

BREAST AND CERVICAL CANCER AWARENESS

By Ioanna Haritos

Breast cancer is the most common cancer amongst women. Early detection and treatment is the key to a good prognosis, so education on potential warning signs and breast exams are vital. Some things to keep note of are: any lumps in your armpit area or breasts that weren't there before, a change in breast shape, any abnormal fluid leakage, pain and discolouration in the area.

It is a good idea to discuss mammograms with your GP who can advise you on when to start going and how often. If you have a history of breast cancer in your family it is even more important to have this conversation. However, all doctors agree that regular self-examination over mammograms is the most effective way to catch the early signs of cancer.

Cervical cancer is the second most common cancer in South African women. However, it is preventable and highly curable when caught early. Cervical cancer is caused by persistent infection by the human papillomavirus, which is sexually transmitted. The recommended age to initiate pap smear tests is 25 with intervals of 3 years. The importance of cervical screening cannot be stressed enough. This is a preventative measure taken to make sure that you do not develop cervical cancer. It shouldn't be considered as a 'cancer test'. The test is screening for HPV infections which could then become cancer if not treated.

It is also worthwhile noting that just because you have had the HPV vaccine doesn't mean you can skip your test! The vaccine doesn't cover all strains of the virus, and factors like smoking and having many sexual partners play a big role in the development of cervical cancer. The experience is a scary prospect for many. Don't be scared to express that you're feeling a bit nervous, the person doing the test will do their best to put you at ease, and the actual itself takes 45 seconds to 1 minute. It should be noted that you should pick a date for the test when you are not menstruating.

Awareness is key when it comes to all things cancer related. Your health and wellness are in your hand, so go book that appointment you've been putting off.

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LETTER FROM THE EDITOR

As 2019 comes to a close, I stand back very proud of the MadibazNews team. This being my first year as the Editor-in-Chief, I know that there are many areas for growth going forward, but I'm proud of our achievements and excited to see the Paper go from strength to strength in the future. We will be using the time off to rest and regroup, brainstorming and planning the steps we will take in 2020 to make it our best year yet. We promise to never stop striving for improvement and to continue bringing you 'News for the students, by the students'.

Happy holidays.

AMY WARD



Picture: Communication & Stakeholder Liaison

NELSON MANDELA UNIVERSITY MEDICAL SCHOOL TO OPEN DOORS IN 2021

By Athenkosi M. Mafojela

The Nelson Mandela University undertook the great task of establishing the country's 10th Medical School and the institution is well on its way. The University has acquired the approval of the Health Professions Council of South Africa (HPCSA) and the Council on Higher Education (CHE).

The Medical School is strategically located on the Missionvale Campus in order to directly impact the working class and financially strapped community that surrounds it. Students of the Medical School will do their practical training at the Dora Nginza, PE Provincial, Livingstone and Uitenhage Hospitals, as well as the Missionvale Care Centre and Motherwell Community Health Centre. The MBChB degree will be offered

from 2021, with an initial intake of around 100 students. The first choice of students will be Eastern Cape matriculants with a pass rate of 60%, who do maths, physical science, life science and English. BSc students who would like to switch to Medicine must have a pass rate of at least 60%.

The hunt for staff has already begun, with Professor Fikile Nomvete, as Director of the Medical Programme, being amongst the first staff members to be appointed. The basic science courses of the Medical School alone will require more than 60 staff. For more information or enquiries on the Medical School visit <https://health.mandela.ac.za/medical-school> or email medicalschooll@mandela.ac.za.



Picture: pexels.com

AM I 2000 AND LATE?

By Akuzike Chikusilo

The term 'thrifting' is another word for second-hand shopping. We are currently living in a very materialistic, "throw-away" culture which puts pressure on people to always be wearing new and trendy pieces of clothing. This culture is enforced by the fashion industry, as trends are constantly coming and going. This has contributed to our waste problem, with 20% of our global wastewater attributed to the fashion industry.

But we are seeing a shift. More recently, thrift shopping has picked up in popularity and is now seen as a trendy and admirable choice. If you're not quite convinced, let's look at why you should consider second-hand shopping:

- Buying second-hand clothes reduces the amount of waste being produced by the fashion industry as it is a form of recycling.

- I don't know about you, but one thing I hate is rocking up to campus only to find five other people wearing the same piece of clothing as

myself. Thrifted pieces are often sourced from unique places and are not being mass-produced as in regular stores, so chances of anyone copying you are low.

- You don't have to spend a lot of money to keep up with the trends. Thrift stores are packed with great bargains.

- With thrifting becoming more of a trend, there are tons of thrifting pages on Instagram that deliver your clothes right to your door, which means you can now shop from the comfort of your own home.

Another side note: remember to thrift in your own closet. You don't always need to buy something new. Sometimes it's just about using what you already have in new ways.

Thrifting is an activity that is promoting a sustainable society and it's super easy and fun, so this is one trend that we're completely in favour of.

DON'T FORGET TO TAKE CARE OF YOURSELF

By Muzomuhle Ntuli

Molweni bafundi. As this is the last edition for the year, and it being published during exam season, I saw it fitting to discuss students' health and overall wellbeing. Passing that exam and progressing to the next year of your degree is important, but self-care is equally important during the process.

This past month has revolved around achieving DP, in the form of back-to-back tests, assignments, projects and essays. Speaking as a third-year student seeking to progress to post-grad, I know the pressures all too well. Even though it is important for us to put in the hours and work for our success, we must not neglect ourselves – a machine won't perform at its optimum if it isn't serviced and maintained as it should be.

What does self-care practically look like?

- Getting enough sleep. No one wants to be falling asleep during an exam.

- Doing regular exercise. Physical exercise does wonders for overall wellbeing.

