



Point of View

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Korea's KSTAR Experiment Paves the Way for the Future of Energy

by TAEHWAN KIM

Energy production. Whether it's biological, mechanical, or electrical, energy production is a key function of our society. We cannot live our lives the way we do right now without the massive benefits provided by such forms of energy production. A key form of energy that is produced by various means is electricity. Electricity is a secondary energy source as it is derived from primary sources such as fossil fuels. Currently, the debate on environmental conservation and the various forms of energy production has led us towards using cleaner forms of energy while searching and developing cleaner and more efficient means of production. As of now, more efficient forms, such as fossil fuels, tend to be more harmful to the environment while cleaner forms, such as wind or solar energy, tend to be less efficient and possess limits as to when and where they can be utilized. However, we are closing in on a form of energy production that can kill two birds with one stone: nuclear fusion reactors. Moreover, Korea's KSTAR tokamak is leading the way.

After reading "nuclear", your mind might make the immediate connection with nuclear bombs or nuclear wastes. That is not the case with nuclear fusion, but with fission. Nuclear fission uses heavier and bigger atoms such as uranium to produce energy. When an uranium atom is struck by a neutron that is traveling with sufficient energy, the uranium atom will split, releasing huge amounts of energy and causing a chain reaction

that will cause the next uranium atom to split. Once the reaction starts, it is relatively easy to maintain the reaction, which explains why we have functional fission reactors and atomic bombs. Fission also produces nuclear wastes which is a product of the uranium atom splitting. However, all this is not true for nuclear fusion. Instead of splitting heavy atoms, nuclear fission fuses two lighter atoms such as isotopes of hydrogen. The most commonly used fuel sources for fusion reactions are deuterium and tritium. Deuterium can be found naturally on Earth, but this is not the case for tritium, which has to be obtained in a component of the fusion reactor called the "heat blanket" using the phenomenon of nuclear decay of lithium. When tritium and deuterium collide, and are able to overcome the coulomb barrier, their nuclear forces allow them to fuse to form helium while releasing neutrons and huge amounts of heat. By harnessing this heat, engineers are able to produce electricity. Compared to fusion, fission produces much more energy while producing little to no nuclear wastes. It also has no potential to be weaponized due to the fact that reactions will immediately halt if the necessary conditions are not met. Currently, one of few (potential) flaws of nuclear fission is that the condition needed to maintain the reactions is extremely hard to create. Nuclear fission naturally occurs in the cores of stars such as the sun. Imagine trying to shrink a star and tossing it into a room to produce energy - that's how difficult it is. Another concern to mention is that fusion reactors that are being tested today consume more energy than it produces due to underdeveloped technology. However, fusion reactors all over the world - including the KSTAR tokamak - are making significant strides towards success. For example, the KSTAR tokamak just recently set a new world record for operation time by maintaining reactions for 20 seconds at 100 million degrees Celsius.

It does seem far away, this technology called nuclear fusion, with so many barriers still standing in the way. However, at the pace at which the technology is developing, we could see nuclear fusion reactors go online to end the debate on clean and efficient energy production in the near future.

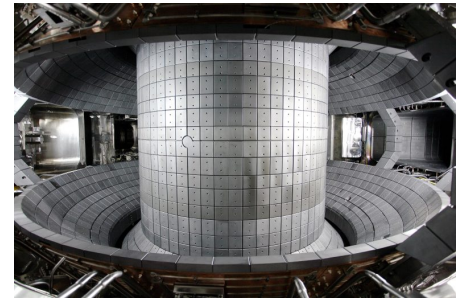


Image Source: National Fusion Research Institute (NFRI)

The Most Mystical Animal - the Octopus

by JOSHUA BAKER

The octopus is an amazing animal. It is the most interesting and mythical animal on the whole earth. The giant octopus monster, The Kraken, once was the fear of the sailors from Norway and Greenland. Their unique behaviors and characteristics intrigue scientists and people from all over the world. I am going to tell you about their fascinating behaviors and they will convince you that they are one of the coolest creatures.

The first interesting behavior is their ability to camouflage. Camouflage is a defense mechanism that lets animals blend into their surroundings to avoid predators. You might ask, "But chameleons and owls can camouflage themselves, then why are octopuses so special?". One species of

the octopus family, known as the mimic octopus, has some mind-blowing behaviors. Most animals change the pigment of their skin and stay still, blending into the background. Unlike other animals, the mimic octopus is known to imitate other animals in the ocean. For example, by mimicking a lionfish (extremely poisonous), they avoid predators and swim in the ocean confidently. By mimicking a crab, the octopus can approach a crab and catch it as prey. It is mind-blowing that an octopus can transform into other animals and use the behaviors of other animals to its advantage.

