



# SCAN & LEARN

A Reality Inside

[www.koolelegance.com.my](http://www.koolelegance.com.my)

## MALAYSIA'S FIRST AUGMENTED REALITY MAGAZINE

VR IN HEALTHCARE

THE BIRTH OF  
ELECTRIC CARS

EDUCATION AND ITS NEXT BIG  
STEP TOWARDS TECHNOLOGY

## ONE WORD AND THE WHOLE WORLD SHAKES – CORONA!



# What's Inside ?

*01 - Did Dinosaur blood run hot or cold?  
Their eggshells may hold a clue* 04

*02 - The Birth of Electric Cars* 06

*03 - How does a drone work* 08

*04 - The History of Baklava* 10

*05 - Education and its next big step towards  
Technology* 12

*06 - How devastating would a volcano  
eruption be to Malaysia?* 14

*07 - One word and the whole world  
shakes - Corona!* 16

*08 - VR in Healthcare* 18

*09 - Book Rocket Launch online with SpaceX* 20

*10 - AR Puzzle* 22



# DID DINOSAUR BLOOD RUN HOT OR COLD? THEIR EGGSHELLS MAY HOLD A CLUE

*A throwback to the Jurassic period*





The image of cold-blooded, scaly, reptilian dinosaurs imprinted in our imaginations by movies like "Jurassic Park" may be inaccurate.

We already know that many dinosaurs were feathered like birds and brightly colored. They may also have sounded like them too making a cooing sound similar to a dove rather than roaring.

Now, research from Yale University suggests the blood that coursed through their giant frames would have been warm, meaning they might not have been cold-blooded creatures after all. The findings come from an analysis of fossilized eggshells

"Dinosaurs sit at an evolutionary point between birds, which are warm-blooded, and reptiles, which are cold-blooded," said Robin Dawson, who conducted the research while she was a doctoral student in geology and geophysics at Yale. "Our results suggest that all major groups of dinosaurs had warmer body temperatures than their environment."

Whether dinosaurs were cold or warm-blooded has been a long-running debate among paleontologists.

"Understanding these giants of the terrestrial realm has been at the forefront of science for centuries, and it really matters if they are cold or warm-blooded. It changes how active we think they were and how they would have interacted with the environment," Hull said.

However, why dinosaurs first evolved feathers is still a big topic of discussion.

Dawson said this research suggested that it would have helped them keep warm.

"It's possible that dense feathers were primarily selected for insulation, as body size decreased in theropod dinosaurs on the evolutionary pathway to modern birds," Dawson said. "Feathers could have then later been co-opted for sexual display or flying."



# THE BIRTH OF ELECTRIC CARS

*Making driving smooth  
and safe*





How does driving an electric car compare to a conventional car? Turn the key or push the button and there's no noise, just a few lights to tell you the car's ready. Pull away and you'll notice things are quieter and smoother. Electric motors work well at any speed, so there are no gears to worry about.

Although an EV's brakes work differently (recovering energy rather than just wasting it) they feel the same.

All EVs and hybrids have at least an accelerator and brake pedal, but some have a single-pedal mode where the accelerator controls both acceleration and regenerative braking. With that switched off, driving is very similar to a normal car. With it switched on, you'd only use the brake pedal for hard stops. Battery electric vehicles, or BEVs, use electricity stored in a battery pack to power an electric motor and turn the wheels.

Battery electric vehicles, or BEVs, use electricity stored in a battery pack to power an electric motor and turn the wheels.

When depleted, the batteries are recharged using grid electricity, either from a wall socket or a dedicated charging unit. Since they don't run on gasoline or diesel and are powered entirely by electricity, battery electric cars and trucks are considered "all-electric" vehicles.

When driven, BEVs don't produce tailpipe pollution—they don't even have a tailpipe. However, the electricity they use may produce heat-trapping gases and other pollution at the source of its generation or in the extraction of fossil fuels. The amount of pollution produced depends on how the electricity is made. In the United States, battery electric cars charged off the dirtiest coal-dominated grid still produce less pollution than their gasoline-powered counterparts. BEVs powered by renewable energy sources like wind or solar are virtually emission-free.



# HOW DOES A DRONE WORK?

*A new innovation in technology*





Drone technology is constantly evolving as new innovation and big investment are bringing more advanced drones to the market every few months. Below, we discuss UAV technology on the most popular drones on the market, which have all the latest drone technology. Most drones will have very similar systems incorporated. Unmanned aerial vehicle technology covers everything from the aerodynamics of the drone, materials in the manufacture of the physical UAV, to the circuit boards, chipset and software, which are the brains of the drone. One of the most popular drones on the market is the DJI Phantom 3. This drone was very popular with professional aerial cinematographers. While slightly old now, it uses plenty of advanced technology which is present in the very latest drones.

