Science Canada helped to organize the trip for the 45 ambassadors from Canada. According to their news release, "Young innovators from every province and two territories are representing the country at this year's edition of ESI, an international event that brings together student from more than 50 countries to showcase the creativity of young aspirant scientists from all over the world."

More than 500 young scientists from the UAE and more than 1500 international participants from 50 countries around the world attended the exhibition this year. Besides, three members of JASU were chosen from 100 contestants to take part in "Young Citizens Conference" (YCC) dedicated to the topic of Artificial Intelligence (AI).

On September 25, Cultural Attaché of Embassy of Ukraine in the UAE Dmytro Vasylenko came to the event to support 17 Ukrainian exhibition participants. And on the next day,

September 26, the Ukrainian delegation met with Ambassador Extraordinary and Plenipotentiary of Ukraine to the UAE Yuriy Polurez at the Embassy.

The young scientists told about their projects, thoughts about the exhibition and their stay at the UAE, and future plans. They also expressed gratitude to the Embassy for supporting. The Head of the Embassy emphasized that Ukraine is proud of its young talents and expressed the hope that scientific projects of members of JASU would be implemented into real life or educational activities later in future. He also promised to assist in organizing the participation of young Ukrainian scientists in related events that would be held in the UAE.

In addition to the exhibition, the youth had an outstanding cultural and entertaining programme, including the heritage of the UAE and its striking traditions.

UAE Energy Plan 2050



H.H. Shaikh Mohammad Bin Rashid Al Maktoum inaugurates the second phase of the Mohammad Bin Rashid Al Maktoum Solar Park in Al Marmum.

Solar Oark in Al Marmum - Dubai.

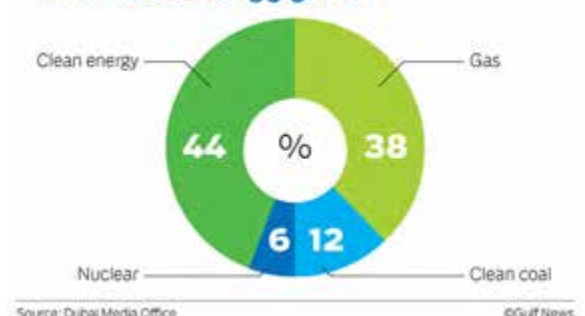
The UAE's decision to achieve a balance between energy production and consumption by 2050 will also help the country meet international environmental commitments. The UAE Energy Plan for 2050 was launched by His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai. Shaikh Hamdan Bin Mohammad Bin Rashid Al Maktoum, Dubai Crown Prince, was present.

The event aims to give birth to a top-quality change

within the culture of energy consumption within the UAE community and diversify sources of energy by doubling the contribution of unpolluted energy and reducing consumption rates in homes and buildings by 40 per cent. in keeping with the strategy, the UAE's energy mix will include clean coal, gas, energy, solar and wind generation, and biofuels. The strategy will aim to take a position Dh600 billion to satisfy demands for energy and ensuring the sustainability of growth within the UAE's economy, and can also end in savings of Dh700 billion. the primary theme focuses on initiatives for the fast transition of power consumption efficiency and diversifying its sources and ensuring the protection of its supply.

The second theme focuses on finding new solutions that enhances power and transport systems, while the third deals with research, development and innovation to confirm the sustainability of energy. The strategy strives to impart a way of responsibility towards the rationalization of energy consumption and increasing awareness of future generations about power consumption.

UAE 2050 energy goals



H.H. Shaikh Hamdan Bin Mohammad Bin Rashid Al Maktoum during the Phase 1 of the Mohammad Bin Rashid Al Maktoum Solar Park at Seih Al Dahal, Dubai.

Wam. (2018, November 1). UAE Energy Plan for 2050 to achieve balance between energy production and consumption. Retrieved from <https://gulfnews.com/business/energy/uae-energy-plan-for-2050-to-achieve-balance-between-energy-production-and-consumption-1.1959893>

ACTIVITIES IN UAE

Dr. Laurie Marker: Cheetah Conservation Talk

Surf House, Dubai

Dr. Laurie Marker is the founder and executive director of the Cheetah Conservation Fund, a non-profit for cheetahs in the wild. As a child, Dr. Laurie was always around animals, and she joked that she did not expect that she would end up with a focus on cheetahs.

Cheetahs are endangered, their habitats are being taken away, and they are illegally traded. They face many problems and their numbers are lessening. Moreover, they do not have a genetic adaptability or variety.



Taking care of our planet includes taking care of our animals and focusing on conservation efforts. The Cheetah Conservation Fund is but one of many organisations that focus on conservation efforts.



Check out the organization at cheetah.org and support the conservation fund as best you can! They are always looking for volunteers.

edec 2020 10th EMIRATES DIABETES & ENDOCRINE CONGRESS 27-29 February 2020 | Dubai, UAE

Zayed University Dubai Campus

EDEC was organized by Emirates Diabetes Society (EDS) which aims to educate the healthcare community and enable professionals in providing patient care, counseling and guidance about diabetes. Moreover, it aimed at developing

regional faculty sharing their expertise in the field through different scientific sessions over 3 days. It provided lectures on young adults' diabetes, technology advances, obesity, pediatric endocrinology, cardiovascular diseases, genetics, and other related topics.

local guidelines for the management with a multidisciplinary approach. EDEC is the region's premier platform to update participants on the recent advances in the ever-changing field of diabetes and endocrine diseases. The congress had more than 40 international and



SciFest

Zayed University
Dubai Campus

SciFest Dubai is a platform to promote creative, critical thinking, innovation, and STEAM education. The aim is to promote a love for science

and a deeper understanding of scientific method. The 2020 edition of the Dubai Science Festival took place from 23 - 31 Jan. SciFest Dubai's knowledge partners include Dubai's KHDA and the UK National Space Academy.

The theme of this year's festival was Emerging Technologies and the festival takes at various schools, universities,

and science venues in the city. The aim is to celebrate science through the arts and promote scientific literacy and STEAM education. The 2020 edition of SciFest Dubai is presented in partnership with Awecademy - a future-focussed educational organization based out of Toronto, Canada, that is disrupting traditional high school curricula and inspiring students to

bring about civilisation-level change. Through an online platform and off-line programs, Awecademy future-proofs high school students, educators, and industry leaders with new smarts and critical survival skills by combining innovative curricula with machine learning, artificial intelligence, and blockchain technology.

Using drones to plant one million Ghaf trees in UAE



The project spanned 25 locations in the northern, eastern, and central regions in the UAE

As part of the BIO-202 course, a trip to Abu Dhabi was organized by Dr. Sreepoorna Pramodh to visit the hydroponics lab located at the Zayed University campus.

The word hydroponics is a portmanteau combining the word 'hydro' which is 'water' and 'ponics' derived from the Greek word 'ponos' meaning labor. By definition, hydroponics is the process of growing plants in sand, gravel, or liquid, with added nutrients but without soil.

