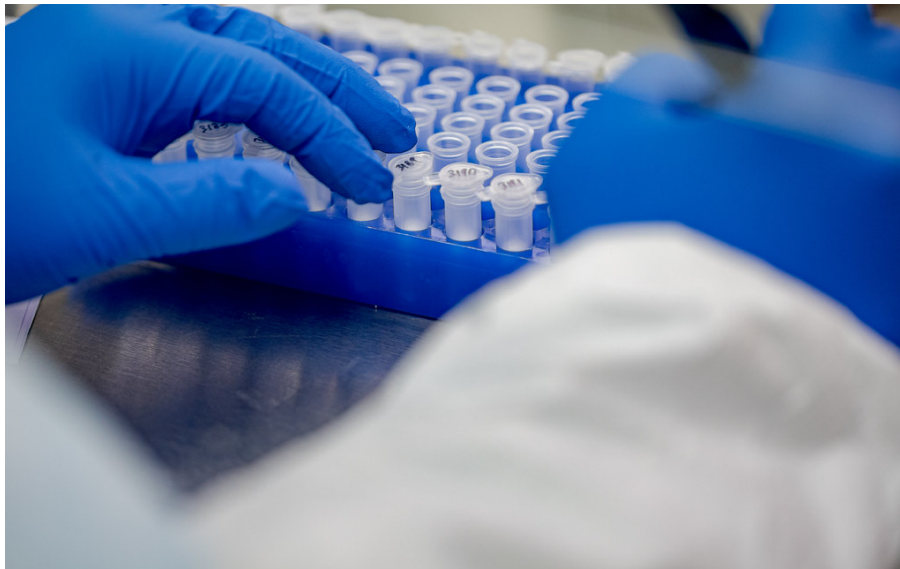


# NEWSLETTER



## The ICENS brokers deal with the IAEA to help fight against COVID-19

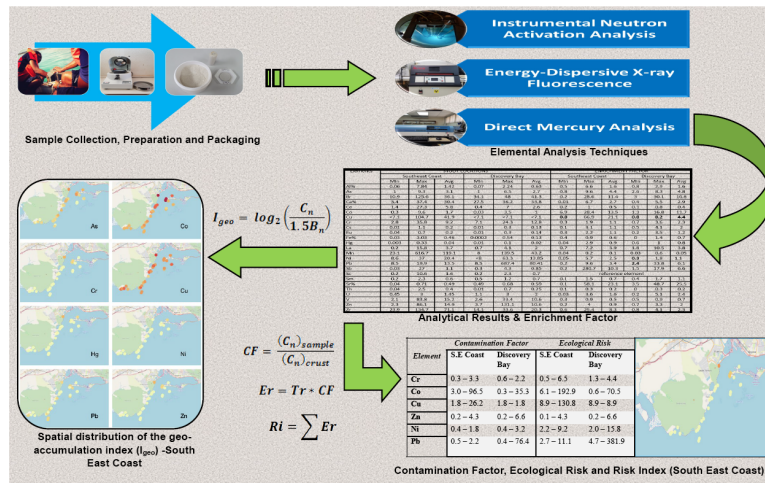
Jamaica, like many countries around the world, has been affected by the novel Corona virus. To help fight against the negative impacts of the

virus, the International Centre for Environmental and Nuclear Sciences (ICENS) brokered a deal with the International Atomic Energy Agency (IAEA) to secure equipment for the Government of Jamaica. The equipment utilizes a technique known as real time reverse transcription–polymerase chain reaction (RT-PCR) to detect the virus in persons. RT-PCR uses nasal swabs and a sequence of reagents to amplify and detect the pathogen's genome, a lack of which would indicate that the person does not have the virus. This is the second piece of equipment donated by the IAEA to Jamaica, with the first also being facilitated by the ICENS. Both have been significant in adapting to the required testing demands.

# Project Developments

## PROJECT: JAMAICA MARINE ENVIRONMENT

A manuscript prepared by **Ms Jhénelle Williams** and **Mr Johann Antoine** was accepted in May 2020 to be published Marine Pollution Bulletin. The study, 'Evaluation of the elemental pollution status of Jamaican surface sediments using enrichment factor, geoaccumulation index, ecological risk and potential ecological risk index' uses nuclear and other analytical techniques to identify 23 element profiles within 43 samples collected along the south-east coast of the island and parts of Discovery Bay. The study identified that As, Co, C, Hg, Ni, Pb and Zn were enriched in some sites and that anthropogenic activity may be likely sources.



