



A Shell Trinidad and Tobago Initiative

In partnership with:



SHELL NXPLORERS PROGRAMME NATIONAL WINNERS' ANNOUNCEMENT

Shell Trinidad and Tobago Ltd, in partnership with NIHERST



What happens when you challenge 176 students from 12 secondary schools and three universities to come up with solutions for some of the toughest social and environmental problems facing the society? The result is nothing short of inspiring! In May, Shell NXplorers, a global innovative programme that introduces young people to STEM thinking, hosted a virtual competition for the participants. After an intense judging panel review, 28 students were awarded for developing prototypes to address social and environmental challenges relating to food, water, and energy access in their communities.

More than \$50,000 in prizes, along with medals & trophies, will be awarded to the winners.

Shell NXplorers is an innovative, educational programme that introduces young people to the complex and creative thinking needed to bring about positive change in our local and global communities. The pilot programme introduced by Shell Trinidad and Tobago Ltd. launched in February, 2021 in partnership with the National Institute of Higher Education, Research, Science and Technology (NIHERST), a state agency operating under the Ministry of Education.

Throughout the programme, the students demonstrated hard work, passion and dedication in the midst of challenging times. We are pleased to announce the following winners:

TERTIARY STUDENT CATEGORY WINNERS



1st Place Winner & Winner of the Most Innovative Tertiary Student Project
Kaveer Phillips from the University of the West Indies

Framing Question: How can we get closer to Carbon Net Zero without negatively affecting the energy sector?

Prototype: Vehicle Carbon Capture Filter which reduces carbon dioxide emissions in vehicles by over 90%.

"My inspiration came from the realization that we are currently in the transition phase into renewable energy, however we need something that can stop our emissions from tipping the scales to the point of no return." said Kaveer.



2nd Place Winner
Danielle Pacheco from the University of the West Indies

Framing Question: How can we sustainably meet the double energy demand of 2050, while lowering carbon dioxide and other greenhouse gas emissions?

Prototype: A Mechanical Tree which reduces carbon emissions on worksites in the extractive industries.



3rd Place Winner
Mikella Hosein from the University of the West Indies

Framing Question: How can we improve water management systems to sustainably and equitably provide potable water for domestic use for all citizens?

Prototype: The Rain Water Harvester which harvests, stores and filters rainwater for domestic use.



Most Creative Tertiary Student Project
Emily Phillips from the University of the West Indies

Framing Question: How can we increase food security while preserving water?

Prototype: The Aqua Alvarium - a hexagonal water catchment system that uses the structure of a bee hive to recycle water.



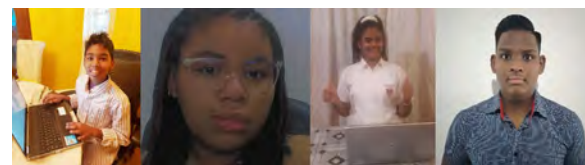
Most Impactful Tertiary Student Project
Joshua Prentice from the University of the West Indies

Framing Question: How can we provide food security, preserve water and reduce the environmental impact of traditional farming methods?

Prototype: Solar Powered Aquaponic System which powers an aquaponic farming system in which nutrient rich water is recycled from fresh water fish habitats into farm plants.

IN THE SECONDARY SCHOOL CATEGORY, THE WINNERS ARE

1st Place Winner – Cowen Hamilton Secondary, "NX Innovators" Team



From left to right: Aydin Ali, Ariel Pacheco, Sarah Ramsumair and Varun Ramdial

Framing Question: How can we conserve water while increasing food production?

Prototype: a self-watering vertical garden which is powered by wind energy and uses aquaponics and aeroponics to grow plants.

At the helm of the secondary school first place project Cowen Hamilton Secondary led by form 1 student Aydin Ali.

"This programme showed me how to use systems thinking to fully understand an issue so I can make positive and worthwhile solutions to problems in the community I live in. The problem statement was inspired by me realising that I am part of my community and I believe that change starts with me."

2nd Place Winner – Gasparillo Secondary, "Civil Innovators" Team



From left to right: Suren Katwaroo, Abdullah Stapleton, Saada Asgarli & Kimberly Ragbir

Framing Question: How can we discourage the misuse of agricultural land?

Prototype: A management system to connect all stakeholders involved in land management e.g. Government Ministries, farmers, contractors and citizens.



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3rd Place Winner – St Stephen’s College, “Hydrogen Bonds” Team

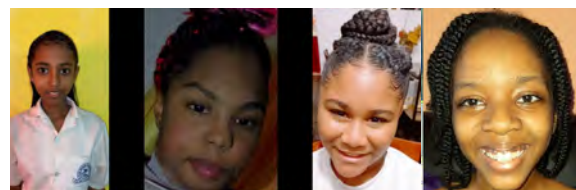


Top row from left to right: Jasveer Seecharan, Ariel Boochoon, Shereece Williams

Bottom row from left to right: Sian Sama, Emily Gopaul

Framing Question: How to ensure that flooding is no longer a terror haunting rural Trinidad and to make water shortages a thing of the past?

Prototype: An underground water catchment system designed to reduce flooding in flood prone areas, especially in south Trinidad where their classmate was affected by severe flooding.



Most Impactful Secondary School Project – Five Rivers Secondary, “Eco Heros Team”

Eco heroes Team: Devika Ramoutar, Geanna Leach, Thalia Taylor, Kassi-Ana Salina, Rayan Achie

Framing Question: How can we reduce used cooking oil from negatively impacting the soil, waterways and marine life?

Prototype: Re-Use Cooking Oil Campaign where students pitched methods to recycle cooking oil to create lubricants for tools, soap, crop spreaders and candles.

Most Innovative Secondary School Project — Five Rivers Secondary, “We Stand for Green” Team



We Stand for Green Team: Matthew Ballantyne, Triston Daniel, Kaila Joseph, Justin Sookdeo and Aidan Walker-Salvary

Framing Question: How can we help farmers maintain a quality water supply for animals and to produce quality crops?

Prototype: A Fruit Peel Filtration System that uses fruit peel to filter water for farming. The system begins with a dry luffa and coconut husk filtration tank, which leads to a fruit peel tank, then into chlorinated water and finally into a storage container for plant and animal use.

The participants expressed their gratitude to the team at Shell Trinidad and Tobago Ltd. and NIHERST for making the Shell NXplorers programme possible.

Shell, through its local delivery partner NIHERST, will host another cycle of Shell NXplorers in the final quarter of 2021.

Want to sign up for future opportunities? Connect with us ...

Visit: www.niherst.gov.tt/scipop/Shell-STEM-programme.html to learn more about Shell STREAM Programme projects

The National Institute of Higher Education Research, Science & Technology

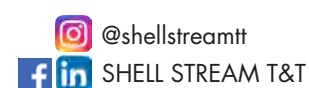
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