My science fair journey

Eskom Expo

Hritik Mitha, a Grade 10 learner from Bryanston High School in Johannesburg, was sponsored by Eskom Expo for Young Scientists to attend the Intel International Science and Engineering Fair (ISEF) in Phoenix, Arizona, in the United States in May 2019.

He was one of eight learners representing South Africa at the high school science fair, having been awarded a gold medal for his science project at the Eskom International Science Fair in Johannesburg in September 2018. Intel ISEF featured more than 1 800 high school students from 80 countries and regions around the world. Hritik walked away with a USAID Science for Development Second Place Award, winning US$3 000 in prize money!

Quest asked him about his USA experience, the opportunities presented to him since his return, his future plans and his other interests.

The trip

"The trip to Intel ISEF was my first time overseas, so merely going to another country was already amazing for me. It was an adventure getting to Phoenix, with connecting flights via Dubai, Seattle and New York. After over 20 hours of flying time to get there, it was great to arrive in Phoenix, passing the Grand Canyon on the flight's descent and then viewing the city by night, illuminated by all the lights. Phoenix was a beautiful city, although stiflingly hot, being in the Sonoran Desert."

"Highlights of my trip included meeting people of so many different cultures from all over the world. Getting to converse with people with similar visions to my own of helping the world was both enlightening and inspiring."

"Apart from the science fair, I went to my first baseball game, featuring the Phoenix team, the Arizona Diamondbacks. That was a really interesting experience, watching a new sport whilst enjoying the energy of the evening. We were also able to explore more of the city independently during our free time. We either went shopping or did some leisure activities such as ice-skating (also a first for me)."

"Eating out at multiple American restaurants was a refreshing experience, although I cannot lie – I went to Starbucks about six times! The city had such a buzz, so overall it was an epic excursion!"

Opportunities back home

"Since arriving back from the USA, I've had so many opportunities to discuss my project and attend science- or engineering-oriented events. I was invited to attend and speak at the Green Youth Indaba, an annual event that promotes sustainable development in technology and skills development for the future. I spoke about my project, as it promoted green energy and sustainable development."

"Then I was interviewed on Caps Radio a few weeks later, where I was asked questions regarding my project

journey. I really enjoyed knowing that my story of resilience and dedication could inspire many others with similar goals. The #MillionYoungMinds event was focused around robotics and AI, and I was selected as a school ambassador due to my past achievements. It was a great experience. I never knew that something as simple as a science fair project could yield so many opportunities in the future. Even after winning, I still continued to reap the rewards of my work."

Future plans

"At this stage, I'm not certain what profession I'll pursue in the future, but currently I'm looking into studying physics or engineering. This expo made me aware, more than anything else, of all the possibilities there are, and that there's no need to make a hasty decision when there are so many career fields out there. I may even consider going into entrepreneurship – people like Elon Musk and Bill Gates are transforming the world and saving it from problems such as climate change, and I wish to contribute to this. I feel proud knowing my project has the potential to contribute and help mitigate the current problems the world faces. I feel satisfied knowing that my high school project is already contributing to cleaner, sustainable energy production, and I hope to focus on goals that benefit people and the world at large in the future."

Other interests

"Science is a major part of my life, but it's always healthy to maintain a balance in your life. I have quite a few other interests. I enjoy long-distance running, as well as sports like cricket and tennis, mainly because they really help me to clear my mind and think better. I enjoy activities that stimulate my brain mentally, such as reading, playing chess and playing the piano. One of my favourite hobbies, though, is astrophotography. I've had a love for space and astronomy ever since I could comprehend what it was. The time and patience it requires is well worth it, considering you can eventually capture images of the moon, stars and planets and share it with the world. I also do this in the hope that I can arouse interest in others about the marvels of space and astronomy that we ignore in our day-to-day lives."

Congratulations Hritik, and all the best for your future endeavours!

Chris Ayers/Society for Science & the Public)

Proudly South African winners at the Intel International Science and Engineering Fair in Phoenix, Arizona.

Hritik Mitha won a USAID Science for Development Second Place Award of US$3 000 for his project 'Improving the harnessing of solar energy using a hybrid photovoltaic thermal system'. Hritik modified lab-scale solar panels by adding front and back water cooling, using low-cost commercially available materials, to extract the thermal energy that would otherwise be dissipated as waste heat. Since this heat has an adverse impact on the solar panel's electrical performance and lifespan, the overall energy efficiency of the solar panels was significantly increased.

Runè Edeling (left), from Eunice High School in the Free State, won a Fourth Place Award of US$500 in the physics and astronomy category for her project 'Using dimple technology to optimise the aerodynamics of heavy motor vehicles'. The project investigates how golf-ball style dents, or dimples, applied on certain areas of the bodywork of a truck can be used to decrease aerodynamic drag so as to increase fuel efficiency and cost-effectiveness.

Shaziyah Laher (right) from Nizamiye Al Azhar Institute in the Eastern Cape, won a Fourth Place Award of US$500 in the chemistry category for her project 'Organic biodegradable alternative to plastic'. The project investigated a more efficient way of making and disposing of plastic that is less harmful towards humans, animals and the environment. The results of the experiment produced a transparent, strong, biodegradable polymer.