Growing plants, utilizing every resource, and taking advantage of all the supplies we have in the country is very important for food security reasons. Which is why the UAE is constantly looking at game-changing innovation, breakthrough technologies to ensure food security for future generations.

Zayed University's hydroponics laboratory is a specialized area where multiple types of plants are being grown using water infused with specific nutrients (Nitrogen,

Potassium, and Phosphorus). Zayed University has many goals regarding hydroponics; For example, making the process more accessible and cost effective, and ensuring the United Arab Emirates can maintain or improve the state of food security.

The apparatus used consisted of PVC pipes connected by a pump to a bowl, that gets filled with the nutritious solution for 10 minutes every hour. The PVC pipes hold the pots filled with soil (the soil used is cheap soil with little to no nutrients, however it is being used because it is cost effective and so the plant can have something to hold onto). A



bright light atop the entire apparatus, so the plant can photosynthesize.

The growth of the plants in the lab depends on the type of plant, amount and concentration of solution used, type of nutrients and intensity of the light. According to the observations made in the Zayed University Hydroponics Laboratory, the best plants to grow using the hydroponics process are cucumbers and tomato plants.



Kulna Garden

Outside Wing B, Zayed University, Dubai



Kulna is a dedicated group of academics, researchers, students and community gardeners who are co-designing a food system 'from ground to table. They engage in lively dialogue about food security and strategize on how to grow their own green garden. They also transform waste into sustainable compost used for growing vegetables, herbs and

flowers and use sustainable water consumption practices to conserve water. In addition, they use organic seeds and are experimenting with wicking bed technology to stimulate underground water sources. They feed their plants from both root and surface allowing for the plants and food they grow to retain nutrient rich medicinal properties.

Organic Compost

Outside Wing D, Zayed University, Dubai

Students of the Microbiology course have a project where they must create their own organic compost. They begin at the start of the semester so that the materials have time to decompose. Students must bring peelings of fruits and vegetables once a week to add it to their box, which then gets covered with layers of leaves. The compost then is used for the Kulna Garden outside of Wing B. The benefits of composting are: it reduces the need for chemical fertilizers, it encourages growth of beneficial bacteria, it reduces emissions from landfills, and it lowers your carbon footprint.



Student’s Hangout Spot



Zayed University, Dubai

During students’ free time at university, many prefer to hang out in the library with their friends as it has a beautiful and comfy seating area, in addition, it has a quiet zone

area which is very useful for long breaks as they can use their time to work on assignments and homework. Furthermore, the library has rooms that can be booked for a certain time for students to work on their group projects or homework. This is very

useful especially during finals week where the library becomes very busy and crowded. Many students also like to get their coffee from the second cup that is located within the library moreover it's quite a lively location in the university.



Faculty Interview



Dr. Dalia Haroun

- 1. **Position:**
Associate professor in nutrition
- 2. **College/Department:**
College of Natural and Health Sciences /Department of Public Health and Nutrition.
- 3. **What are your research interests?**
Maternal and child health, body composition, school health.
- 4. **How did you get into your field?**
I was interested in science and food!
- 5. **What are the exciting things you are doing now?**
Teaching undergraduate students Nutrition, doing research on date palms, and analyzing body composition data.



Dr. Robert Boldi

- 1. **Position in the College:**
I’m an Associate professor, as well as the assistant chair of LES (Life and Environmental Sciences).
- 2. **College/Department:**
College of Natural and Health Sciences Department of Life and Environmental Sciences.
- 3. **What are your research interests?**
Urban air pollution, the chemistry of polluted atmospheres found in cities, such as Dubai, Boston, or New York.
- 4. **How did you get into your field?**
Random luck, I was a student and my advisor who I was working with was doing research on the topic, so I got interested in it.

- 5. **What are the exciting things you are doing now?**
Measurements of the chemical compositions of the particles in the air. Moreover, students are involved in this research, which is exciting.



Dr. Carole Ayoub Moubareck

- 1. **Position:**
Associate professor in the college of natural and health sciences.
- 2. **College/Department:**
College of natural and health sciences.
- 3. **What are your research interests?**
Bacterial antibiotic resistance and human microbiota

- 4. **How did you get into your field?**
Curiosity about investigating microorganisms that surround us.
- 5. **What are the exciting things you are doing now?**
Composting project with microbiology students.

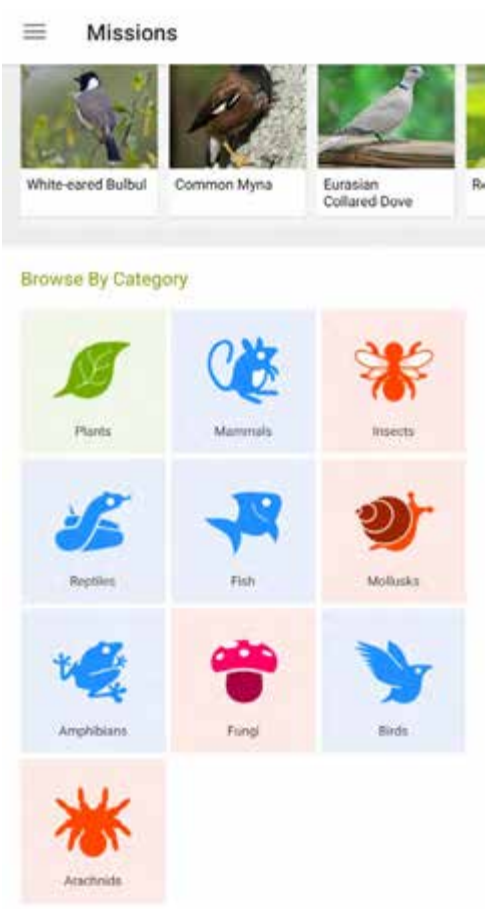
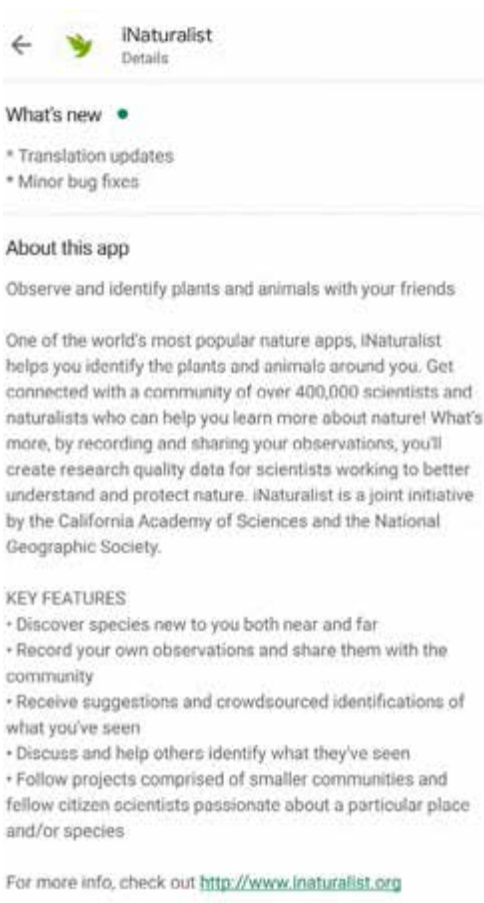


iNaturalist (Application)

Zayed University, Dubai

iNaturalist is a global application that aims to help identify and learn about different species. The benefit of this application is that it helps create a database for a specific country or region (With location services enabled) in order to have more concrete information regarding which species reside where.