- Taking regular breaks from studying. It is important to give your mind breaks so that it can stay productive and alert.

- Talking to someone. Touching base with friends and family is a great way to stay grounded and balanced. It allows for an opportunity to re-align one's thoughts and vent frustrations, which is crucial in maintaining mental health.

2019 has been a challenging, but great year. Let's finish off this last phase with a bang.

Picture: pexels.com

WHAT DOES PRECEDENTIAL SUCCESS MEAN FOR MILLENNIALS?

By Siphumelele Mahaia

As millennials, we are faced with endless choices. But we are also lucky in this regard because we have many options to choose from, many more than in previous generations. In terms of studying and career choices, one of the factors that affects our decisions is precedential success. This refers to models or examples of success, for example, the level of success experienced by people based on the choices they made.

This phenomenon gives rise to certain expectations, be it from our parents, ourselves or society. In certain families, choices cannot be made freely because of parents' experiences or choices. If Daddy is a doctor and Mommy is an accountant, choosing something like graphic design may be frowned upon. This tends to put pressure on millennials. Many students find themselves studying for longer than they should or simply not graduating at all because they're not doing something they're truly passionate about.

I, for one, am studying BCom Accounting Science because that is what I got funding for and it is regarded as a degree that will open many doors for me because of the high employment rate in the field. However, my passion lies deeply elsewhere and the conflict between success and passion shows very vividly in my performance while striving for my degree.

But as noble as it sounds to simply pursue a passion, it may be wise to consider a different perspective. "Offer me a chance to contribute, and I'll work hard on it, with focus, and once I begin to make progress, I'll become passionate about it." Hard work is sometimes a prerequisite for passion. We should not be measuring our success by fleeting feelings of passion. Instead, we should measure success based on contribution. Passion comes from feeling needed, from approaching mastery, from doing work that matters.



Picture: pexels.com



Picture: Andrew Ly

THE ADRENALINE JUNKIE'S GUIDE TO THE EASTERN CAPE

By Christina Makochieng

The Eastern Cape is fondly known as the 'adventure province', and with good reason. As much as we all love calm, relaxing holidays spent in bed, lounging by the pool or at the beach, it doesn't hurt to try something new. This list is for all the thrill seekers daring enough to swallow their fears and push themselves out of their comfort zone.

Zip-lining

Zip-lining is an amazing way to see beautiful scenery and majestic landscapes, all while enjoying the element of speed. With options in Tsitsikamma and Addo, be sure to give this activity a try the next time you're away for the weekend. This activity is also perfect for groups, so if you're feeling nervous, grab some friends to go along with you.

Sandboarding

With landscapes as diverse as ours, it's not hard to come by tall, majestic sand dunes. Water sports and beachside lounging aren't the only seaside activities worth giving a go. Sandboarding is available in PE, Sundays River and Jeffrey's Bay.

Bungee Jumping

Situated right here in the Eastern Cape, Bloukrans Bridge Bungy is the highest commercial Bungee jump in the entire world! Popular with tourists and locals alike, this activity is truly for all those who consider themselves brave and fearless.

Skydiving

Ranking high on the fear factor meter, skydiving is definitely not for the faint of heart. Jeffrey's Bay once again is your go-to if the thought of jumping out of an airplane gets your adrenaline going.

River Rafting

This one's for all the water lovers. River rafting makes a great workout while still giving you the ride of your life. A perfect spot for this activity is Sundays River.

That marks the end of our list. With December almost upon us, it's time to start adventuring.

THE DC VS MARVEL RIVALRY

By Kaymery Swart

Among avid fans, or occasional 'superhero-movie-watchers', there's one huge debate going on. Which is better: DC or Marvel? With it being based on opinion and preference, the argument is entirely subjective. Both have huge fanbases, so this is not a question of which one is good or awful. So rather, from an objective point of view, which universe is better?

The major difference between them needs to be established first: the nature of the heroes. Generally, by looking at most of the characters, it is noted that DC characters are gods, whereas Marvel characters are human. There are, however, exceptions on each side. Example: DC characters such as Superman and Aquaman are god-like figures. Batman on the other hand is just human: no supernatural powers. In the same way, though most main characters in Marvel are man, there is a god amongst them - Thor.

Another key difference is how their stories play out. DC has god-like figures doing good and protecting humanity, while Marvel revolves around regular people who suddenly obtain supernatural powers. Take Spiderman for example. A regular kid got bit by a spider and next thing you know he's saving the world.

When it comes to the connections within the stories in each cinematic world, DCEU [Detective Comics Extended Universe], with

little correlation between the productions, is not as well linked as MCU [Marvel Cinematic Universe]. MCU shows interconnectedness in all its comics, TV programmes and films.

Missing a few episodes, a movie here and there, can make you fall behind drastically as countless references are made amongst Marvel productions. DC on the other hand makes almost no references; things don't necessarily connect. For example, the man that plays Bruce Wayne in Batman vs Superman is not the same man that plays him in The Dark Knight Rises. Marvel is more precise here with recurring live-action actors.

In terms of how captivating the two are, DC is more mysterious and edgy compared to Marvel's light-heartedness – consider Deadpool for example. Marvel makes it easier on the eye and mind to be a fan for the above reasons. DC is looser and 'all over the place', yet much easier to catch up with. Being a Marvel fan could take up a lot of your time as everything basically needs to be watched - streams, cartoons, live-action TV programmes, movies, and comics.

Objectively, the best should be determined by sales. Even better – putting live-action productions aside – sales of the comic books since the beginning. Then again, this is about preference, not logic. So, step aside and let the geeks keep themselves occupied.



Picture: www.nerdwide.com

CAN JUNK FOOD BE HEALTHY FOR US?



