

Features

By Guardian Correspondent

THE development of science and technology in any country remains one of the most important pillars for accelerating economic and social growth. Nations that invest in scientific research, innovation, and technological advancement are better positioned to improve productivity, strengthen industries, create jobs, and enhance the quality of life of their citizens.

In Tanzania, the role of nurturing scientific talent among young people has increasingly become essential as the country seeks to build a competitive knowledge-based economy. It is within this vision that Young Scientists Tanzania (YST) has emerged as one of the leading platforms dedicated to empowering youth through science, technology, research, and innovation.

Working closely with the Tanzanian government and various development partners, YST has continued to create opportunities for young people to explore scientific ideas, develop practical solutions, and secure opportunities in science and technology-related careers and entrepreneurship. The organization has played a significant role in building a conducive environment where youth can use science and innovation to contribute to national development and economic transformation.

YST's model is built around two major components, with the Outreach Programme standing as the core activity of its annual operations. Through this initiative, teachers from secondary schools across the country receive mentoring and training in scientific method-

ologies from qualified experts. The programme equips teachers with practical skills that enable them to guide students in identifying and nurturing their inborn talents while developing solution-based scientific projects.

The initiative has become an important platform for encouraging students to think critically, creatively, and practically about real-life challenges facing their communities. By exposing students to research methods and innovation processes at an early stage, YST is helping to shape a new generation of young scientists capable of contributing to Tanzania's future development.

According to YST Co-founder Joseph Clowry, the programme has continued to produce measurable results since its establishment in 2012.

"Our main focus is to up-skill teachers and students on practical scientific methodologies as well as providing relevant outreach and mentoring opportunities at their schools and regions. This model has facilitated thousands of students to present science research projects for the annual programme since 2012. Young Scientists Tanzania has worked directly with 19,908 students since 2012. It is a model that works," he said.

The growing enthusiasm among Tanzanian youth toward science and technology is also becoming increasingly visible. YST Project Manager Nabil Karatela noted that interest in scientific research and innovation has risen significantly in recent years.

"The level of enthusiasm and passion for science among Tanzanian youth continues to grow remarkably. In 2026 alone, YST received 1,330 applications from students across the country wishing to participate in the

Science, technology key to accelerating Tanzania's economic and social growth



programme. This is a clear indication of the increasing interest among young people to engage in research, innovation, and practical scientific problem-solving," he explained.

He added that students are now beginning to view science and technology not merely as academic subjects, but as tools for solving real-world problems, driving innovation, and shaping the future of their communities and the country at large.

Karatela further emphasized that the YST programme has helped many students overcome fear and uncertainty surrounding science by encouraging them to apply scientific thinking in practical ways.

One of the most remarkable

YST over-all winners 2025: Samuel Mwilangali, left and Sammy Basil (right) from St Joseph's Cathedral High School

success stories from the programme emerged in 2025 when two students from St Joseph's Cathedral High School, Samuel John Mwilangali and Sammy Deodatus Basil, developed an innovative project titled "Light Intensity Reducing System" (LIRS).

The project attracted significant attention from judges and was eventually named the overall winning project at the YST 2025 Science Exhibition. The achievement not only brought recognition to the students but also demonstrated the impact of investing in youth-driven scientific innovation.

The students developed the Light Intensity Reducing System with the aim of optimizing the use of artificial light in fishing activities while minimizing

unnecessary brightness. Their project sought to reduce environmental impacts and operational costs without affecting fishing efficiency.

In Tanzania, particularly in Lake Victoria and along the Indian Ocean coastline, fishing communities commonly use artificial lighting to attract fish during night fishing. However, excessive or poorly regulated light intensity can contribute to ecological disturbances, energy inefficiencies, and increased by-catch, including the capture of juvenile fish.

As part of their research, the students conducted field assessments in selected fishing communities along Lake Victoria and the Indian Ocean coast. The study examined light usage patterns, fish catch data, and energy consumption among local fishermen.

Their findings reflected broader global concerns regarding light-assisted fishing methods. Studies conducted in other countries have shown that while LED technology can improve fishing efficiency and reduce fuel consumption, excessive brightness may also contribute to overfishing and environmental degradation if not properly regulated.

The project became one of the best examples of how YST is helping young people transform scientific ideas into practical solutions capable of addressing real societal challenges. It also demonstrated the importance of investing in youth innovation as a pathway toward sustainable national development.

YST Co-founder Dr Gozibert

Kamugisha acknowledged that the programme's success over the years has been made possible through strong partnerships and sponsorship support, particularly from the Karimjee Foundation.

"The success of all these YST initiatives has been made possible through the strong support of the Karimjee Foundation, which has supported this movement for more than 15 years," he said.