Moreover, you can learn about many species by participating in the application, or even just browsing through people’s discoveries. You can take pictures of many different species, including plants, insects, mollusks, fungi arachnids, mammals, reptiles, fish, amphibians, and birds. It is fun to try to identify what you find, or wait for people to give an identification to your pictures. Whatever you end up doing in the application, it is a great learning experience. And who knows? Perhaps you will have a greater appreciation for nature after using it, or end up working in conservation or similar fields.



Roudha’s Love for Microbiology



Zayed University, Dubai

My favorite subject that I find really interesting and quite mind blowing is microbiology especially the labs as we study the microorganisms in our environment, their advantages, types, where they are found and their shapes and colors. We also learn how the microorganisms were discovered and by who, how we should classify and name microorganisms and we also study their complexity under the microscope. Furthermore, we make our own yogurt and beetroot chips using good bacteria and produce our own compost that is used to plant trees and plants in the university’s garden.



How to Have a Healthy Lifestyle

Zayed University, Dubai

Physical fitness is not the sole basis of being healthy; being healthy means being mentally and emotionally fit. Being healthy should be part of your overall lifestyle. Living a healthy lifestyle can help prevent chronic diseases and long-term illnesses. Feeling good about yourself and taking care of your health are important for your self-esteem and self-image. Maintain a healthy lifestyle by doing what is right for your body.

If you want to be a well-rounded, healthy individual, here are a couple

of staying healthy tips that may help you do just that:

- 1. Have a routine. Give at least twenty to thirty minutes a day to exercise at least three to five times a week.
- 2. You need to keep eating healthy. Add more fruits and vegetables in your diet and eat less carbohydrates, high sodium and unhealthy fat. Avoid eating junk food and sweets.
- 3. Every now and then, to keep the stress and the demands of life from taking over, take a break to do something you love doing.
- 4. And lastly always stay positive!



Movie Review

INTERSTELLAR


Zayed University
Dubai Campus

INTERSTELLAR is a movie that came out in 2014. This movie is set in the future where the earth is unsafe for living due to stand storms and blight, the movie focuses on a group of researchers with the mission to find another planet suitable for living. I give this movie an 7.5/10, I like the mixture of both fiction and non-fiction, I think the plot of the movie is interesting as it focuses on an issue that humans will face in the far future. The movie also has the suspense variable as we the audience get really anxious and interested on how the characters will solve the issue and how will they deal with the obstacles in their journey.



BEFORE THE FLOOD

BEFORE THE FLOOD is a documentary that focuses on the impact of climate change. I like this documentary because it shows the audience real footage of the effect of climate change in various regions. The mission of this film is to show people how serious climate change is. I give this movie a 9/10 I think it is a great way to spread awareness plus choosing a very famous actor L.DiCaprio as the narrator is a great way to attract audience to such an important issue.





Movie Review

the THEORY of EVERYTHING

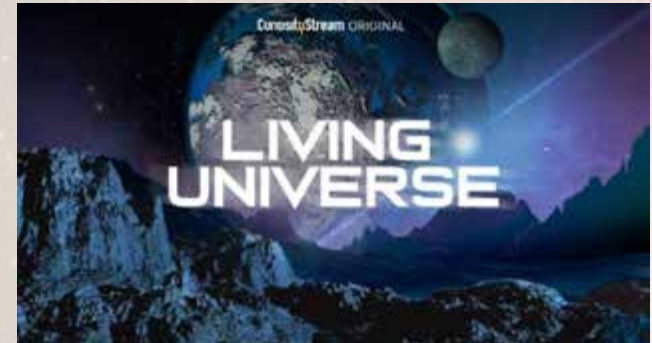
THE THEORY OF EVERYTHING based on a true story about Stephen Hawking’s motor neuron disease. In the 1960s, Cambridge University student and future physicist Stephen Hawking (Eddie Redmayne) falls in love with fellow collegian Jane Wilde (Felicity Jones). At 21, Hawking learns that he has motor neuron disease. Despite this -- and with Jane at his side -- he begins an ambitious study of time, of which he has very little left, according to his doctor. He and Jane defy terrible odds and break new ground in the fields of medicine and science, achieving more than either could hope to imagine.



LIVING UNIVERSE

THE LIVING UNIVERSE is a documentary that was released on the 8th of August 2018. It highlights how early human exploration started. It gets into details of how they've discovered the planets, stars and the process of how the earth

orbits other planets. This documentary also includes several well-known scientists that are known for being knowledgeable when it comes to the solar system and the next generation of space ships such as Natalie Batalha and Gentry Lee.



THE LAST OF US

is a 2013 action-adventure survival horror video game developed by Naughty Dog and published by Sony Computer Entertainment. Players control Joel, a smuggler tasked with escorting a teenage girl, Ellie, across a post-apocalyptic United States. The Last of Us is played from a third-person perspective. Players use firearms and improvised weapons, and can use stealth to defend against hostile humans and cannibalistic creatures infected by a mutated strain of the Cordyceps fungus. In the online multiplayer mode, up to eight players engage in cooperative and competitive gameplay.

After the game's release, Naughty Dog released several downloadable content additions. The Last of Us: Left Behind

adds a single-player campaign following Ellie and her best friend Riley. A sequel, The Last of Us Part II, was announced in December 2016, and is scheduled for release on May 29, 2020.



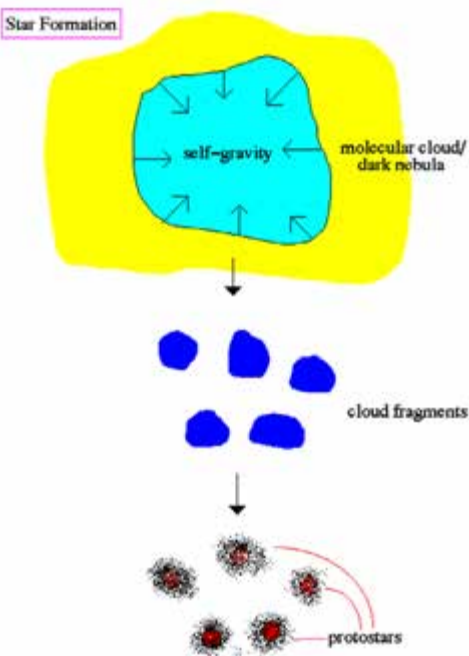
How stars are formed?