Picture: unsplash.com

By Phelisa Mkendlana

Junk food is undeniably a beloved food type. However, these foods are known to be bad for us as they're likely to lead to all sorts of health problems. But has anyone ever thought of the positive impacts junk food could offer us?

Every bite of junk food we consume also contains nutrients that our body needs. From the Heart and Stroke Foundation's nutrient chart, it is shown that nutrients, such as Vitamins, Folate, Calcium and Protein, have many functions in the body.

The McDonald's Egg McMuffin, containing Vitamin A, is a great example. Vitamin A helps lower the risk of getting cancer, regulate blood sugar, prevent asthma, and construct healthier skin and hair. Vitamin B2 and B6 help the body convert food into energy the body can use. These Vitamins, found in bread, chicken and burgers, metabolize fats and protein and help the nervous system function properly.

Beef, eggs, pasta and French Fries all contain Folate. This is the key agent in producing red blood cells which help prevent cancer. Folate also plays a role in preventing heart disease, slowing down the aging process of the brain and in foetal development.

Calcium is another one of the nutrients that is commonly found in junk food. It is necessary for strong bones and teeth. Yoghurt, cheese, sardines and canned salmon are examples of foods containing Calcium.

Finally, we look at Protein. It helps heal damaged tissue. Without it, injured bones and muscles will take longer to heal. Ice cream and potato chips are some junk foods that contain Protein.

So it seems junk food does not only disadvantage us. It is also a way for us to get in our nutrients – as long as one consumes it responsibly. It is still 'junk' food at the end of day, but you don't have to feel too guilty for having some fries.

DOES LEMON WATER REALLY HELP YOU LOSE WEIGHT?

By Phelisa Mkendlana

Lemon water is a popular beverage that offers various health benefits such as improving digestion, enhancing focus and increasing energy levels.

Lemon water is a highly customizable beverage and can be tailored according to personal preference. Besides the basic mixture of freshly squeezed lemon juice and water, additional ingredients can be added such as mint leaves or turmeric.

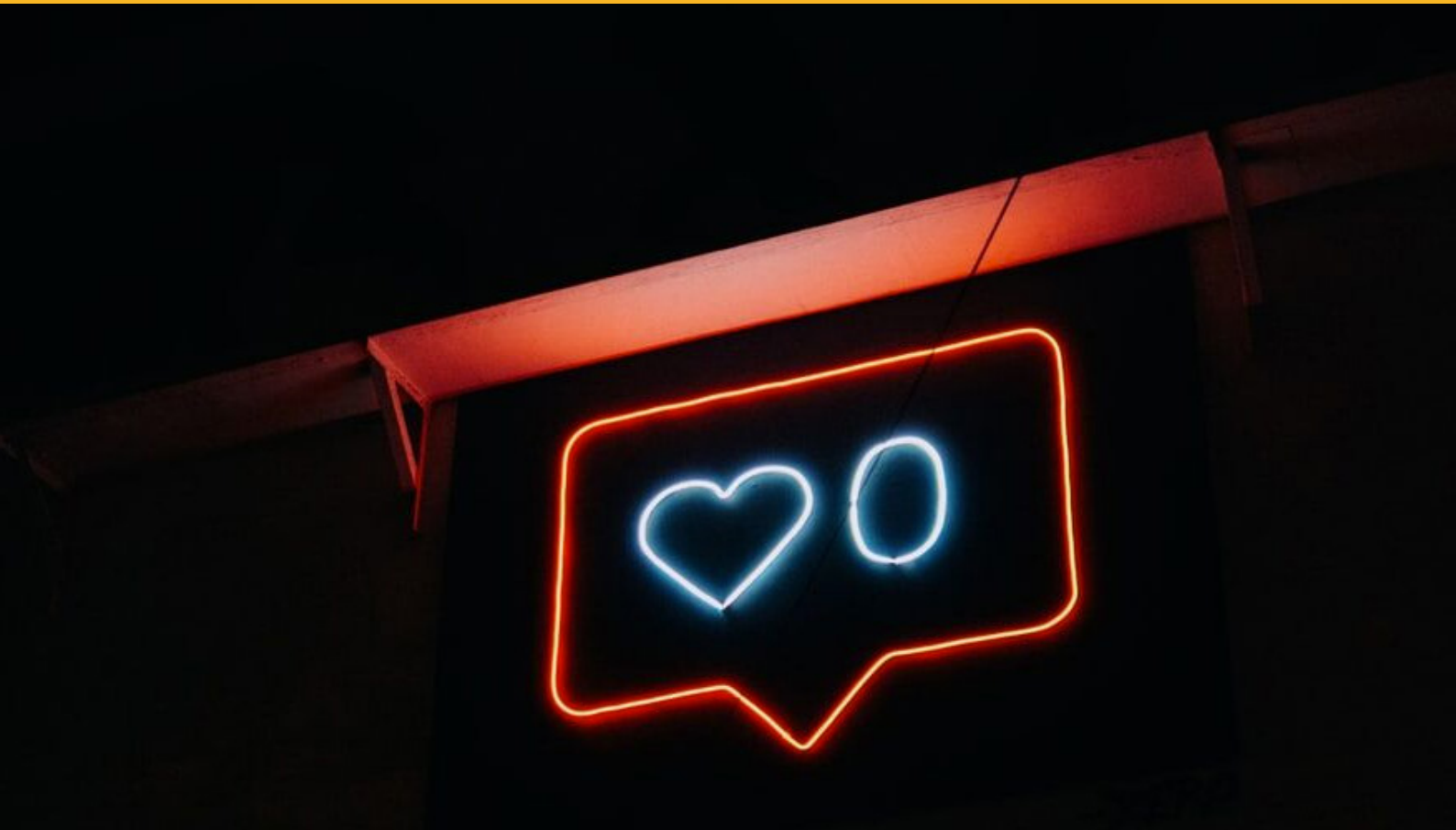
Many people enjoy starting their day with this refreshing drink, but it can be enjoyed at any time of day. It can also be consumed hot, like tea, or with a few ice cubes added for a cool and invigorating version.