A typical unmanned aircraft is made of light composite materials to reduce weight and increase maneuverability. This composite material strength allows military drones to cruise at extremely

high altitudes.

Drones are equipped with different state of the art technology such as infrared cameras, GPS and laser (consumer, commercial and military UAV). Drones are controlled by remote ground control systems (GSC) and also referred to as a ground cockpit. An unmanned aerial vehicle system has two parts, the drone itself and the control system.

The nose of the unmanned aerial vehicle is where all the sensors and navigational systems are present. The rest of the body is full of drone technology systems since there is no space required to accommodate humans.

The engineering materials used to build the drone are highly complex composites designed to absorb vibration, which decrease the sound produced. These materials are very light weight.





# FUTURE OF FOOD PRODUCTION

*Revolution awaits*





Baklava is a Mediterranean dessert made with Phyllo dough, nuts, butter, and sugar. After baking to perfection, a sweet syrup is immediately poured over the pieces allowing the syrup to be absorbed into the layers. There is no denying the fact that the dessert that we delectably consume today was perfected during the Ottoman Empire in the 15th century after invading Constantinople (present day Istanbul). And for over five hundred years the kitchens of the Imperial Ottoman Palace in Constantinople became the ultimate culinary hub of the empire. The oldest reports about baklava are present in Topkapı Palace kitchen notebooks from the Fatih period. According to this report baklava was baked in the Palace in 1473. Baklava elaborated from a simple pastry into a dessert which needed skill in order to please the dignitaries and the rich people. Turkish etymologists claim of its Turkish origin (baklağı or baklağı); whereas some say "baklava" may come from the

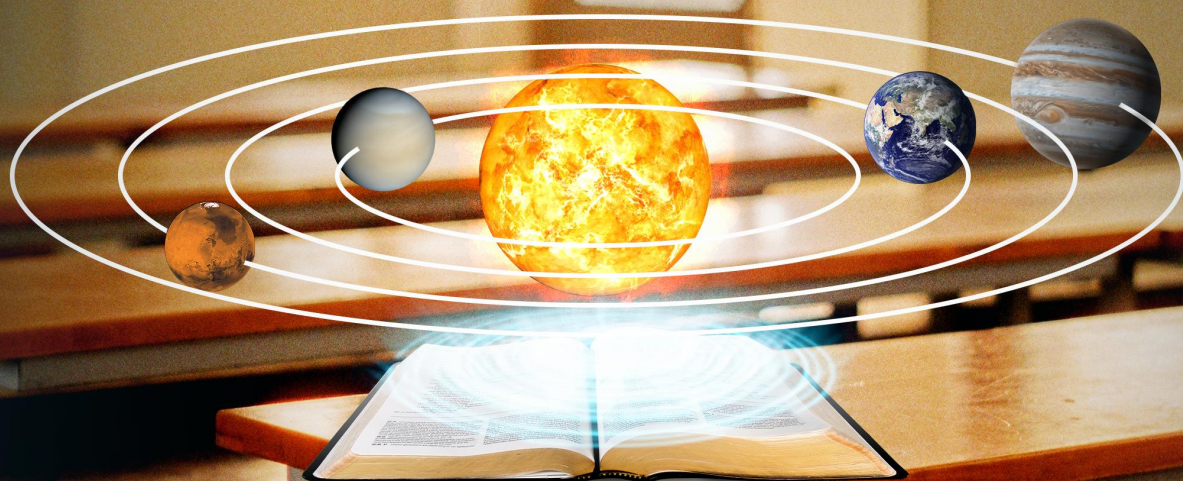
Mongolian root bala- 'to tie, wrap up, pile up'. Bayla- itself in Mongolian is a Turkic loanword. Though the suffix -va suggests its Persian origins; however the word 'baqla' is not Persian rather it is of Arabic origin meaning bean, but its Arabic name baqlāwa is doubtless a borrowing from Turkish.

Baklava was baked only on special occasions, usually by the rich who could afford such a luxury.

Things have changed over the years. Now, you can order baklava anytime and you do not have to be a millionaire to enjoy the great taste.

The history of Baklava changed with the history of the land. The Near and Middle East saw many civilizations come and go. Baklava and the recipe had spread to the Near East, Armenia, and Turkey. With the advent of the Grecian Empire, it spread westward to Greece. Phyllo dough is named after the greek word for "leaf", being "as thin as a leaf". The thickness (or for that matter, the thinness) of Phyllo gives baklava its delicious crispy taste.