Zayed University, Dubai

Galaxy

Stars form inside relatively dense concentrations of interstellar gas and dust known as molecular clouds. These regions are extremely cold (temperature about 10 to 20K, just above absolute zero). At these temperatures, gases become molecular meaning that atoms bind together. CO and H₂ are the most common molecules in interstellar gas clouds. The deep cold also causes the gas to clump to high densities. When the density reaches a certain point, stars form. Since the regions

are dense, they are opaque to visible light and are known as dark nebula. Since they don't shine by optical light, we must use IR and radio telescopes to investigate them. Star formation begins when the denser parts of the cloud core collapse under their own weight/gravity. These cores typically have masses around 10⁴ solar masses in the form of gas and dust. The cores are denser than the outer cloud, so they collapse first. As the cores collapse, they fragment into clumps around 0.1 parsecs in size and 10 to 50 solar masses in mass. These clumps then form into proto-stars and the whole process takes about 10 million years.



The Effects of ACID RAIN



Acid rain occurs when carbon dioxide in the air slightly lowers the pH levels. Naturally occurring acidic rain has little effect on humans. On the other hand, industrial pollutants can cause extremely acidic rain. Acid rain effects can be harmful to both humans and the environment. In a world free of pollutants, acid rain would be a rare occurrence. Volcanic eruptions and vegetation rot cause small amounts of acid rain. Snow can melt and release high levels of acidic water from prior acidic rainfall, as well. Unfortunately, industrial pollutants like coal-burning plants

and cars or buses release harmful amounts of sulfur dioxides and nitrogen oxides each day. Both combine with carbon dioxide in the air and cause rainwater's pH to drop. Rainwater that would otherwise be safe suddenly becomes a health hazard. Acidic water poses few immediate health risks to humans. The most immediate acid rain effects are manmade pollutants. Industrial pollutants from sulfates and nitrates that people unknowingly breathe in. Studies show increased risks for heart attacks and respiratory

problems for people exposed to these particles. Nitrogen oxides in pollutants also cause unusual acid rain effects like ground-level ozone to occur. Direct exposure to ozone can cause emphysema or even chronic pneumonia. Acid rain in higher altitudes can turn into a low fog. Acidic rain in the form of fog can irritate the eyes and limit visibility. Acid rain can break down chemicals in the ground, releasing minerals and causing acidity in the soil. Leaves may wilt and die when exposed to acid rain. One of the

most devastating effects of acid rain? Acidic soil yields little growth. Crops can fail when acid rain runoff pulls aluminum and other minerals from the soil. Other effects of acid rain include disturbances in moving or still waters. Alkaline water has a pH of 7 or higher. Water below a pH of 5 is harmful to most fish. Aquatic organisms filter the acidic water into their body when breathing and can become sick or even die. Extremely alkaline or acidic water can also kill fish eggs. In some cases, large populations of fish have died because of acid rain effects, taking the fish industry by surprise.



Are E-cigarettes safer than regular cigarettes?



The increase in e-cigarette use, particularly among young people, is a dangerous trend with real health risks. For many reasons, e-cigarettes should not be promoted as a safe alternative to smoking.

While fewer people are smoking or starting to smoke than ever before, many are using other forms of tobacco and electronic nicotine delivery systems. The increase in e-cigarette use (also called vaping) by kids and young people in recent years is a serious public health threat.

The battery-operated devices come in many forms and can look like conventional cigarettes, pens or even sleek tech gadgets. Users inhale and exhale a

vapor-like aerosol. This way of taking in nicotine poses health risks to both users and non-users.

E-cigarette promoters claim the devices can help people quit smoking. But much more evidence is needed to determine if they are an effective way to quit. Research suggests that users are more likely to continue smoking along with vaping, which is referred to as “dual use.”

Many people think vaping is less harmful than smoking. While it's true that e-cigarette aerosol doesn't include all the contaminants in tobacco smoke, it still isn't safe. Here are just a few of the reasons why:

- Most e-cigarettes deliver nicotine, which is highly addictive and can harm the developing brains of teens, kids and fetuses in women who vape while pregnant. Some types expose users to even more nicotine than traditional cigarettes.
- In addition to nicotine, e-cigarette vapor includes potentially harmful substances such as diacetyl (a chemical linked to a serious lung disease), cancer-causing chemicals, volatile organic compounds (VOCs), and heavy metals such as nickel, tin, and lead. Users breathe in these toxic contaminants, and non-users nearby risk secondhand exposure.
- The liquid used in e-cigarettes can be dangerous, even apart from its intended use. Children and adults have been poisoned by swallowing, breathing or absorbing the liquid through their skin or eyes.
- E-cigarettes have been linked to thousands of cases of serious lung injury, some resulting in death. While the exact cause is still not confirmed, the CDC recommends that people not use e-cigarettes.

E-cigarettes' biggest threat to public health may be this: The increasing popularity of vaping may “re-normalize” smoking, which has declined for years. Reversing the hard-won gains in the global effort to curb smoking would be catastrophic. Smoking is still the leading preventable cause of death and is responsible for 480,000 American lives lost each year.

Palm Oil Industry

Zayed University, Dubai

In the past 3 decades palm oil has become one of the most consumed and traded oil on the planet. Many are unaware of the presence of palm oil in their daily products; palm oil is a main component in make up, soap and detergents. Palm oil is made of specific species of palm tree that is found in the southeast Asian rainforest. This palm tree is heavily located in the Indonesian island, Sumatra and the Malaysian island Borneo, these islands are the largest exporters of palm oil.

Sumatra and Borneo both have diverse and complex ecosystems. Animals of the southeastern rainforest depend on the palm tree as a source of nutrition and security. However, the overproduction of palm oil is leaving thousands of animals vulnerable. The orangutan, which has been depicted as the icon for protest against palm oil production, has lost more than

80% of their original habitat. For the sake of palm oil production a dozen of orangutans are brutally killed. The possible extinction of orangutans will have a worldwide affect because just like bees orangutans are “keystone species” without them an entire ecosystem will collapse.

Just like any industry, the palm oil industry has a major affect on the environment. To build palm oil plantations vast areas must be cleared the cheapest and fastest option is using fire. Everyday 655000 meters of plant life is burned down. This fire releases dark fumes of carbon monoxide, carbon dioxide and other harmful gases and pollutants into the atmosphere. The production of 1 ton of palm oil produces 2.5 tonnes of sewage and waste. The sewage created is then released to the freshwater in surrounding areas, polluting the water supply for thousands of people and animals.



