

# STEM

SCIENCE | TECHNOLOGY | ENGINEERING | MATHEMATICS

**NEWSLETTER  
VOL 1 2018**

## Welcome!

Welcome to the first issue of the STEM Programme newsletter for 2018. New year, new term, new things! We are happy to share a few new academic and technical programmes that have become a part of the STEM Agenda. We also share some of our other featured facilitators and take a look back at some exciting things that have happened so far in 2018 with STEM.

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The Trinidad and Tobago STEM programme is sponsored by Shell Trinidad and Tobago Limited

# NEW YEAR NEW PROGRAMMES



## MIC - TOBAGO

In March a new technical training programme began in Tobago, facilitated by the MIC Institute of Technology. Twenty two (22) male and female students from various schools throughout the Tobago Education District will attend this programme for one year. The students will be exposed to subject areas such as Auto Diesel, Air Conditioning, Electrical Installation, AutoCAD, Lifeskills, Computer Technology and Applied Engineering Science/Math.

We welcome the students to the programme!

## 'TECH 4 AGRI'

With a national mandate of diversification through industries such as agriculture and innovation, an additional Agricultural Science focused group has joined the programme. Facilitated by Keron Bascombe of 'Tech 4 Agri,' the sessions focus on the use of technology including equipment and programs in agriculture. Students have already been exposed to several types of equipment, coding for agricultural programs and the use of ICT applications to advance the agricultural sector.

## TECHNICAL TRAINING - NESC

The STEM Technical Training Programme has expanded this term with a new institution coming on board. The National Energy Skills Centre (NESC) now hosts a new cohort consisting of twenty-two (22) participants from various schools in the Port of Spain Education district area. Commencing in January at the Couva campus the Programme is expected to run until November 2018. In addition to life skills and communication, students will be exposed to the theoretical and practical applications of the following:

- Blue print reading
- Digital literacy
- Industrial mechanical maintenance
- General auto and diesel mechanics
- Air condition (AC) & refrigeration
- Fluid power and controls
- Electrical installation
- Welding.



# NESC VOLUNTEERISM PROJECT

As part of the Life Skills Programme at NESC, students are involved in a volunteerism project. For this cohort, their project focused on supporting a person in need from within the Couva community (where the NESC facility is located). The students decided on the recipient and with much excitement, collectively compiled and presented a hamper of food items to the beneficiary during a Saturday session.



# STEM TECHNICAL TRAINING PROGRAMME

In addition to NESC, participants are engaged in technical training facilitated by a range of institutions that have the expertise and a good reputation in the area of Technical Training: MIC Institute of Technology, Automation Technology College (ATC), the KENSON School of Production Technology. The objective of the programme is to provide students who have an interest in technical careers and are pursuing technical subjects at the CSEC level with a wider exposure to the practical application of technical training areas.



# STEM CHALLENGE: SAILBOAT

Design and build a boat or a raft using palette sticks, rubber bands, tape, string and skewers. The model must be able to sail across a tray of water. Let the race begin!



## MAD SCIENCE

Mad Science is an international group of enthusiastic scientists delivering hands-on science experiences to children. Each session with the group develops scientific literacy through innovation and fun. In one session this term students were introduced to electromagnetism and the biggest magnet, the earth. As the students explored the magnetic fields they were given the task of locating 'true north' with magnets and compasses. Students were intrigued by the demonstration of the production and manipulation of currents of magnets in a tube.

In another Mad Science session covering rocks and minerals, students got handy by building volcanoes from household products. The session continued where facilitators introduced the egg-model to illustrate the layers of the earth. Students also had fun digging for 'gold', by applying and explaining what they learnt on the classification of different rocks and minerals.



# STEM TEACHER TRAINING WORKSHOP



## The Teacher Becomes the Student

The STEM Teacher Training Workshop designed and delivered by the Caribbean Academy of Sciences (CAS) for the Shell STEM Programme was held on the 17th and 18th January 2018 at the University of Trinidad and Tobago, Chaguanas Campus. Teacher training workshops are another component of the Shell STEM programme that prepares and equips teachers with the skills and resources for integrating STEM in the 21st Century classroom. The team of CAS facilitators has conducted similar workshops in other Caribbean territories and is committed to Science Education in the region.

