



In this feature, we present **Indra Haraksingh**, Nominee, Energy Personality Award

In 2017, as part of CARICOM Energy Month, the CARICOM Secretariat organised three regional competitions:

- the **Energy Personality Award**, to recognize someone who has made, or is making, an exceptional contribution to a sustainable energy future in the Region;
- the **Young Energy Artist Competition**, for children aged 12 and under;
- the **Energy Month Youth Essay Competition**, for students in three categories: tertiary (ages 16-30), secondary (Forms 1-3/ Grade 7-9) and secondary (Forms 4-6/ Grade 10-13).

An ardent defender of education as a means towards righting society's ills and a vocal proponent of academia's inclusion in solutions to address climate change, Dr Indra Haraksingh is a professor of physics at the University of the West Indies (UWI). At the Saint Augustine campus, she has put her convictions to the test, creating a programme dedicated to renewable energy technologies with the objective of training young professionals capable of modifying the Caribbean's energy landscape, proposing local - and potentially innovative - solutions to global problems and focusing on green applications for the region's two economic mainstays: agriculture and tourism.

Involved in the petroleum sector since 1908, Trinidad and Tobago is presently the largest oil and gas producer in the CARICOM Region, its gas reserves fuelling its economy since the 1990s. Yet since 2013 it is also a seedbed for renewable energy technologies and offers an educational platform for the region's youth to emerge as a new generation of locally trained experts in clean and sustainable energy. If Trinidad and Tobago morphs into a potential hub in the transition from fossil fuels to green forms of energy, this will be in great part due to the initiative and efforts of Dr Indra Haraksingh to open up the curriculum of the University of the West Indies, so that its Department of Physics now offers a programme focused on alternative energy sources.

Dr Haraksingh is known throughout the Caribbean – and well beyond! – for her untiring work to raise awareness, promote dialogue, contribute to capacity-building and influence policy regionally in favour of renewable energy. It comes as no surprise, therefore, that her rich track-record in the field of renewable energy has earned her recognition and distinctions both at home and abroad, namely the 2008 *International Pioneer Award for Solar Energy* from the World Renewable Energy Network, the NIHERST 2012 *Silver Award for Science and Technology* on a national level, and The UWI Vice-Chancellor's 2017 *Award for Excellence for Contribution to Public Service* on a regional level.

This said, the culminating point in a career spanning over three decades can be considered to be the inception, development and establishment of a Master of Science (M.Sc.) degree programme in Renewable Energy Technology (RET) at the Department of Physics on the University of the



Dr Haraksingh with 2018 M.Sc.RET students attending her class on solar energy

West Indies' St Augustine campus, the very first degree of this level to be offered by said department in Trinidad and the Caribbean region, and which welcomed its first students in September 2013. This comes as both a complement and a prolongation of the M.Sc. in Renewable Energy Management offered on Cave Hill (Barbados) campus a year earlier and the Mona (Jamaica) campus a year later, and to whose design Dr. Haraksingh contributed. However, if the latter is targeted at teaching students how to achieve an efficient use/mix of green energy to meet objectives, the M.Sc.RET aims to provide the scientific rigour, practice and initial expertise needed for young professionals to ensure that the

adoption of sources such as solar, hydro or wind power, or geothermal or biomass energy, to replace the polluting fossil fuels presently in use corresponds to locally developed solutions that, furthermore, are adapted to the region's needs. Now in its fifth year, the M.Sc.RET can proudly boast of an enrolment of up to 100 students and 27 graduates, with another 16 students poised to acquire their degree in 2018.

In other words, the M.Sc.RET that Dr Haraksingh introduced to the Caribbean's academic map crystallises both her convictions and her experience as a lecturer. Indeed, it has been conceived with the specific target of addressing the region's lack of adequate technical expertise in this field. As she herself points out, *"the role of Universities in facilitating the energy transition is critical. We must ensure that the training provided is of a high quality and that it is well delivered"*, meaning that the inclusion of a degree dedicated to sustainable energy and to the technologies related to it is a first step towards achieving the desired energy architecture, which draws from nature without damaging the environment. This belief is put into practice in such a way that the students acquire not only the theoretical knowledge underpinning practical applications, but also a hands-on experience in dealing with simulated real-life situations and the opportunity to interact with professionals already working in the field.

Dr Haraksingh is also conscious of the fact that *"if we are to make progress towards sustainability in the region, we definitely must continue to provide training opportunities not just for academia and technical staff, but for the many and varied sectors of society (...)*



UWI-Trinidad students learning to connect a solar PV system

Sensitisation programmes addressed to the general public are very important for overall understanding and acceptance. Working in tandem with industry and the private sector can also provide significant experience and value." Transforming her words into actions, she has used her position as technical advisor to the EU-funded DIREKT Project-Trinidad to secure two wind/photovoltaic (PV) hybrid systems for Trinidad's University

campus, which have been installed at its North and South gates, as well as to acquire a 2.2 kW PV solar system for the Physics Department, installed on the roof of the Natural Sciences building and tied to the local grid (this is, in fact, the University's first grid-tied system and one of the first four such systems in Trinidad). In addition, she has been able to forge special relations with some



UWI-Trinidad students conducting experiments on the campus

universities, in particular the University of Flensburg and Flensburg University of Applied Sciences, through the German Academic Exchange Service (DAAD) supported International Network for Energy and Environmental Sustainability, which afforded her the opportunity to foster valuable student and staff exchanges, and the Inter-American Development Bank funded BRIDGE project which offered training programmes and the acquisition of mobile training PV tool kits which

enhance the learning experience of the MSc.RET students at the St. Augustine campus. At the same time, she is working on a pilot project to upgrade and make the UWI Solar Energy Lab into a state-of-the-art renewable energy facility, where research and demonstration to schools and the public will be facilitated, thereby widening even further her efforts at outreach to the broader population.

Among her many contributions to society is Dr. Haraksingh's involvement in the Trinidad and Tobago Mathematics Olympiad (TTMO). She has chaired the TTMO for twenty-five years, and has led the national teams to the International Mathematics Olympiad (IMO) in various countries around the world, with her students earning numerous Honourable Mentions, six Bronze medals and two Silver medals at this prestigious event.

Dr Haraksingh's twofold efforts to, on the one hand, create a qualified workforce of renewable-energy Caribbean professionals and, on the other, prove in practice the sustainability of non-fossil fuels to the local population through the concrete example of UWI's alternative energy generating capacity translate her commitment to change the landscape and architecture of her native Trinidad and the wider Caribbean region to viable and sustainable development models, based most notably on eco-tourism and green agriculture. It is true that, as she herself says, *"sustainable energy in the region is actually becoming a reality, albeit too slowly. The future depends on numerous underlying factors, which are complex in nature. A lot has to do with availability of resources, the political will in translating policy to action, and enabling an easy transition for the acceleration to sustainability for the true benefit of our beautiful countries."*

Yet her actions are helping to shape that very future she dreams of.