Biophilic Design

Zayed University, Dubai

It suggests that we all have a genetic connection to the natural world, and we are innately and emotionally attracted to other living organisms, this explains what Biophilia is. Biophilia is a term popularized by the American biologist Edward O Wilson in the 1980's, when he observed how increasing rates of urbanization were leading to a disconnection with the

natural world. Biophilia is important to our health and well-being in the built environment.

Biophilic design is an extension of biophilia and it's an idea that is used inside the building industry to increase occupant connectivity to the natural environment through incorporating natural materials, natural light, vegetation, nature views and other experiences of the natural world into the modern built environment.

There have been various studies in the recent 35 years on the advantages to the built environment through improving a connection to nature. And they have shown that incorporating natural elements in our homes, offices and other public spaces can contribute to our physical and emotional health.

Biophilic design have a positive impact on several fields such as hospitals, shopping malls, hotels, offices and etc... In the workplaces, the productivity has been increased by 8%. In schools, the impacts of ADHD (Attention deficit hyperactivity disorder) are reduced, test scores are improved as well as

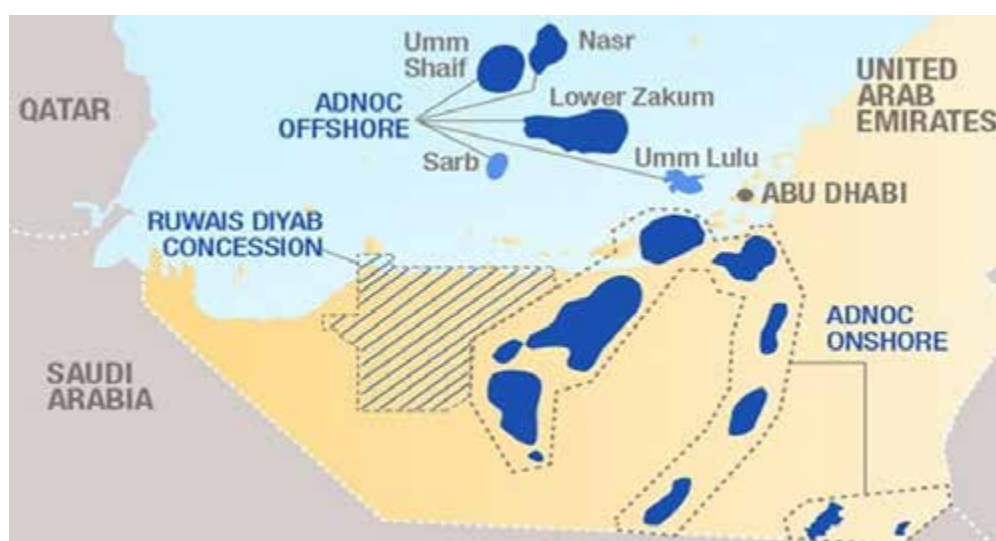
concentration and attendance.

Moss walls is the biggest trend in biophilic design. They are created using real moss. One of the most famous moss walls in Dubai can be found at Green dunes a 4.8 by 2.6 meters, 3D vegetal sculpture that was exhibited as part of Downtown Design Dubai in 2014. Another distinctive example of the use of Moss walls can be seen in Al Forsan Cafe in Abu Dhabi.

Biophilic design is a rapidly evolving discipline and is set to become a vital part of making the kind of modern, livable Ecocity that UAE aspires to be.



Hydraulic Fracturing

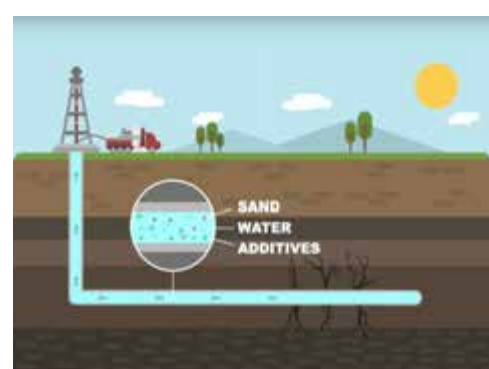


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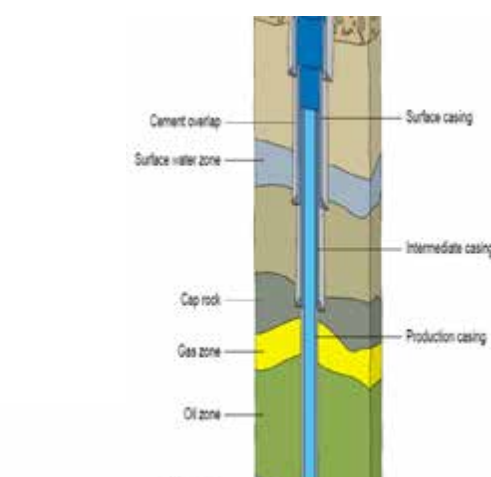
Hydraulic fracturing, or fracking is a process used to extract crude oil and natural gas from rocks underground. The process starts with drilling a well (a hole) thousands of feet into the ground and inserting a casing and some other coating materials to pass a liquid through it. The liquid mostly consists of water and sand and some other chemicals that is injected at an extremely high pressure. The pressure exerted on the rocks underground will cause them to fracture creating a flow path for the oil and gas

trapped inside. As pressure is relieved, the oil and gas will start flowing back to the surface through the same well casing.

Fracking technology has been used for many years in several countries including the United Arab Emirates. The Abu Dhabi National Oil Company (ADNOC) has started the use of fracking technology in October 2018, putting UAE in the lead in the Middle East in terms of exploring gas. A number of wells were drilled in Jurassic Diab by ADNOC. The common types of rocks found in the UAE are tight organic-



Replying to @MohamedBinZayed
With the blessing of HH Sheikh Khalifa, the Supreme Petroleum Council approved AED 486 billion in capex to support #ADNOC's 5-year growth plans, including its gas strategy to become self-sufficient & a net gas exporter. ADNOC will increase oil production capacity to 5mpbd by 2030



rich carbonated rocks, which contain gas, coal, and some other organic compounds. Another recent fracking activity was carried out for the first time in Haliba field in July 2019, as reported by Al Dhafra Petroleum. The UAE's Supreme Petroleum Counsel reported a growth in the oil and gas reserves placing the UAE sixth globally for oil and gas reserves. As it is expected for the oil production to rise in the future "ADNOC will increase oil production capacity to 5mpbd by 2030" Says Sheikh Mohammad Bin Zayed on his post on Twitter.