It is famously known to promote weight loss, by playing a role in metabolism, satiety and hydration, making it a common addition to many diets. Besides lemon water, water by itself will also assist in weight loss. In one study, 48 adults were assigned two diets: a low-calorie diet with 0.5 litres of water prior to each meal and a low-calorie diet with no water before meals. At the end of the 12-week study, participants in the water group had lost 44% more weight than the participants in the non-water group.

More research also shows that lemon water may play a role in preventing kidney stones due to its acidity. It is important to note, however, that these benefits also come from its main ingredient which is water. Despite claims that lemon water has greater benefits when consumed at certain temperatures, there is little evidence to support that this makes a difference.



Picture: kaboompics



Picture: unsplash.com

INSTAGRAM DECIDES TO RESTRICT PROMOTIONS

By Unathi Vimba

All Instagram users know the pressure experienced from seeing posts and photos of people with the "perfect" body or appearance. This sort of exposure and the comparison-trap it results in poses as a major challenge to those struggling with their weight or body image.

There is intense conversation over the role that social media plays in negatively compelling people to look or act a certain way. What these weight loss and cosmetic procedure promotions do is promote the idea that there is a specific appearance that is preferable or acceptable, and if you do not fit this image, you do not qualify as attractive.

To help you 'achieve' this image, our favourite celebrities and influencers are constantly promoting products for companies. Since they've won us over and earned our trust, we believe their claims and choose to buy these products. Due to the rapid growth of influencer marketing, Instagram has decided to restrict users that are under the age of 18 from seeing these promotions.

As an act of prevention, Instagram wants to ensure a safe and positive platform for users. The company will remove a post entirely if it "makes miraculous claim about a certain diet, or weight loss products, and is linked to a commercial offer such as a discount code". Users are urged to report posts that may violate this policy.

SANELE THWALA: NELSON MANDELA UNIVERSITY'S YOUNG GLOBAL AMBASSADOR

By Unathi Vimba

MadibazNews' very own, Sanele Thwala recently received the astounding title of Global Peace Ambassador, awarded by Global Peace Chain which is an international organisation that aims to build resilience; to cultivate the culture of tolerance, inclusivity, interfaith, harmony of co-existence, love, peace and social justice across the world.

"I am humbled to be among the youngest active agents of change, representing South Africa and advocating for peace and social justice around the globe," said Thwala. "This venture has granted me the opportunity to connect with like-minded people around the globe and develop a network where everyone can implement solutions for a peaceful community and an inclusive world."

Initiatives like these are important, especially at a time like this when Xenophobic attacks are rampant in our country. Now is the time to ask the hard questions and to focus on the core issues that lead to these attacks.

Sanele will get the chance to participate as a Delegate in the upcoming Peace Building conferences, which will be held at the United Nations Head Quarters in New York. He will be rubbing shoulders with experts and global leaders discussing monumental issues and topics related to world peace.

We can all be a part of bringing about change, but the word "change" tends to overwhelm us because we think that it's something big and daunting. But it starts with small, every-day mindsets and habits, like choosing to show kindness regardless of race, religion, gender, etc. On that note, we give a big congratulations and our support to Sanele as he represents us and continues to pave the way for more positive change in our country and the world.



Picture: Nathaniel Nigel

IMPROVE YOUR ISIXOSA WITH IZIKHUTHALI ZESIXHOSA

By Zukisani Gali

Embracing and celebrating a language is a beautiful thing, and here at Nelson Mandela University, we have two students who have decided to do this for the isiXhosa language. Izikhuthali zesixhosa, which means Xhosa experts, was formed in September by third-year BA Language and Literature students, Sisipho Mtiki and Bukiwe Tiyane, who consider themselves language activists.

Izikhuthali zesixhosa is not only aimed at students, but people at large, and the main purpose of the initiative is to generate competence and an appreciation for the language through reading, writing and speaking. The target group includes both those who want to learn isiXhosa as well as those who want to enhance their skills in the language.

Mrs Lenee Castelyn is someone who has benefited from this programme. Lenee grew up in East London, but moved to Port Elizabeth when her job called her to a hospital here. It was here that she was faced with the language-barrier challenge, since most of her patients were Xhosa speaking and she wasn't. Izikhuthali zesixhosa has made a big difference in improving her ability to speak and understand the language, allowing her to be more competent in her job.

In this city and province, skills in the isiXhosa language will benefit everyone. For anyone looking to grow in this area, contact Bukiwe (083 957 9931) or Sisipho (079 999 0430) for more information.



Picture: Zama Baleni

MANDELA UNIVERSITY PRIDE CHALLENGES MYTHS SURROUNDING THE LGBTQI+ COMMUNITY



Picture: pexels.com

By Zukisani Gali

No matter who you or how much power you hold in society, making someone else feel like a lesser human because of their sexual orientation or expression is not acceptable. At the heart of hate often lies ignorance or a belief in myths, therefore debunking these myths is crucial.

The Lesbian Gay Bisexual Transgender Queer community, shortened to LGBTQ+, is meant to encompass and acknowledge the continuum of sexualities. There are several myths directed toward this community that people are quick to believe before even bothering to investigate or question them. The first popular myth is that people choose to be gay. Other false beliefs include believing that LGBTQ+ can be "cured" or that in terms of couples, there is always a "man" and a "woman" in the relationship.

Nelson Mandela University teamed up with several societies and organizations such as

Madibaz Radio, Memeza and Queer Knight to establish Queer in Africa, an initiative seeking to unite the University by combatting ignorance around the LGBTQ+ community. The programme included a march, speech and flag hoisting.