The next fascinating thing about the octopus is its unique body structure and features. Octopuses have a different color of blood. They have blue blood which is caused by a different protein in their blood. We have hemoglobin, which is a protein that contains iron and helps to transport oxygen. On the other hand, octopuses have the protein hemocyanin which contains copper. Hemocyanin functions the same as hemoglobin except that it works better in cold temperatures. Octopuses have 9 brains, each arm has a small brain, and one central brain in its head that controls the nervous system. Because they have separate brains, they can maneuver their arms independently. Because they do not have any bones, the smallest hole that they can go through is the size of their eyes. The next interesting body structure is that it has three hearts. Two of the hearts circulate the blood to the gills and one circulates the blood around the entire body. Evolution is crazy how different animals have the same or similar functions but have completely different structures.

There are studies about octopuses that are going on now and they continue to amaze us. There have been studies on how octopuses feel emotions and have personalities. One book, *The Soul of an Octopus* by Sy Montgomery, illustrates how octopuses have different personalities. They have been studied for their intelligence as well. Finally, an octopus even helped predict World Cup match outcomes in 2010 - for fun of course. I hope you are a little more convinced of how mysterious, wonderful, and amazing octopuses truly are!



Image Source: Johns Hopkins University

A Short History of Our School Logo

by SARANG PARK



Image Source: Ivy Collegiate School

We see the school logo frequently. It is a regular feature of student uniforms and school events. Still, how many of us actually know its history? To get to the bottom of this, we interviewed Mr. Collins, the Head of School.

At first, we assumed that the logo had some deep and mysterious meaning behind it. However, according to Mr. Collins, the logo doesn't have any intrinsic meaning. Nevertheless, it is tied to the school name, which does have a symbolic meaning. The acronym for Ivy Collegiate School, ICS, also stands for "Intellectualism, Compassion, and Self-Reliance." These three letters also correspond to the three sections of the logo's shield. These shapes are called chevrons, which are common to many university shields and badges historically. Mr.

Collins said he wanted to tap into that tradition and pay homage to the history of global higher education when designing the school logo.

The next question we had was why the logo is green, gray, and black. According to Mr. Collins, each school has its own colors and sometimes school pride is tied to those colors. He elaborated that when the school was first founded, it had the general mission of a collegiate preparatory school and wanted its name to be synonymous with the kind of rigor that the U.S. universities in "the Ivy League" are known for. Mr. Collins says that since then, he has tried to distance the school from that image, however, since it promotes the wrong sort of motivation in students. Still, the colors in the logo are inspired in part by the green, climbing ivy plants that are a feature of those universities' old, gothic buildings. He says the other two colors, black and gray, just complemented the green well. Mr. Collins added that his favorite color is actually blue.

The school logo is also used in many ways. In marketing materials, class videos, lesson presentations, and other school materials, the logo may have black or white chevrons. Mr. Collins says that these are just stylistic design choices that don't always need to be consistent with the original logo. He also encourages students to think of new ways to adapt and use the logo in their own school designs. It will be interesting to see how this symbol of our school's identity evolves over the years.

Frank Lampard Dismissed

by SEUNGMIN HONG

Frank Lampard, the head coach of the Chelsea FC, was sacked on January 25, 7:00 P.M (KST). The owner of the Chelsea FC, Roman Abramovich, announced the statement of Frank Lampard on the official website of Chelsea. Following is that statement: “This was a very difficult decision for the Club, not least because I have an excellent personal relationship with Frank and I have the utmost respect for him.” It is quite unusual for Roman to write a statement. He did not write his name in the statement even when José Mourinho was sacked in 2015. Statement for Frank Lampard was the first to have a name of Roman. It seems to be the last treatment of the club legend.