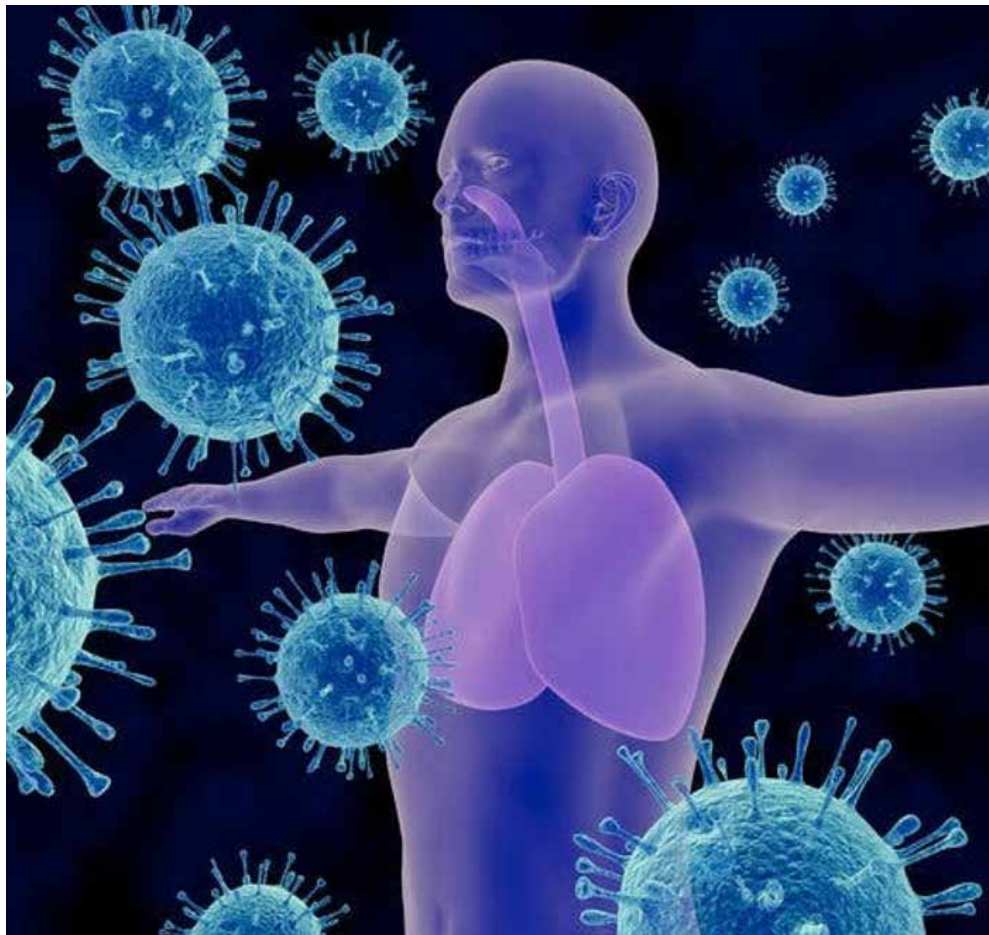
Although fracking could be a very useful method that allows us access to the most vital sources of energy used in our daily lives, as it can pose a threat to the environment. Fracking can affect the air quality by releasing methane gas during the process along with other pollutants to the atmosphere. Water shortage is another issue, as millions of gallons of water are used in the process and the chemicals included in the procedure have the tendency to leak back into the local water supplies, reducing the amount of clean water available. Last but not least, it encourages people to depend more of fossil fuels.

Ways to boost your immunity

Zayed University, Dubai

As we are experiencing the pandemic of Corona, which first emerged in Hubei, China then quickly became a global outbreak which was characterized as a pandemic by the World Health Organization on 11 March 2020, there are many things we must consider to prevent Corona. For example washing our hands, disinfecting our belongings and most importantly ways to boost our immunity.

- Eat plenty of vegetables, fruits, nuts, and seeds, which will provide your body with the nutrients your immune system needs. A study in older adults showed that boosting fruit and vegetable intake improved antibody response to the Pneumovax vaccine, which



protects against Streptococcus pneumonia.

- Get enough sleep and manage stress: Sleep deprivation and stress overload increase the hormone cortisol, prolonged elevation of which suppresses immune function.
- Consider probiotics: Studies indicate supplements reduce the incidence of respiratory and gastrointestinal infections. Fermented milk products have also been shown to reduce respiratory infections in adults and kids.
- Catch some rays: Sunlight triggers the skin's production of vitamin D, as Low Vitamin D levels correlate with a greater risk of respiratory infection.
- Go for the garlic. Garlic is a broad-spectrum antimicrobial agent and immune booster. Because heat deactivates a key active ingredient, add it to foods just before serving.

The Mandela Effect

Zayed University, Dubai

The Mandela Effect is similar to the psychological concept of confabulation, involving various forms of memory falsification. However, believers in the Mandela Effect, sometimes citing quantum mechanics, think a shared false memory is evidence of parallel universes that have intersected or slid into each other, such that those who remember Mandela's death in the 1980s are simply remembering events that occurred on a timeline in another reality.

The Mandela Effect gained popular attention in 2016 when a story went viral concerning the children's book series the Berenstain Bears. As discussed as early as 2012 on a blog post, many people had believed that the bear family's



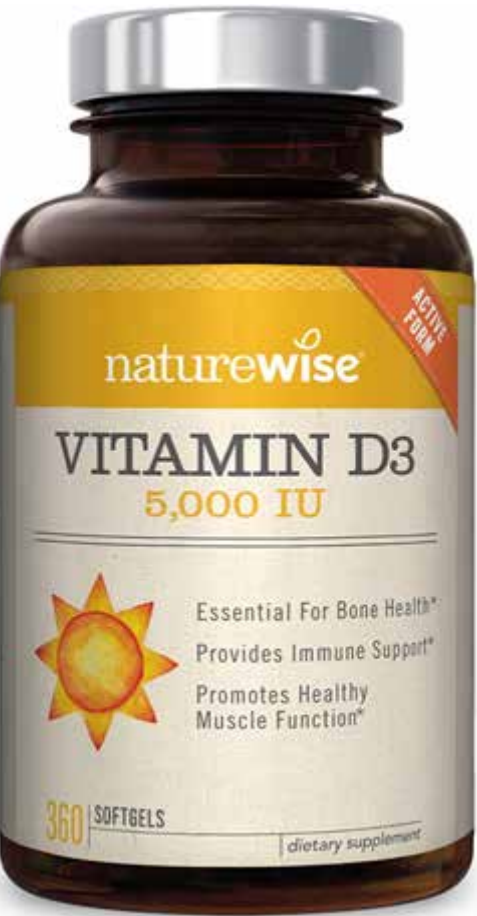
surname was always spelled Berenstain, with three E's though it's actually Berenstain, with an A in the last part of the name. Though

most believe this misremembering has more to do with the unusual spelling and hazy memories, some believers in the Mandela Effect

suggested their collective alternate memory pointed to parallel realities, home to a Berenstain family and a Berenstain one.



Why is Vitamin D important



Zayed University, Dubai

Your body must have vitamin D to absorb calcium and promote bone growth. Too little vitamin D results in soft bones in children (rickets) and fragile, misshapen bones in adults (osteomalacia). You also need vitamin D for other important body functions. Vitamin D deficiency has now been linked to breast cancer, colon cancer, prostate cancer, heart disease, depression, weight gain, and other maladies. These studies show that people with higher levels of vitamin D have a lower risk of disease, although they do not definitively prove that lack of vitamin D causes disease -- or that vitamin D supplements would lower risk.