Fellow journalist, Andisile Klaas, vouches that the training administered by this initiative was indeed helpful in clearing up information about the community. With initiatives like this, we can certainly move forward in understanding our differences.

"Waving" the LGBTQ+ flag was a powerful way to show support for the community and what was even more amazing to see were the heterosexual people joining in. A powerful message was conveyed when a student counsellor tore up paper with homophobic words written on it – it was the perfect way to capture the essence of the day.

NGASII AND THE JOURNEY TO HIS SINGLE WITH PRINCE KAYBEE



By Zukisani Gali

Nelson Mandela University students never seize to prove that achieving one's dream is a doable task. Our very own Ngasiirwe Mathias Bathandwa Katushabe has turned his dream of having a music career into a reality.

The young artist was born in the town of Cala, located in the Sakhisizwe local municipality. Based in Port Elizabeth, he is currently finishing his master's degree in Music Research. This journey of his was sparked when he joined the Madibaz Radio team as Head of Technical Department.

Although some may be sceptical of Ngasii's early discovery of his passion, he claims that it was already at the tender age of four that he first started imagining himself performing at a sold-out concert stadium. He says that he didn't find music, rather, music found him.

The birth of his hit track "Sondela" was a result of an interaction with Prince Kaybee on Twitter. Prince Kaybee had grabbed Ngasii's attention with his hit "Charlotte" at the International Culture Festival in 2017. What sparked their professional relationship was a 30-second video clip that Ngasii uploaded on Twitter. Prince Kaybee recognized his talent and replied to the tweet, requesting a collaboration. Soon after, a beat was sent to Ngasii for him to create a song from, and the rest is history.

"TYHN is my YouTube channel that I started in 2018 after being encouraged to do so by South African YouTube heavy-hitter, Thato Rampedi, whom I met on the platform the year before," Ngasii says. Besides YouTube, you can also show this talented artist some love by following him on Instagram (@ngasiirwe) and Twitter (@Ngasii_).

Picture: Triss Msabane

ARTIFICIAL INTELLIGENCE: FRIEND OR FOE? (PART 1)

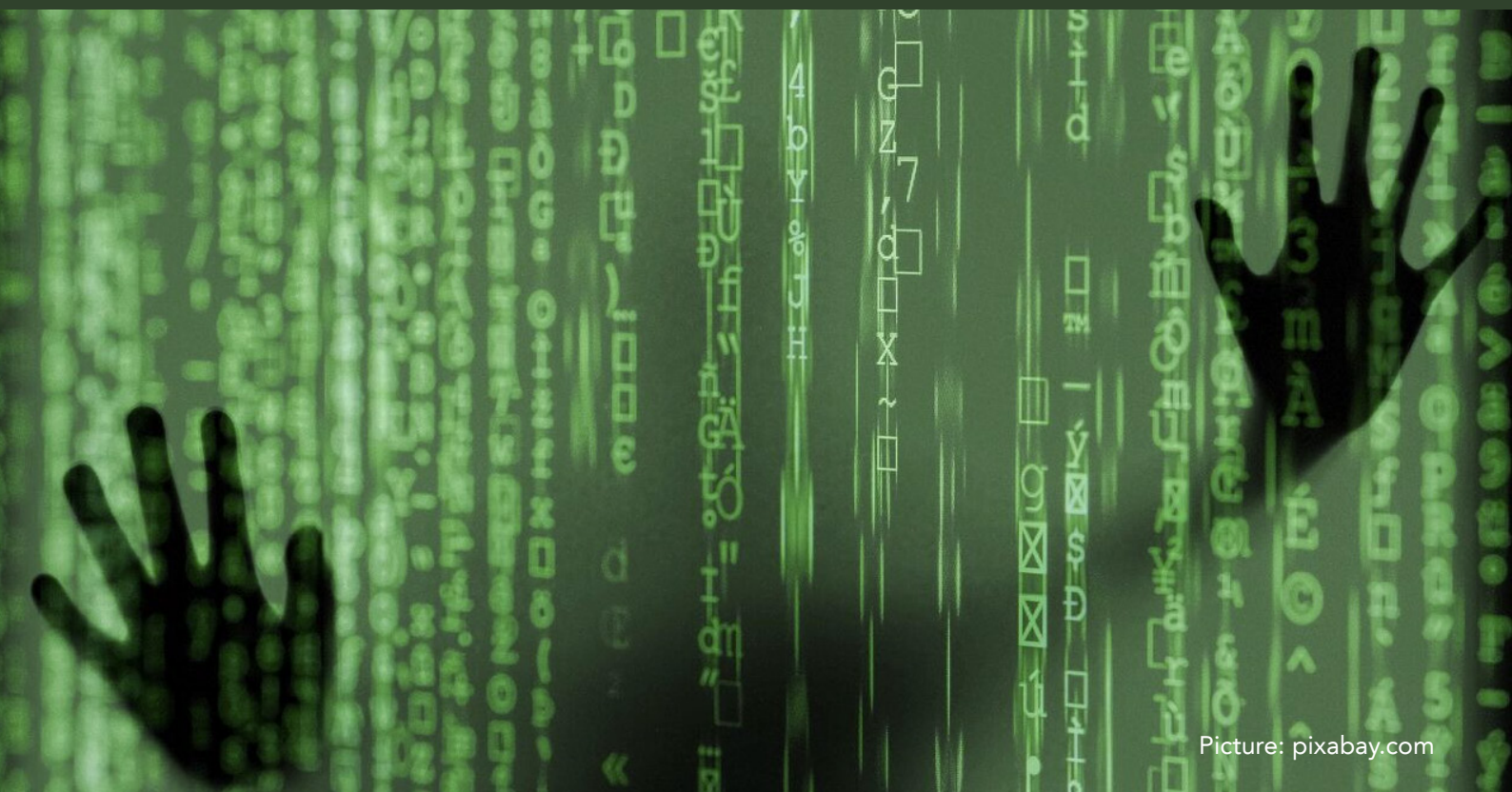
By Neo Motsiri

Deep learning has brought about a renewed enthusiasm in the field of Artificial Intelligence (AI). Its remarkable success has also sparked fears with respect to the threat that powerful artificially intelligent systems could pose for humanity. Should we be concerned about the possibility of AI becoming better than humans at carrying out any conceivable task?