Beginning in 2021, there was a saying that Thomas Tuchel, who was sacked from Paris Saint-Germain FC on December 29, would be the strongest to be the next head coach of Chelsea FC. The most likely destination was the Premier League. Among them, most people expected that it would be connected to Arsenal or Manchester United, which showed poor performance in the first half, but as Arsenal and Manchester United succeeded in rebounding, but Chelsea, which showed good performance in the early stages, emerged as the most likely to be Thomas Tuchel’s destination. On January 26, 6:10 P.M (KST), Chelsea officially announced the 18-months plus 1 year extension option with requirement of making Chelsea get into Champions League for the second consecutive year. contract appointment of Thomas Tuchel. In the league match against Wolverhampton, which was his first game from Chelsea, the team drew by 0-0, but since it was a day after his official announcement, so it was difficult to expect a major change in tactical and play style. Nevertheless, people said they can see the meaningful changes.

Mauricio Pochettino, who was the head coach of Tottenham Hotspurs, was appointed as the head coach of Paris Saint-Germain FC. Beside, Paris Saint-Germain was in the final of the French Super Cup. Mauricio Pochettino won the final, which was his third game, and lifted his first trophy of his coach’s life.



Image Source: TEAMtalk Media Group

The World’s Worst Shipbreaking Dumpers

by NICOL MOYA

Two South Korea shipping companies have won being named the world’s worst shipbreaking dumpers in 2020. By the shipbreaking dumpers, causing injuries and even deaths of workers in developing countries in South Asia as they take apart the toxic end-of-life ships on beaches instead of taking them into safer shipbreaking yards. Polaris Shipping was named "the worst corporate dumper" in the world because of an accident involving laborers in Bangladesh and Pakistan which took place when they were breaking apart the company’s 11 carriers, according to Brussels-based Shipbreaking Platform. The accidents had four major ones onboard the Stellar Knight, Stellar Iris, Stellar Journey and Stellar Hermes, which were all located in Chattogram, Bangladesh. One person was killed in December when he or she was hit by a huge iron bar while separating the Stellar Hermes at Kabir Steel’s Khawja shipbreaking yard. Three others were harmed after being hit by bits of iron or falling.

The Ships are considered waste for the international environmental laws, for the reason that they think it’s waste for the environment, because it contains many toxic materials and bad substances on their structures on board. About 90 percent of expired ships were removed on the three South Asian beaches in 2020. There, the people are often exposed to the risk of getting injured by fire or falling steel plates

and are exposed to toxic fumes. They revealed that much illegal shipbreaking has been done under the radar. The group tried to obtain official statistics of accidents at the Indian and Pakistani shipbreaking yards but there was no information. The group is suspicious that many accidents go unreported. Shipping companies were reported for having sold their ships for illegal shipbreaking on South Asia beaches that include Berge Bulk, Costamare, and many more. Greece dumped many ships in the world, they sold 48 for scrap, and most of it was located in Bangladesh and Pakistan.

Because of all of these accidents, the environment is dangerous for those children and migrants. The international environmental laws are very strict about these things, ships are getting dangerous for the environment. The shipbreaking dumpers have toxic gas, once you breath in this toxic gas, it can be very dangerous for your body. The international environmental laws are asking you to stop with the shipbreaking dumpers, to help the environment not become worse and worse. Make the environment safe for the people around the world.

What Joe Biden Planned for a "Better America"

by YEONWOO PARK

The first action taken by President Joe Biden was a 'comeback' to the Paris Agreement. The Paris Agreement promises the country for being a part of an international treaty about climate change. During former President Trump's presidency, America had signed out of that treaty, but now in 2021 by President Joe America came back to the Paris Agreement. President Joe Biden commented, "address the climate change disaster facing the nation and our world." President Joe came out with specific strategies toward climate change such as imposing the Green New Deal or a Clean Energy Revolution.

President Joe Biden ordered the halt of the construction of the walls planned by former President Trump. The ordered walls were the 450 mile long walls, which was also known as one of the accomplishments of the former president Trump. President

Joe commented there won't be any extra constructions for the already constructed walls, however, he added there will be a new policy to help out the immigrants. In the official site of President Joe Biden, it says President Joe and his team will work for modernizing immigration system, addressing the causes of the migration system, and welcoming the immigrants.

According to a BidenHarris website, President Joe is very open toward the LGBTQ+. He did not list any specific plans for LGBTQ+ comparing to other issues like climate change or the immigrants, but he has shown an open-minded attitude toward LGBTQ+. "Who do you love? Who do you love? And will you be loyal to the person you love? And that's what people are finding out is what all marriages, at their root, are about.", Joe Biden, May 6, 2012. Also, on the website, BidenHarris, they strongly emphasized that they will fight against the discrimination toward LGBTQ+.