NASA's ARTEMIS Project

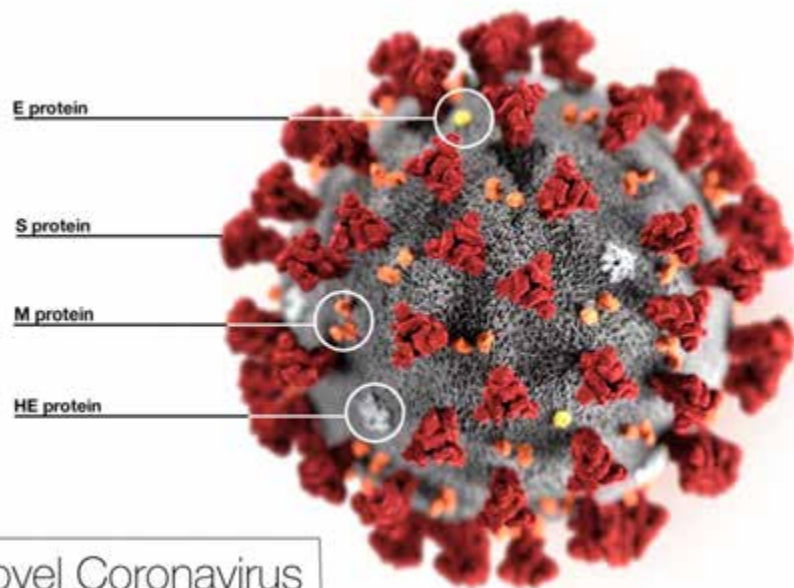
Zayed University, Dubai

NASA has big plans to send astronauts to the moon in 2024 under its Artemis program. The program's name is derived from Artemis, the Greek goddess of the moon and twin sister to Apollo, the name of the program that first brought crews to our satellite 50 years ago. NASA announced

that it will collaborate with nine university teams to develop satellite technologies related to navigation and the management of heat transfer in small machines. Jim Bridenstine, the space agency's administrator, told reporters on the day of the announcement that the name represents the program's goal of inclusion and that NASA intends to land the first woman on the moon under its current plans.



COVID-19: Novel Coronavirus



The novel coronavirus pandemic has caught a lot of international attention because of the nature of its infection rate and mass hysteria. But just as with any disease, it is important to break it down and look at it in a logical manner in order to not feel panic or distress.

It is important to understand that COVID-19 is a virus, not a bacterium. Therefore, please do not use antibiotics, as they will simply grow to be resistant for no reason at all. Moreover, regular face masks do not actually work well, and advanced medical masks are not safe to breathe

in for casual use. You can use a face mask (White side = germs; so if you want to prevent them, wear the white part out), but you must couple it with other prevention methods.

In terms of prevention, washing with soap and water is the best way to go. You can also use a sanitizer that is at least 60% alcohol. Try to minimise unnecessary contact and keep washing your hands whenever you touch something new. Try to also sanitise your items and eat homemade foods only. If you cough for any reason, do it into the nook of your elbow, and remind others to do the same.



It is very important to be cautious while still maintaining a clear head and not contributing to the mass hysteria currently present because of coronavirus. Most importantly, it is

important not to fall into the action of using the virus as an excuse to be racist and discriminatory. Be careful with your language and the words you choose.

Corona Symptoms

The corona outbreak quickly moved from China to several places around the world. It spreads the same way other coronaviruses do: through person-to-person contact.

Symptoms can show up anywhere from 2 to 14 days after exposure. Early on, they're a lot like the common cold. You might notice:

- Fever
- Cough
- Shortness of breath

Infections range from mild to serious. Some people don't even show any signs which makes fighting this disease all the more problematic to diagnose. The virus can turn deadly if it leads to pneumonia, respiratory failure, or septic shock. Those most at risk of death are the elderly and people with weakened immune systems.



Flu vs. Coronavirus - Which one is more Dangerous?



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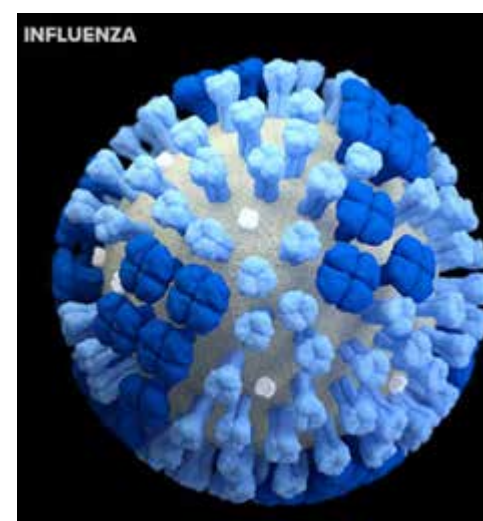
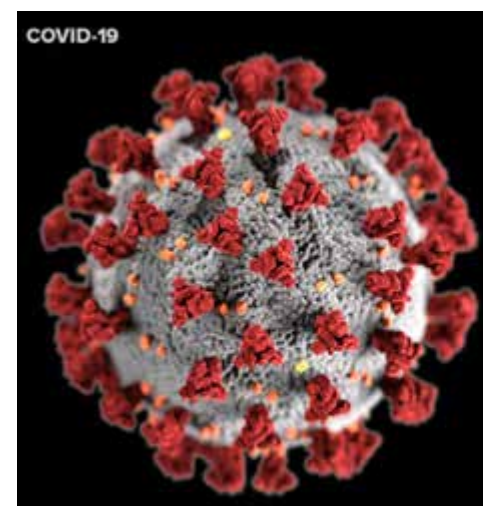
The new coronavirus outbreak has made headlines in recent weeks, but there is another viral epidemic hitting the countries around the world. It's flu season. How do these viruses compare and which one is really more worrisome?

So far, the new coronavirus had led

to more than 100,000 illnesses and more than 3,000 deaths worldwide. But that is nothing compared with the flu. According to the centers for disease control and prevention (CDC), the flu in U.S only has caused an estimated 34 million illnesses, 350,000 hospitalizations and 20,000 deaths. In addition, both

seasonal flu viruses (Influenza A and Influenza B) and COVID-19 are contagious viruses that cause respiratory illness. Furthermore, the death rate for COVID-19 appears to be higher than that of the flu.

Moreover, it is easy to protect yourself from seasonal flu by getting vaccine, but there is no vaccine for COVID-19. Researchers at the U.S national institutes of health are in the early stages of developing vaccine for COVID-19. Officials plan to launch a phase 1 clinical trial of a potential vaccine for COVID-19 within the next few months. In general, the CDC recommends the following to prevent the spread of respiratory viruses, which include both coronaviruses and flu viruses: Wash your hands often with soap and water for at least 20 seconds; avoid touching your eyes, nose and mouth with unwashed hands; avoid



close contact with people who are sick; stay home when you are sick; and clean and disinfect frequently touched objects and surface.