The goal of AI research is to create computer systems which will at least be as intelligent as humans across all domains of cognitive ability. There have traditionally been two schools of thought in the philosophy of AI. One is that in order to achieve the above goal, the AI would have to be built to resemble the neurological structure of the human brain. The opposing view is that the AI doesn't necessarily have to be structured like real brains in order to emulate the human mind, but that it's sufficient that the AI behaves like a human mind, regardless of its internal architecture. The former faction seems to have gained a lot of traction recently, in the form of deep learning.

Deep learning is a method which allows AI systems to learn information by analysing patterns in large data sets. This is made possible by a revolutionary computer architecture called neural networking, wherein the information processing structure of the AI system is highly analogous to the way organic brains work. This has led to software programs which can essentially teach themselves by observing real-world stimuli, much like a human does.

These programs have a narrow scope of operation, meaning they can only carry out specific tasks; a chess playing programme can only play chess, and the operating system of a self-driving car can only drive cars, but humans are competent across a large range of capabilities. We not only play chess, but can also learn to drive, write novels, perform surgery, and so forth. In order for an AI to be truly like a human, it has to learn and master any task that a human can. Part two of this article will explore some of the dangers of this envisioned AI.



Picture: pixabay.com

ARTIFICIAL INTELLIGENCE: FRIEND OR FOE? (PART 2)

By Neo Motsiri

Concerns about the possibility of computer hardware and software taking over traditionally human activities are not new. In the past few decades, industrial automation has led to millions of lost jobs, although these were mostly jobs that primarily consisted of repetitive tasks. In the face of this unpleasant outcome, many commenters took refuge in the fact that highly cerebral and creative careers, such as medicine, law and art, were practically immune to automation. However, this observation is proving less consoling with the advent of deep learning.

Programs now exist which can write screenplays, compose music, draft contracts, prove mathematical theorems, speculate stock markets and diagnose illnesses, while often displaying superhuman competence. If AI research accomplishes its goal, all the aforementioned capabilities and many more, will be encapsulated within a single, superintelligent AI. Considering the rate of progress in AI, it is conceivable that within the next few decades, the number of educated professionals who will be rendered economically obsolete, will continue to rise.

How can individuals ensure that they avoid obsolescence in the fourth industrial revolution? According to some futurists, one way in which people will safeguard themselves against AI will be by human augmentation, which is

a process of artificially upgrading a human's natural abilities, by means of enhancements such as microchips that improve one's mental abilities. Another, more immediate solution, is to avoid jobs or careers that will very likely become irrelevant in the near future, which are usually jobs that are primarily composed of repetitive tasks. "If workers want to future-proof their careers, they need to evolve," said Chris Gray, who is a brand leader at Manpower. According to the World Economic Forum, approximately half of the global labour force will need to acquire new skills within the next five years.

Although the economic changes brought about by AI will be radical, the truth is that AI is only one of many technologies that will shape the fourth industrial revolution. There are quite a number of other emerging innovations that will also disrupt the human workforce. The future employee will have to be versatile and committed to a life-long journey of education and skills development.



Picture: pixabay.com

ARE WE IN A SIMULATION? PART TWO

By Neo Motsiri

(Part one in the previous edition)

Nick Bostrom's seminal paper, "Are You Living in a Computer Simulation?", has caused some very prominent physicists to start treating seriously the idea that our universe might be inside an artificial simulation. One of the physicists exploring this idea is Max Tegmark, who is a cosmologist at the Massachusetts Institute of Technology (MIT). Tegmark believes that the fact that the Universe can be entirely described in mathematical terms, could be evidence that our universe is part of a simulation.

James Gates, who was also a speaker at the 2016 Asimov Debate, provided his own bit of evidence in favour of the Simulation Argument. Gates, string theorist and physics professor at Maryland University, revealed that while studying quarks and supersymmetry, he was surprised to discover equations which eerily resembled a specific kind of binary code that is used in internet browsers for error correction. The only other place where such error-correction has been observed is in biological systems. This led Gates to believe that the simulation hypothesis might indeed be worth exploring.

An important question which arises is, why would a post-human society want to simulate us? One possible reason could be that these future scientists will create such simulations for the purpose of studying the socio-biological history of their ancestors.

There are researchers who are finding novel and innovative ways to probe this most intractable of ideas. Zohreh Davoudi, theoretical physicist at MIT, believes that determining if the universe is fundamentally discretised or continuous, would be an important step towards establishing whether or not the simulation argument is scientifically valid. Gates also notes that if particle accelerators observed supersymmetry, then the simulation argument would be further placed on firm scientific ground, insofar as error-correction codes are present in supersymmetric equations.

The most intriguing aspect of the simulation argument, is the implications it bears for our understanding of the age-old questions of who we are and where we come from. Perhaps this is one of those areas where ignorance is genuinely bliss, because proving the argument right would be for many, a bitter pill to swallow.

Picture: pixabay.com

COLD ENERGY

By Sanele Thwala

A new device that uses cold sky energy to light homes, charge devices and power supplies for people in remote areas, is currently under development.