# EDUCATION AND ITS NEXT BIG STEP TOWARDS TECHNOLOGY

*Recreating Learning for the Gen Z*





Education needs to grab the upcoming technologies to improve the learning skills and retaining capacity of children. AR Education just does not stop with books and texts but also puzzles and games. 3D animation and modeling can be used to make difficult subjects interesting like a chemical reaction can be shown as molecular movements instead of letting the child read a reaction printed on the book. Augmented Reality enhances your existing environment by adding an element to it and this is no less than a magic to a child's eyes. With time and innovation, the way we educate the coming generations need to be modified. When AR can make a difference in Healthcare and Automotives, there is no doubt it can act as a game changer in Education as well. AR provides realistic experiences that make a child believe it is real that improves their retention capacity of concepts. AR can engage a student much more efficiently compared to traditional methods of learning as it has

the ability to create a wow factor at the very first sight of it. Augmented reality in education can serve a number of purposes. It helps the students easily acquire, process, and remember the information. Additionally, AR makes learning itself more engaging and fun. It is also not limited to a single age group or level of education, and can be used equally well in all levels of schooling; from pre-school education up to college, or even at work. Technology has made its way to the classroom, increasing the engaging and interactive elements that many students are benefitting from. Students today are already familiar with various technologies, which is why computerized tools and apps make sense in a classroom setting. One study among marketing students has shown that the introduction of technology makes 87% of students more likely to attend class and 72% of them more likely to participate.



# HOW DEVASTATING WOULD A VOLCANIC ERRUPTION BE TO MALAYSIA ?

*Taal Volcano and its predicted outcomes*





Philippine authorities have urged a "total evacuation" of nearly a million people near the capital Manila, after a volcano spewed ash up to nine miles (14 kilometers) into the air Sunday prompting warnings of a possible "explosive eruption."

The Taal Volcano, about 37 miles (60 kilometers) south of the capital Manila on the island of Luzon, is one of the country's most active. Images from the scene on Monday showed streams of lava beginning to gush out the volcanic vent, the sky above still thick and dark with ash and steam.

The Philippine Institute of Volcanology and Seismology (PHIVOLCS) has raised the alert level to four, meaning an "explosive eruption" could happen in the coming hours or days. Its highest alert level is five, indicating an eruption is taking place.

On Jan 12 this year, the Philippines received a rude and loud reminder of their precarious position on the geologically active Ring of Fire when the Taal Volcano started to erupt.

This isn't the first time that Southeast Asia and the rest of the world have been rocked by a volcanic eruption. As if supervolcanoes aren't scary on their own, the one type called an explosive caldera should send a shiver down your spine. After a massive eruption, the empty magma chamber inside a volcano can no longer support its own weight and collapses, forming an explosive caldera. While the volcano may appear to have been destroyed, the volcanic activity inside continues without a way to release the magma. The magma and gases will continue to build, with pressure increasing to the point a massive explosion is inevitable. Still, while Malaysia may not have any active volcanoes of its own, one must wonder what could possibly happen to the country should a massive volcanic eruption take place in its neighbours?

One can only hope and pray that this will never come to pass in their lifetime.



# ONE WORD AND THE WHOLE WORLD SHAKES – CORONA!

*A Virus that spread like forest fire*





Coronaviruses are types of viruses that typically affect the respiratory tracts of birds and mammals, including humans. Doctors associate them with the common cold, bronchitis, pneumonia, and severe acute respiratory syndrome (SARS), and they can also affect the gut. These viruses are typically responsible for common colds more than serious diseases. However, coronaviruses are also behind some more severe outbreaks.

Over the last 70 years, scientists have found that coronaviruses can infect mice, rats, dogs, cats, turkeys, horses, pigs, and cattle. Sometimes, these animals can transmit corona viruses to humans. Researchers first isolated a coronavirus in 1937. They found a coronavirus responsible for an infectious bronchitis virus in birds that had the ability to devastate poultry stocks. Scientists first found evidence of human coronaviruses (HCoV) in the 1960s in the noses of people with the common cold.

The most common initial symptoms of COVID-19 are fever, a dry cough and shortness of breath. Call your doctor or your local health department if you believe you might have the virus, and you'll be advised of the best course of action.

It's important to remember that not everyone who gets infected gets sick and symptomatic. To guard against becoming infected, start by practicing good hygiene: Wash your hands with soap and water frequently. Stay home from work or school if you're sick. It's possible you could get the virus and not know it because your symptoms are mild — so it's important not to pass the virus on to others who could be especially vulnerable to it. "This is likely to look a lot more like a flu pandemic (perhaps somewhat nastier and more transmissible) than SARS," Morse advised. "Not pretty, but not apocalyptic, either. But stay watchful if there are reports of local or regional circulation."





## VR IN HEALTHCARE

*A helping hand for doctors*





It is not common to get inside a human body and visualize how it looks like from the inside. But this has been made possible by Virtual Reality that allows one to get an inside view of a live person. A medical practitioner or a student usually uses a cadaver to practice surgeries which is totally different from how they operate a live patient.