It seems like President Joe and his team are getting to work for 'a better America'. Our job and our responsibilities are to look over the actions by them. Whether you hate or like the new president, our job is to look over what he and his team are doing for America. This means that people should not judge his actions by simple social media posts or news reports. It means to know the details fully and specifically from credible sources to judge the specific action made by the President. If you can't handle that, it's much better not to have any judgement over that action. Will President Joe make 'a better America', or will Americans and President Joe make 'a better America'? Americans chose Joe Biden for a better America, but this is an important question and also a task for all of us.



Image Source: Marketplace

How to Save Yourself from a Financial Apocalypse

by DANIEL BAKER

As students, we need to develop essential skills that will be critical for our future. As a student myself, we need to implement these skills. Saving money is very important because it protects you from a financial crisis. Financial crises are sudden and can suck up money fast. Saving money gives you flexibility for these situations. Many people are living paycheck to paycheck and saving money is a considerable way to avoid this problem. During times of stability, saving money also frees up money for you to invest and prepare for the future. The goal is to make a system with an objective; therefore you will have an incentive to save money.

Before saving money, you should record your spending. Expenses range from food, housing, entertainment, and more, you need to record this information. Categorising your expenses puts the information in an importance hierarchy. By categorising expenses, you realise what costs are crucial and what costs you can reduce. Recording your spending is crucial in seeing how much money you spend and how much you can therefore save. Then, you can realise where you are financially and then you can save your money. After recording your spending, track your spending; find trends of what type of spending is causing your trouble.

An example of a trend is that small expenses add up quickly. A trip to a coffee shop could be \$5 a day, which is \$35 a week, which is also \$1,820 a year. It is crucial to do the arithmetic on your spending trends; doing this will help you obtain perspective on how much money you are spending long term. However, everybody hates arithmetic for some reason. Many people are appalled by doing this because it sheds light on the effect of their actions. But, this is very valuable to do because it shows the compounding effect of saving money. After doing the math, realise what spending you want to save. The way to cut down on your expenses is to instantly put money aside into a savings account after a paycheck. For example, after receiving a paycheck, put 10% aside in a savings account. This money will be your backup and your savings. Using this money, we can invest or save the

money and use it for emergencies.



Image Source: Palmetto Citizens Federal Credit Union

Coup in Myanmar and the Aftermath

by JINWOO HWANG

February 1, 2021. The Myanmar army rushed into president Aung San Suu Kyi's house and detained her immediately. The military has officially declared an emergency state of the country for one year. A coup has happened. The democratic government of Myanmar had fallen in a single day.

The whole process of the coup was fast but effective. The army had shut down most of the communications like the internet, phone lines, and signals. Yangon International Airport, which is the main airport of Myanmar, was also shut down by the army with all of the other airports together. The airports are planned to be shut down for four months. Any roads leading to the main cities were closed and controlled by the army, which caused large traffic and confusion. Schools that were doing online classes due to COVID-19 also had to close the classes for a day. The banks in Myanmar were also closed and financial activities were not possible. Myanmar was closed for a day, all for the new military government. This coup resulted in success. Min Aung Hlaing, the total commander of Myanmar's army, received all of the presidential power former president Aung San Suu Kyi had.

Why has this coup happened? Myanmar was previously a country that was ruled by the military for

about half a decade. From the coup that was successful in 1962, the Myanmar army took the power from the people and also changed multiple laws so that the army could continue to have their power. However, this resulted in the Myanmar people disagreeing against the military government. This has shown clearly in the election that happened in November 2020. The people of Myanmar voted for the democratic government rather than the government the army was supporting. The democratic government led by Aung San Suu Kyi gained about 62% of the parliament seats, which made the government able to change the anti-democratic laws made by the military government. The elected government later in January attempted to change the law to give 25% of the parliament seats to the army, which resulted in a large disagreement from the army and became a direct reason for the coup.

How have the Myanmar people reacted against these anti-democratic actions? Immediately after the coup happened, the Myanmar people in Thailand had protested against the coup. Actions had spread into Myanmar, and the protesters were using SNS like Twitter and Facebook. The Myanmar government reacted to these actions by shutting down Facebook in Myanmar. These movements are called the 2021 Myanmar Uprising, and the protests are continuing even until now. The military government is reacting to protests by brutally shooting at them. The fate of Myanmar's democracy is in the people's hands.