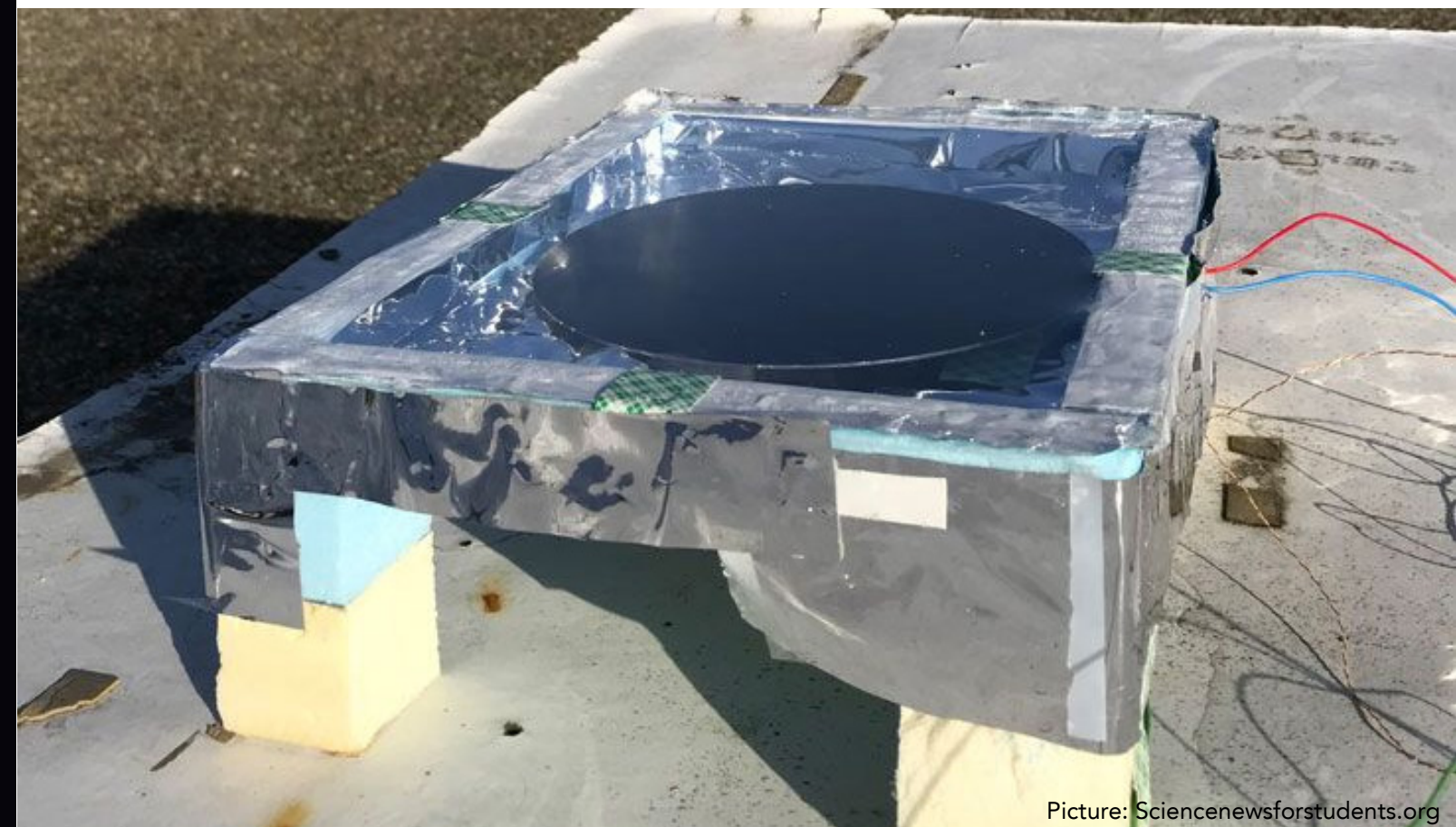
In South Africa we are experiencing power cuts due to Eskom's inability to meet the country's big energy demands. It is quite a challenging situation because electricity is a necessity and we use it for almost everything in our daily lives. Therefore, this device could be of great help.

The power generation is much less than that of solar panels. Solar panels on average generate at least 100 watts per square meter, but this new generator may be very useful for power backups and it might also provide a bit of energy to people living off the electric grid. A prototype of the unit generated enough electricity at night in order to power a small light bulb. A larger version could one

day provide lighting for rooms or to charge telephones.

The generator can produce electricity if it is cooler on one side than the other. The cooler face is mounted on an aluminum platform. This cool sheet is covered under a clear mask and is separated to keep the heat out. The sheet remains cold, as any of the heat it receives from infrared radiation in the surrounding air can be shifted to the outside of the transparent cover.

The researchers tested a prototype of 20 centimeters, and up to about 25 milliwatts (mW) of power was generated per square meter. This was enough power to light a small LED diode or bulb. Further changes will increase production to at least 500mW per square meter. To do this, a cool plate would require more separation from the process. The device could also help to power remote weather stations or other environmental equipment.



Picture: Sciencenewsforstudents.org

NELSON MANDELA UNIVERSITY STUDENTS SCOOP MULTIPLE AWARDS



By Neo Motsiri

Three Nelson Mandela University students have collected multiple awards at the recent State Information Technology Agency (SITA) ICT Public Service Awards, which was held in Durban this year. Neo Mabunda, Zain Imran and Kelvin Langwani, who are in their senior year of electrical engineering, received awards for their smart water meter, which detects leakages and continuously monitors water consumption and its quality. They hope their invention will help local governments curb water wastage and protect home-owners from being erroneously charged for leakages.

The smart meter is powered by a low-latency microcontroller, which operates and interprets data from multiple sensors using proprietary algorithms developed by the innovative students. A very useful feature of the smart meter, is that it can be easily incorporated into

the mechanical water meters currently being used by municipalities. The students developed the smart-meter under their start-up company, Hedge SA, which was founded by Mabunda and Imran.