The workshop covered STEM course material based on the lower secondary school curricula through highly interactive sessions capturing the interest of the teachers throughout the period. While the content targeted the lower school teachers and curriculum, its basic elements can be applied to all levels of the school system.

Throughout the workshop teachers developed and tested ideas through a range of hands-on STEM activities using the STEM 'plan and design' process.

Dr. Rowena Kalloo, served as the Chief Facilitator, with Professor Emeritus Winston Mellowes, President of CAS facilitating the two-day sessions. Other facilitators included Dr Cathy Radix, Mr. Daniel Ringis, Mr Otis Caruth and Ms Simone Henry, with Ms Petal Jetoo also joined the team from the Ministry of Education, Guyana.



### Teacher Stem Challenge

#### Integrating STEM: SODIS – Solar Energy Disinfection / solar water heater

Following a discussion on the principles of solar energy teachers were challenged with engineering a solar cooker for hot dogs: using a Pringles can, foil, cling wrap, garbage bag and a shoe box.

### Evaluation and the way forward

Teachers discussed the likelihood of incorporating the ideas presented into their curriculum and the support they would require for classroom integration. Teachers explored the idea of linking the activities to objectives on the national Mathematics and Science curricula and identified the Scientific and Mathematical concepts at work. Dr. Kalloo summarised the ideas of the two-day workshop, reiterating the strategies discussed by facilitators and participants alike.



# STEM ACHIEVERS: WOODBROOK SECONDARY

**STEM students among top achievers at Woodbrook Secondary's Achievement Day**



The Woodbrook Government Secondary School hosted their Achievement Day on Thursday 11th January at the Holiness Revival Ministries Church Auditorium. This event celebrates the achievements of the students who have excelled academically as well as in their extra-curricular activities. Students, parents/guardians, teachers, the PTA, specially invited guests from the Ministry of Education, and other special interest groups inclusive of the STEM Programme were in attendance.

After the pleasantries and speeches the distribution of awards began and the excitement was palpable as students cheered on their peers collecting their various certificates, medals and trophies.

Awards were distributed to the lower and upper school students who placed first, second, third overall, in their relevant subject areas as well as those who excelled at their CSEC examinations.

Special congratulations were extended to the awardees of the Form 1 group who were current and past participants in the STEM Programme for the success: **Shania Grazette, Shaeem Francis, Mathieu Borell, Massiah Constantine, Sapphire Joseph, Raphael Harricoo, Natalia Braxton, Dana-Marie Cudjoe and Emmanuel Faustin.** The distribution of the academic awards was followed by the distribution of awards in athletics, extra-curricular activities with the final prize going to the top student.

# WHAT'S NEXT : UPCOMING

## STEM National Consultation:

The STEM National Consultation workshop will take place on May 16th 2018 at the Ministry of Legal Affairs Auditorium. Stakeholders are invited to participate in this event. The objectives of the National Consultation are as follows:

- i. To support the implementation of the current Shell STEM initiative managed by Sacoda Serv Ltd. and identify strategies to expand STEM education in school system;
- ii. To expand the support STEM education by all stakeholders

## Easter Camp:

The STEM Easter Camp will take place for the new students in the bursary programme during the Easter vacation under the theme "STEM = Life." The students will engage in five days of STEM-related activities, and journey on field trips all under the umbrella of STEM, whilst developing 21st century critical and creative thinking skills.

## National STEM Fair 2018:

This year's STEM fair carded for early July, focuses on STEM careers and opportunities that exist in Trinidad and Tobago. The fair will showcase projects that some of the students in the Saturday programme have been working on throughout the academic year. Students will have the opportunity to learn more and develop their interests in STEM careers through activities and interactive presentations from experts and organizations in various fields.

For more information and updates, follow the STEM programme Facebook page @ Trinidad and Tobago STEM Programme



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