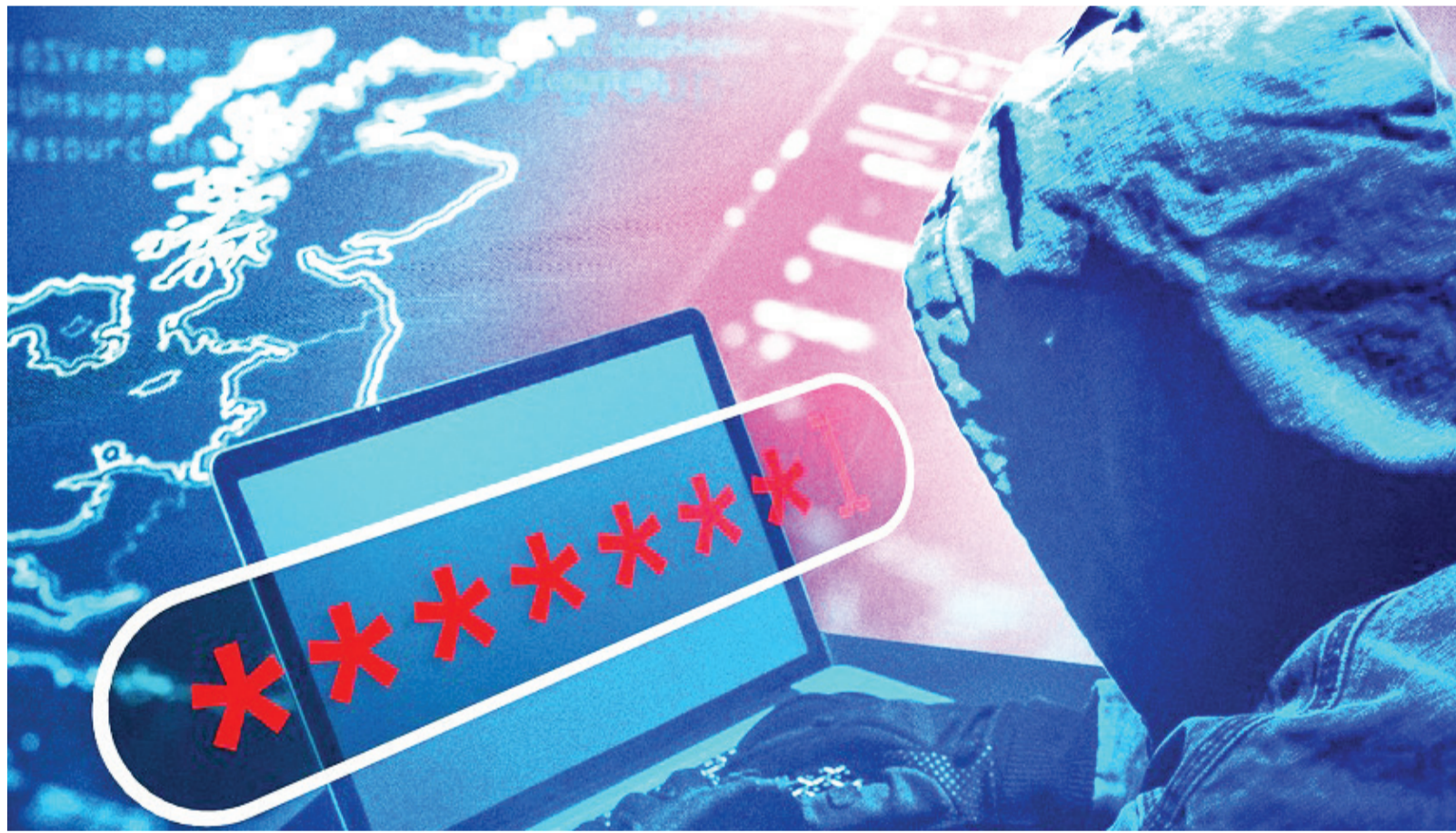
According to Dr. Kamugisha, the Karimjee Foundation strongly believes that science is a cornerstone of development and that young people must be empowered and equipped with the necessary opportunities to utilize their talents effectively.

"With the support of the Karimjee Foundation, YST has been able to create platforms for many students to exercise their scientific talents and develop practical projects that help solve problems within society," he explained.

Over the past 15 years, YST has trained 19,908 students and 3,189 teachers in scientific methodologies. Additionally, 3,265 students and 1,564 teachers have successfully developed scientific projects and participated in YST science exhibitions across the country.

Dr. Kamugisha also noted that some of the projects displayed during previous exhibitions have progressed beyond the research stage and are now being commercialized for the market.

In addition to supporting science education and innovation, the Karimjee Foundation has also invested in scholarships aimed at recognizing exception-



The motivation for the Nairobi Expressway was that it would ease traffic congestion in the Kenyan capital.

There's hidden danger in data breaches: How hackers use your personal details against you

By Joshua Mabina

LAST Thursday, I was standing in the bathroom holding a small amber bottle of Dove body wash when my phone buzzed. An email. "Here is 15% off because we noticed..." Swipe left. Standard behaviour. I kept scrolling with the detached confidence of a man who believes discounts are beneath him. Then, somewhere around paragraph two, I saw the word hackers sitting there casually, uninvited, like someone already wearing slippers in your house.

I read it twice. Then I slowly put the body wash down because suddenly it felt like evidence.

By paragraph five came the familiar corporate reassurance: no passwords were stolen, no payment information compromised. It is always interesting language, isn't it? Companies rarely say "nothing happened." Instead, they say, "some

things happened, but please focus on the things that didn't."