The company was awarded first runner-up in the Digital Innovator category and picked up first place in the Local Government category. According to Mabunda, the project took six months to build, and approximately a year of research went into getting it to the prototype stage. Although the smart meter initially began as an academic project towards the completion of the students' electrical engineering qualifications, it could now turn out to be a very important step towards relieving South Africa's water crisis. SITA will assist Hedge SA in commercialising the smart meter, and plans are underway to field-test the product.

Picture: Neo Mabunda

WHERE ARE ALL THE ALIENS?

By Neo Motsiri

There are approximately 200 billion galaxies, each composed of about 100 billion stars, and each of these stars is orbited by a system of planets, some of which should presumably be habitable. If the universe is so big, where are all the aliens? This was the question posed by physicist, Enrico Fermi, and is known as the Fermi Paradox. Stated briefly, Fermi's paradox arises from the observation that there are trillions of habitable planets, yet we haven't discovered a single alien life-form.

Though a definitive answer to this grand enquiry has proven elusive, it's not out of a lack of candidate solutions. Many possible answers have been suggested over the decades, one of which is that, maybe life is inherently very rare. It could be that the chances of life arising spontaneously on any sufficiently warm planet are so tiny, that only a minute fraction of all habitable planets will develop some kind of life-form.

Our own story of human evolution is fraught with cataclysmic events, which several times almost rendered us extinct. So even if life did spontaneously arise on some obscure

planet in the form of single-celled organisms, it still has to survive billions of years of natural disasters and evolutionary pressures before it results in intelligent beings.

The subset of alien civilisations that do reach technological maturity, also have to avoid destroying themselves with their own technology, just like we as humans are in danger of wiping ourselves out in a nuclear holocaust. There are currently enough nuclear explosives to destroy the entire earth several times over, so even in our own situation, it's not yet obvious whether our species will survive long enough to achieve the kind of technological sophistication that will allow us to travel to star systems which harbour alien life. Given this danger, it's quite plausible that there may have been alien civilisations which went extinct before we could learn of their existence.

The science fiction writer, Arthur C. Clarke, famously quipped, "Either we are alone in the universe, or we are not. Both are equally terrifying". Regardless of whether our search for extra-terrestrial intelligence bears any fruit, it will have been worth it, because most of the excitement lies in the questions, and not the answers.



Picture: pixabay.com



WORLD CHAMPS DEBUT WAS AN INSPIRATION FOR BASSON

Picture: Fullstop Communications

By Fullstop Communications

Ace Madibaz swimmer Alaric Basson says the top level of competition he witnessed at the World Championships in South Korea this year has been an inspiration for his long-term ambitions.

In what he described as “an insane experience”, one of the leading breaststrokes in South Africa became the first student from Nelson Mandela University to compete in an international event of this stature. It led to him being named the University’s Sportsman of the Year at the annual gala Sports Awards function in Port Elizabeth this month. He also received the award in 2016.

The biggest lesson from the world champs, Basson said, was learning how to deal with pressure of the most severe kind. “To be honest, seeing the best of the best there was just so inspiring,” said the 23-year-old BTech construction student, who hails from Uitenhage. “I saw a number of world records being broken so, really, I was witnessing the fastest swimming the world has ever seen.

Basson felt this had been one of his most successful years in swimming and his attention was

now on carrying the momentum into 2020 and his quest to qualify for the Olympic Games. He added that the recognition he received at the awards function was an honour for him.

“It’s just always a good feeling when your hard work has been recognised.” In addition, being named Sports Personality of the Year is extremely humbling as it came down to people having to vote for a few nominees on social media. “To know that there are people who support me and think that I have the personality or the character to be worthy of such an award is very special.”

Basson said a positive attitude had been one of the key elements to his success this year. “I was always mindful of the things I put in place to stay positive as I firmly believe in the extreme power of the mind. He paid special tribute to coach Mark Edge for the role he had played. “I have to give credit to him as he is extremely dedicated about what he does and never gives up on his swimmers.” I would also like to make mention of Madibaz Sport for their constant support.”

TEAM EFFORT ESSENTIAL FOR MADIBAZ TENNIS SUCCESS



Picture: Supplied

By Fullstop Communications

The Madibaz tennis team, having gained promotion to the A section, know that a committed team effort will be essential when they compete in the University Sport South Africa tournament next month.

The annual event takes place in Stellenbosch from December 2 to 6 and Nelson Mandela University will be one of six teams competing in the top-flight after earning promotion in 2018.

Coach Hennie de Klerk said they were under no illusions about the challenge which lay ahead.

“We are certainly going in with the mindset of winning some of our matches,” he said, “But we also understand how difficult it will be against the established tennis varsities of Free State, Potchefstroom, Pretoria and Stellenbosch, who all have serious depth. We don’t have any individual stars and our approach will be to adopt a focused team effort. Winning the tight matches during the week will be the key to us having some success in the A section.”

He added that the record of the Free State team, who had won the title for the past 11 years, was an indication of the tough matches they would face in the Western Cape.

“So we will be under pressure against some quality teams each day, but we are keen to take this opportunity to test ourselves against the best. Our fitness and mental conditioning, with a never-say-die approach, will be key elements for us during the week. In addition, emotional control and team support will be important factors.”

De Klerk said the Madibaz players competed in the local leagues and also sharpened their game with regular training sessions at the South Campus courts. Players also had access to the University gym for conditioning sessions, he added.

Teams will consist of six men and six women, with four singles matches per gender and two doubles matches per gender. Each tie will be completed by two mixed doubles matches, with the only restriction being that a player may not participate in more than two disciplines.