Isolation and Coronavirus

Zayed University Dubai Campus

Isolation is separating those with confirmed infections from other people, so that they can get better without infecting anyone else. If you can identify everyone who has been infected with the virus and safely isolate them from other humans while they are in treatment, you can stop outbreaks for which there are no vaccines or treatments.

Stopping an outbreak "really comes down to how good individual public health agencies are at detecting cases, getting them care, putting them into isolation, and how good the people who are infected are at their own hygiene," Nathan Grubaugh, an epidemiologist at the Yale School of Public Health, said in January. (Isolation was the main way the 2003 SARS outbreak was contained.) Isolation of the sick may help slow the spread of the current Covid-19 outbreak.

But experts doubt it can be totally contained and stopped in this manner. "There's already too many undiagnosed cases out there," Tara Smith, a professor of epidemiology at Kent State University, says. People with Covid-19 may be spreading the virus before they have symptoms, or they may have mild symptoms and are going about their daily lives spreading the virus.

A key to making isolation work is to pair it with contact tracing. While sick patients are in isolation, public health workers can do detective work, figuring out all the people those patients had contact with. That way, they can find a patient's source of the disease and potentially isolate them, as well as identify people who are at risk of contracting the disease and place them under isolation or quarantine.



Busy in Quarantine

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Sometimes you have free time and want to be productive, but you're not sure what to do or where to find content. There are many websites and applications where you can learn new things!

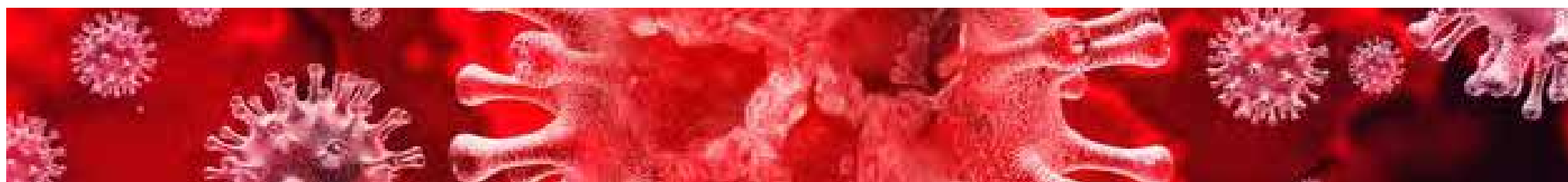
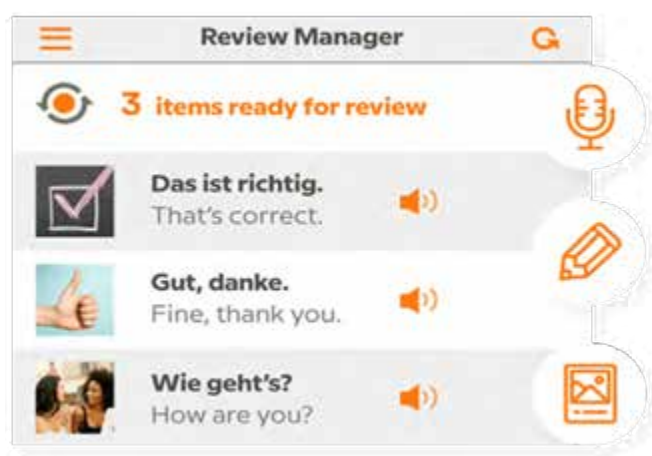
Applications like Duolingo and Babbel can help you learn languages. It's fun to learn a new language or keep practicing one. Communication is key, and people tend to like if you can speak their languages! Really, speaking two languages as a minimum has become the norm in the UAE, so why not go further?

Websites like Coursera provide official courses and even full academic degrees! Coursera offers certificates for their courses which you can

present in your CV and working life. They have several online Master's and Bachelor's courses, which are very interesting. You might even have a new passion by taking a new course!

Other websites such as Skillshare and Masterclass offer workshops and classes that teach skills such as painting, recording podcasts, languages, cooking, conservation, and many more! Who knows what they can lead to in the future if you work on them now?

Do note that some of these require payments for full access, but they are quite useful! If anything, it's good to pass the time learning something new for fun.



How is the world reacting to Coronavirus?



Zayed University, Dubai

Covid-19 is a disease caused by a new strain of coronavirus, it is scary. It's spreading fast, there is currently no vaccine or preventative treatment for it, and we don't know how deadly it actually is. Under these circumstances, it's understandable that people would be frightened. One of the effects of this

outbreak is racism against Asian people. Many Asian people have received threats and were harassed on the streets just for being Asian, as the disease's first outbreak was in China. A similar situation occurred in the outbreak of Ebola as Africans were discriminated against and people even refused to sit beside them in public transportations. Another reaction we are receiving from the world due to the outbreak is

"panic buying" which is a term used to describe people buying months' worth of supply while in a panic mode. Hand sanitizers and face masks are being sold out everywhere as people lack the knowledge that applying hand sanitizer isn't equivalent to washing your hands and that hand sanitizers are for killing bacteria while the corona virus that is actually causing all this hustle is actually a virus.

Editorial Team

Senior Editor:

Dr. Shoaib Ahmed Malik
(shoaib.malik@zu.ac.ae)

Student Team:

- 1) **Mizna Zaid AlMaazmi (Student Editor)**
- 2) **Roudha Saeed AlMheiri**
- 3) **Shirin Mansoor AlAwadhi**
- 4) **Ayesha Khalid Alsuwaidi**
- 5) **Noora Nader Fikri**
- 6) **Latifa Ahmad AlShamsi**
- 7) **Alya Sanad AlMusaiebi**
- 8) **Hadeel Abdulla Mohammed**

Word from the Editor

Hello Everyone,

As the editor of this student newsletter I wanted to reach out to all the students who participated. Thank you for your hard work, patience and dedication in making this project come to life. Though the student dedication was strong, we also required assistance from various faculty members to help build the content. There are too many to name here but this is also a shout out to all of you in saying a big thank you for being a part of this project. This could not have happened without all your valuable input, particularly Dr. Fares whose advice and guidance was incredibly instrumental. I would also like to thank Mr. Ummer Usman and the rest of

the publishing team for their excellent support in designing the layout of the newsletter. On behalf of everyone involved I can only say that we hope you enjoy the newsletter! If you have any ideas, suggestions or advice regarding the content for our next newsletter, please do not hesitate to get in touch with me.

Finally, for potential students who want to take part of the in the student newsletter, please don't hesitate to get in touch with me regarding participation.

Have a wonderful summer break!

Regards,

Dr. Shoaib Ahmed Malik