I know Rituals because my girlfriend belongs to that rare category of people who can make skincare look like a spiritual discipline. Every now and then, I make it a ritual – pun entirely intended – to buy her limited-edition collections such as The Ritual of Karma. Apparently kindness can be bottled, fragranced, and sold in elegant packaging. To be fair, her skin does look as though it has diplomatic immunity.

Then I reached the important part of the email. On April 22, 2026, Rituals confirmed that attackers had breached part of its customer relationship management system and accessed customer information, including names, email addresses, phone numbers, home addresses, dates of birth, and gender details. The company stated that passwords and payment information were not affected.

Now, before you judge me, I tend to read and reply to emails on my iPhone in the shower the same way other people sing in the shower – badly, confidently, and with no concern for moisture damage. But this part stopped me cold. These are details that seem harmless until they land in the hands of people who value them for entirely the wrong reasons.

Suddenly, paranoia filled the room. I stood there for a moment wondering what the appropriate reaction to a data breach should be while half-dressed and holding moisturising body wash. Rage? Panic? Existential despair?

Instead, I did something radical. I decided to understand what had actually happened before doing anything dramatic, like throwing the body wash away, which frankly would have been wasteful.

A few hours later, my coffee had gone cold beside me while I typed at my keyboard like a man trying to

solve a mystery nobody had asked him to solve. What I eventually realised is this: the information that sounds boring – names, birthdays, phone numbers, addresses – is not boring at all to someone building a scam.

I have worked in tech sales long enough to understand one thing clearly: personalisation works. It works in advertising. It works in customer service. Unfortunately, it also works beautifully in fraud.

If someone sends you a text saying, "Happy birthday, Carrie. Your gift from Rituals is waiting. Click here to claim," your first instinct is not necessarily suspicion. It feels plausible. Familiar. Exactly like the kind of message a company might send.

That is where the real danger lies. Cybersecurity researchers have warned about this for years. The threat is not always someone directly emptying your bank account. Sometimes it is more subtle

than that. Criminals gather enough information to sound trustworthy, emotionally convincing, and contextually accurate – enough that you hand over the keys yourself.

A name combined with a birthday, phone number, and purchase history becomes incredibly valuable in the wrong hands. Even without a credit card number attached, it allows scammers to craft convincing phishing attacks, impersonate trusted brands, and manipulate victims into revealing more sensitive information.

What the Rituals incident reminded me is that the systems holding our personal lives together – loyalty programmes, appointment apps, gym memberships, delivery accounts – are constantly being tested by people searching for weaknesses. Somewhere, someone is always checking whether a digital door has been left unlocked.

Dutch Justice Minister David van Weel summed it up bluntly when speaking to the Dutch press agency ANP in April 2026: "If you don't want to be hacked, you should turn off the computer and put it in a box in the basement. But then it isn't of much use."

He is right, and it is frustrating that he is right. The Dutch parliament recently passed a Cybersecurity Act intended to strengthen digital protections and force companies to improve their security systems. That is an important step forward. But it also arrives after millions of pieces of personal data may already have circulated beyond their intended boundaries.

What troubles me most about these incidents is not only the breach itself but the delay between the breach and the discovery.

When companies say, "As far as we know, the data has not been made public," those words carry enormous uncertainty. Detection takes time. Investigations take time. The moment hackers gain access is rarely the same moment the company discovers the intrusion, and it is definitely not the same moment customers receive warning emails.

There is always a gap – sometimes days, sometimes weeks – during which information may already be circulating quietly online while customers remain completely unaware.

That gap matters. It is also why the practical steps people take af-

ter receiving a breach notification are not pointless acts of panic. The risk does not disappear once the company sends an apology email. In many cases, the real scams begin months later when victims have forgotten the breach entirely.

Scammers are patient. They sit on stolen information until the timing feels right. Four months later, you might receive a message saying, "We miss you. Here is a special offer waiting for you." It sounds authentic because it is built from fragments of truth: your name, your habits, your birthday, your relationship with the brand.

That is the unsettling part – not just the breach itself, but the afterlife of it.

So here is what I actually do now because practical habits matter more than theoretical advice.

First, I never click links in emails or text messages involving gifts, discounts, account verification, or urgent account warnings. Instead, I open the app directly or type the website address into my browser myself. It takes only a few extra seconds and removes a huge amount of risk.

Second, I avoid using the same email address across every online account. A breach at one company can become a skeleton key for others if your digital identity is completely consistent everywhere. Many email providers now allow aliases, which can help separate shopping accounts from banking, subscriptions, and personal communication.

Third, I pay attention to messages that feel slightly off. Not paranoid attention – just careful attention. A parcel delivery text when I have not ordered anything. A message asking for payment to release a gift shipment. A birthday reward email requesting card details "for shipping purposes."

These scams succeed through scale. Criminals send thousands of messages knowing that statistically someone will eventually click.

I also think we need to change how we talk about personal data.

When companies say "no financial information was exposed," they present it as reassuring news, and technically it is. But names, addresses, birthdays, and phone numbers are not meaningless details. They are the pieces that make people identifiable, reachable, and impersonatable.