## PROJECT: CLIMATE CHANGE

A collaboration between **Dr Adrian Spence**, Dr Donovan Campbell and **Mrs Tiffany Wallace** saw the scientists collecting soil cores in the Blue Mountains for erosion analysis and inventory to identify soil mass as well as nutrient loss. The team also evaluated gas flux measurements in the area.

The project 'Agrobiodiversity, Indigenous Knowledge and Protected Area Management in the Rio Grande Valley, Jamaica and KwaZulu-Natal, South Africa' serves to understand the National Park, its dynamics and potential requirements for improved management.

**Mrs Wallace** and the team also authored an accepted abstract for this years Goldschmidt Conference (postponed due to COVID-19). The abstract highlighted the work done on the 'Impact of erosion on the nutrient and chemical profiles of agricultural soil in the Upper Rio Grande Valley, Jamaica'. Additionally, Prof Barker from the UWI Geology Department, along

with **Dr Spence** and others apart of the team; authored an abstract for the American Association of Geographers Annual Meeting originally slated for early April in Colorado but had also been affected due to COVID-19. The abstract highlighted 'Small-scale farming, rural change and traditional knowledge in Millbank, Upper Rio Grande Valley, Jamaica'.





The PIOJ also funded a major project to evaluate soil moisture from which **Dr Spence** participated in a training session and the deployment of soil moisture probes. Given that soil condition is vital to crop productivity and land use, the study aimed to evaluate potential adaptation options for the agricultural sector and methods to building climate resilience.

## The ICENS hosts its inaugural International Day for Women and Girls in Science for budding scientists.

February 11th is recognized as the International Day for Women and Girls in Science as an effort to not only celebrate those in the field but also to encourage young women to pursue the sciences and balance the scale. The ICENS saw this as an opportunity to engage with young women at the high school level who were interested in science and were curious to learn about their options. For its inaugural half day event, select schools were invited to send girls at the 5th and 6th form levels to learn about varying applications being used at the facility as well as to opt for the opportunity to earn a summer internship. The girls (and their teachers) were introduced to the Caribbean's sole research reactor and the capabilities of nuclear applications. They also learned about the utilization of analytical techniques such as the inductively coupled optical emission spectrometry (ICP-OES), atomic absorption spectrometry (AAS), direct mercury analysis (DMA) among others which are used for elemental analysis in various sample types. Insight into current projects like ones currently being worked on for the detection of pollutants in coastal waters and the measuring of carbon in soils were also apart of the mornings' events. The girls were extremely curious about career options available to them and benefitted significantly by not just being exposed to the facility and its capabilities but also being able to share the experience with the female scientists at the ICENS, with whom they took the opportunity to ask questions that spanned beyond the laboratory. The ICENS looks forward to hosting more girls from other schools across Jamaica in the coming years.



While there is no recognized day for men and boys, the ICENS identifies that this opportunity would be most useful, especially for young men in Jamaica. Due to the COVID-19 pandemic, the efforts could not be realized for April 2020 but will be launched in March 2021.

## Awards and Appointments



Image copyright: IAEA

At the Third Meeting of the Conference of the Parties (COP3) to the Minamata Convention on Mercury in November 2019, the decision was taken to extend the mandate of the Group of Technical Experts on Waste Thresholds under the Minamata Convention on Mercury until the Fourth Meeting of the Conference the Parties (COP4) scheduled for 2021. **Ms. Leslie Hoo Fung** has been reconfirmed to the Group as one of the five representatives from Latin America and the Caribbean until COP4.



Image copyright: UWI Mona Faculty of Science & Technology

**Dr. Adrian Spence** was duly awarded by the Government of Jamaica for his contribution to work done for the recently published Intergovernmental Panel on Climate Change (IPCC) Land Report.

## Connect with the ICENS

Want to follow updates on the ICENS, connect with us on Twitter and LinkedIn



@ICENS\_JM



International Centre for Environmental and Nuclear Sciences



ICENS is joint venture between the UWI and the Ministry of Science, Energy and Technology (MSET)

