





Photos: Girls in ICT Rwanda

## THE BEAUTY OF TECHNOLOGY

*As the continent strives to cement its reputation for innovation, Africa's Ms Geek contest aims to turn traditional pageant culture on its head – and encourage more young women into STEM professions in the process.*

While pageant contestants may long have sought out world peace, the idea that it could be achieved by their parading in evening gowns has understandably puzzled those seeking equality. However, by switching the superficial for the scientific, Africa's Ms Geek contest may be the event to change that.

Created after a group of female tech entrepreneurs decided it was time to replace the outdated Miss Rwanda pageant in favour of judging brains, not beauty, the first Ms Geek Rwanda was crowned in 2014. By 2017, the organisers had partnered with Smart Africa to expand the competition to all member states. Now open to girls and women aged 13 to 25 and from 22 African nations, the competition encourages participants to use technological innovation to solve everyday problems in their own communities.

For this year's Ms Geek — Salissou Hassane Yari Latifa, 23, from Niger — inspiration came from the problems faced by rural African communities in accessing emergency healthcare. She designed a 'first responder' app to connect members of the public caring for accident victims with the emergency services, allowing medical staff to advise on basic first aid and lifesaving procedures ➤



**Above:** Winners of Ms Geek Africa 2018

until qualified help can reach the scene. As a finalist in the contest, she received business coaching to develop the idea, and as the winner, will now receive the financial backing needed to bring it to fruition.

“Ms Geek has already changed the perception of what girls can do,” said Esther Kunda of the Next Einstein Forum, a founding member of the competition’s organising body Girls in ICT Rwanda. “It’s a good place to be a woman in tech right now.”

#### A MODERN HISTORY OF WOMEN

Prior to Rwanda’s 1994 genocide very few women owned land or property, completed a formal education or even held a job away from their family home. However, in the wake of the atrocity, the country

*Ms Geek has gone on to play a key role in the transformation of Rwanda's gender balance*

found itself with an unbalanced population. A staggering 60% to 70% of surviving citizens were female.

As efforts continued to rebuild the country, transforming it from a small, and injured, agricultural economy into a hub for technological and scientific discovery, development and innovation, it became clear it had no choice but to overturn the way it put its population to work. Having ruled the country since 2000, President Paul Kagame began to realise that championing women’s rights would be the only way to develop the workforce needed to achieve his goals. Ms Geek was created on the back of this drive, and has gone on to play a key role in the transformation of Rwanda’s gender balance.

Now, according to the World Economic Forum’s Global Gender Gap report, Rwanda sits in fifth place globally when it comes to gender equality, beaten only by Iceland, Finland, Norway and Sweden. At 86%, Rwanda has one of the highest rates of female labour force participation in the world. Consider that in contrast to the US, for example, where that figure last year stood at 56%, having continued to decline since the turn of the millennium.

Not only are participation rates high, but the wage gap is narrower – in Rwanda, women earn 88 cents for every dollar men do, while in the US, it’s just 74 cents.



**Below:** 23-year-old Salissou Hassane Yari Latifa, from Niger, is Miss Geek Africa 2018





# 86%

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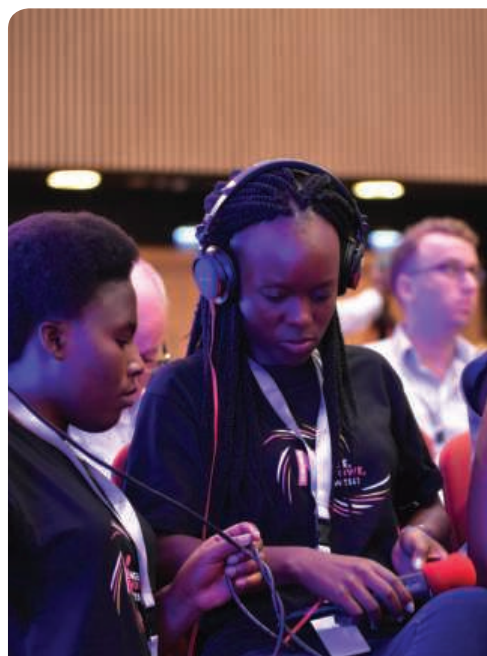
**Right:** The competition encourages participants to use technological innovation to solve everyday problems in their own communities

The country now leads the world in terms of female representation in parliament, thanks in part to a quota system, while gender rights are enshrined in the constitution and women can now borrow money and inherit land.

In science, technology, engineering and mathematics (STEM) and information, communications and technology (ICT) though, the further ambitions are significant. The country has set a target of achieving complete gender parity in the sector by 2020, via a programme of campaigns, scholarships and mentorships in which Ms Geek, and its founding organisation, Girls in ICT Rwanda, play a central role.

## WHAT COMES NEXT?

In March this year, the Next Einstein Forum (NEF) held a large-scale conference in Rwanda aimed at encouraging the development of young scientists across Africa. Branded the largest-ever gathering of scientists on the continent, more than 1200 leading innovators, researchers, policymakers, business leaders, civil society leaders and entrepreneurs were in attendance as the NEF unveiled a large-scale survey on the gender gap in STEM education and research, aimed at furthering efforts to close it entirely.



Nathalie Munyampenda, Managing Director at NEF, said: “We launched the survey as a way to gather baseline data. There has not been comprehensive research on [gender inequality in STEM] and the NEF survey hopes to get a snapshot that will lead to longer research on the topic.”

The NEF now sponsors 19 African science fellows and facilitates an Africa Science Week at schools in 30 countries. It also continues to work alongside the African Institute for Mathematical Sciences, which provides full scholarships to students studying for masters’ degrees in mathematics in Cameroon, Ghana, Rwanda, Senegal, South Africa and Tanzania. A third of the 1500 students to have graduated under the programme so far are female.

In an opening address to delegates at the event, Rwandan President Paul Kagame linked scientific progress to Africa’s development at large, insisting: “Knowledge economies are prosperous economies. Today, more than ever before, adequate math and science proficiency is a prerequisite for a nation to attain high-income status and the gains in health and well-being that go along with it. For too long, Africa has allowed itself to be left behind. That is starting to change, but as Africa catches up to the rest of the world we cannot afford to leave our women and girls out of the equation.

“The gender gap in science is a global phenomenon but that is no reason to accept it as inevitable. Whatever the causes may be, we have to dedicate ourselves to closing the gap, because opportunity will never be equal without equal access to knowledge.”

## THE FORGOTTEN WOMEN OF STEM

In May 2018, the University of California Santa Barbara (UCSB) held an event aimed at righting what is now regarded as a major wrong in the reporting of scientific discovery. For while John Tyndall, an Irish physicist, is usually recognised as the first person to prove the greenhouse-gas effect, at least some of the credit should have gone to Eunice Foote, an American scientist.

The event aimed to bring to light Foote’s discovery of the principle cause of global warming, 162 years ago.

Hers is not the only example of incorrectly attributed scientific breakthroughs. In 1957, Dr Chieng-Shiung Wu and two male colleagues at Columbia University found evidence overturning a principle of physics known as the law of conservation of parity. Dr Wu’s contribution to the research was overlooked, and her co-workers received the Nobel Prize in Physics without her.

Irish astronomer Jocelyn Bell Burnell, published a paper identifying the first known evidence of a pulsar during her time studying at Cambridge University. Her adviser, Anthony Hewish, was awarded a Nobel Prize for the work. She was overlooked.