VR makes surgeons most difficult process simple by giving them VR Training where one can practice surgeries and perform operations and later carry them out in real life situations. VR not only helps the doctors but also the patients to visualize their body and understand the process of the operation they will undergo. This in turn enhances the understanding of surgery and patient satisfaction. The ability to view the inside of the human body in Virtual Reality is not only useful for doctors, but also for patients. VR allows patients to be taken through their surgical plan by virtually stepping

into a patient-specific 360° VR reconstruction of their anatomy & pathology. Virtual Reality Dental Chair system or 'HapTEL' (haptics technology enhanced learning) is designed to teach a range of dental techniques to students and dental professionals. This system consists of a dentist's chair; a mirror and a haptics based drill which enables the trainee dentist to perform various procedures. The trainee can actually 'feel' the pressure of the virtual drill which is due to a process called force feedback. This is a system of physical responses (feedback) caused by movements of an input device (e.g. joystick) which are experienced by the user. VR simulation technologies are being used in medical education and training, for a long time now. Major VR-based companies are developing products which combine 360-degree video and 3D interactive content to develop the best possible learning programs for physicians and students.



# BOOK ROCKET LAUNCH ONLINE WITH SPACEX

*Bringing Mankind closer to Space Science*

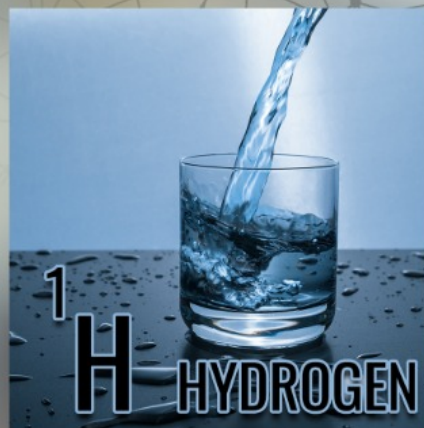
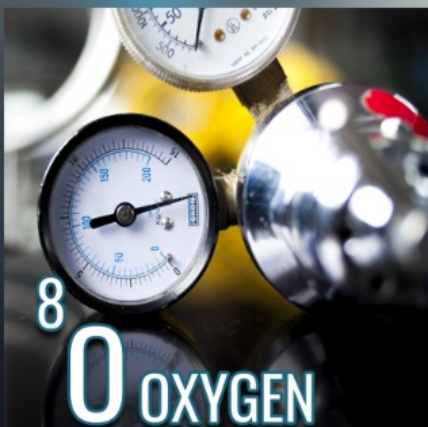




SpaceX has launched a new web-based booking tool for its rideshare Falcon 9 launches, a service it announced last year to expand its addressable market to include small satellite customers who don't have the budget or need to book a full rocket, which can cost upwards of \$60 million. Prices for the rideshare services that SpaceX is offering through the website start at \$1 million for payloads ranging up to 200 kg (440 lbs), with additional weight adding \$5,000 per kg to the cost. The selection tool asks you to specify the desired orbit (Sun synchronous, low Earth or polar) and your minimum readiness date (the earliest your payload can possibly fly), with dates starting this June as of this writing. You then input the total mass of what you want to fly and get an estimated cost. Proceeding brings you to a series of screens where you select whether you'll need either a 15-inch or 24-inch port on the launch vehicle (which is largely a function of volume and mass), as well as the specific rocket you're looking to

book a ride on (from upcoming scheduled missions). Other options include add-ons like port adapters to meet the standard sizes that SpaceX uses, as well as a SpaceX-provided separation system in case you don't have your own, along with options for on-site fueling if your spacecraft has its own propulsion system, and insurance for up to \$2 million in value. It's a little bit like configuring a car through Tesla's configurator — but for launching something into space. This isn't just a lead-generation form, either; once you've selected all your options, and confirmed that you're not subject to any actions or International Traffic in Arms (ITAR) restrictions imposed by the U.S. government, you can put in a credit card number to instantly pay \$5,000 as a deposit, with three installments due thereafter to make up whatever your total is, including the largest one due within five days of SpaceX confirming acceptance of your request.





Every element is an individual AR Marker.

Join them to form -

H<sub>2</sub>O, O<sub>2</sub>, CO<sub>2</sub>, HCl, CO, H<sub>2</sub>, NaCl, CaO, NaOH











# SCAN & LEARN

A Reality Inside

[www.koolelegance.com.my](http://www.koolelegance.com.my)

## MALAYSIA'S FIRST AUGMENTED REALITY MAGAZINE

How to experience AUGMENTED REALITY?

Step 1: Install the **Kool Elegance** App from Google Play Store

Step 2: Tap Allow for the application to access the device's camera.

Step 3: Scan the image to experience Augmented Reality.

