

HOW ONE OF OUR YoSA STUDENTS IS DEVELOPING HIS SCIENCE FOR THE BENEFIT OF AFRICA

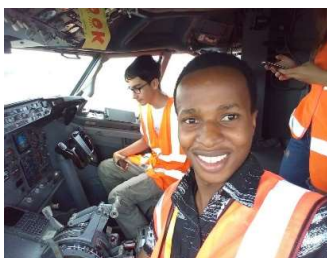
A great example of what Young Scientists for Africa (YoSA) is achieving can be highlighted by the story of Gracious from Tanzania. Gracious is from a poor community near Kilimanjaro and was motivated to work hard as a means to improve his opportunities and find a way out of poverty. Through this he developed a great passion and commitment for science.



Gracious revived the science club at his secondary school by running science project exhibitions and inspiring record numbers of students to start studying science. Following outstanding Ordinary Level grades he was selected to attend a government high school on the other side of Tanzania. This opportunity meant leaving his family far behind, but his science thrived and he went on to run the Physics club and began developing Humanoid Robots using only local materials.

He was invited to represent his school in a science competition run nationally by Projekt Inspire, during which Gracious developed another innovative robot and showed himself to be a true rising star. He has since set up his own YouTube channel – *Robotics From Scratch* - demonstrating his growing range of robotic innovations and received an appreciation certificate from Africamoja youth society (a non-profit East Africa youth investment initiative).

Gracious has also innovated an Air defence system, a small scale military project capable of intercepting moving objects/threats, which he presented at the Tanzania Education and Skills for Productive Jobs Program (ESPJ) sponsored by the World Bank. He has also presented other versions of his robotic arm at the Tanzania International Model United Nations (TIMUN), which brings youth together to find solutions for society, and at the Saba Saba Youth Festival, and has developed robotic prototypes for an automatic interchanging generator and an automatic high voltage water purifier.



Having partnered with Projekt Inspire to identify young talented scientists in Tanzania, Young Scientists for Africa awarded a scholarship for Gracious to attend the London International Youth Science Forum (LIYSF) in 2018. As a very gifted and determined individual, Gracious relished every moment of the experience, exhibiting and presenting his robotics project at the Science Bazaar to other young science students from around the world, absorbing new knowledge, visiting leading science facilities at Oxford University, Cranfield University and the Royal Institution and making lasting friendships and science collaborations. The director of LIYSF was so impressed by Gracious that he has invited him to return to the Forum in 2019 as a student staff ambassador – this will be an exceptional opportunity for Gracious to develop his leadership and management skills.

Since returning to Tanzania Gracious has taken part in Africa Science Week through the Young Scientists for Africa connection with the Next Einstein Forum and been introduced to a leading African scientist, Fredros Okumu, who has offered him an internship at the prestigious Ifakara Health Institute where he will be developing automatic mosquito nets.

Gracious has just started his undergraduate studies in Electrical Engineering at the Dar es Salaam Institute of Technology and through the support provided by Young Scientists for Africa he now has a real chance to achieve his potential and contribute to the science innovation needed in Tanzania.



"YoSA and LIYSF have transformed my life - I have learnt many new ideas that will impact my society. Some people may think Africa is not passionate about science but the good representation of young African scientists at LIYSF reveals that Africa has scientists who are eager and diligent to bring positive change and solutions through science."