

The Caribbean Academic Panorama: Overview of Excellences & Opportunities

Carlton Samuels
carlton.samuels@gmail.com

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CONTEXT

- Overview of Tertiary Education Space in the Caribbean
- Highlights of Centres of Excellence in the Space with special emphasis on Science & Technology
- Challenges in the Space
- Opportunities in the Space
- Q & A

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TERTIARY EDUCATION SPACE I

- The Regional Overview
 - 28 countries with real estate of c. 727,000 km², most of it surrounded by 50 times that amount of sea
 - Population of 40 million, over 25% Cubans
 - Mix of social and economic systems with a mixed bag of social and economic realities, some of high HDI, most in low end to middle HDI status and one at rock bottom

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TERTIARY EDUCATION SPACE II

- The Regional Overview
 - Spending on education varies from a high of 10% of GDP to less than 3%; tertiary education takes as much as 65% of education budget in some countries
 - Enrollment at tertiary level c. 300,000; Cuba has the largest number of students, almost 40% of cohort
 - Cuba and DR boasts the oldest universities in the Americas!

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TERTIARY EDUCATION SPACE III

- The Regional Overview
 - Mix of funding models
 - Entirely public funded in Cuba
 - Mostly public funded in CARICOM except Haiti
 - Mix of public and private in Dominican Republic
 - Largely private in Haiti
 - Demand for TE is high and growing
 - For profit tertiary education on the rise and follows successful models in private medical education

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TERTIARY EDUCATION SPACE IV

- The Regional Overview
 - One large regional actor – The University of the West Indies
 - National universities now being developed and are challenging the UWI for both public resources, academic recognition and students
 - Associating with established extra-regional institutions for quality assurance and credibility
 - No regional accreditation mechanism

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TERTIARY EDUCATION SPACE V

- Challenges....and Opportunities
 - Globalization of education services
 - [Public] funding rebalancing taking place
 - Demand continues to rise and outstrip supply
 - Offerings are facing scrutiny, especially to see if they are aligned to national development goals
 - Expansion of high-demand programs and courses could create market dislocations

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ANOTHER CARIBBEAN NARRATIVE

- Sea and sand, rum and cola yes. We also possess the skills and habits of mind to create new knowledge and to innovate
 - The Caribbean will only take its rightful place when we exploit this capacity and fully participate in the global knowledge economy

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TRADITIONS I

- Research in Agriculture
 - Cattle adopted to climate and multi-purpose by Dr T.P. Lecky
 - Sugar cane cultivation and processing from the Sugar Industry Research Institute (SIRI)
 - Commodity crop research by GoJ Agricultural Research Service
 - Cocoa; Coffee; Citrus; Coconut; Yams
- Marine ecology
 - Mangroves, coastal erosion and disaster prevention

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TRADITIONS II

- Music
 - Steel pan drum only musical instrument created in the near history (Trinidad & Tobago)
- Machinery
 - Machinery for sugar processing; rolling stock

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THE UWI - CENTRE OF EXCELLENCE

- 60+ years of existence
 - Three (3) Nobel Prizemen to date
 - Sir Arthur Lewis (Economic Sciences, 1969)
 - Derek Walcott (Literature, 1992)
 - Professor Anthony Chen (Peace, IPCC, 2007)
 - Bespoke medical education program from inception
 - One of 2 in the world with this regional character

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THE UWI – CENTRE OF EXCELLENCE I

- Research in nutrition and impact on health
 - Professor Terrence Forrester is a world authority
- Research in diabetes & biomedical remediation
 - Professor Errol Morrison is a world authority
- Research in medicinal plants and pharmacopeia
 - Dr. Manley West and marijuana extract

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THE RESULTS SHOW!

- Jamaica Hope cattle breed to the world
- Mainstreaming of medical procedures developed in the region
- Canasol
- Authorities in biomedical research
- New agricultural products & practices

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...AND WE CONTINUE TO SHINE I

- UWI Cardiac Surgery Simulator (CSS)
 - Simulator for patient undergoing open heart surgery
 - Multidisciplinary team of Daniel Coore, Paul Ramphal and Michael Craven as inventors
 - One team member (Craven) from UTech
 - A new experimental training curriculum for cardiothoracic surgeons via use of simulators

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...AND WE CONTINUE TO SHINE II

- Northern Caribbean University (NCU) team wins the Microsoft Imagine Cup 2 times
 - Global competition for students developing software in several categories that is trend-setting and leading edge and “solving some of the toughest problems” around
- LabPro (Dr. Paul Aiken)
 - Experimental platform for physical sciences

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...AND WE CONTINUE TO SHINE III

- University of Technology (UTech) team in School of Architecture engaged in developing holistic and sustainable built environments
 - Attracting significant international interest
- University of Guyana has attracted several international partnerships for its work in sustainable forestry management

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OPPORTUNITIES I

- **Food security**
 - Creating new breeds in small ruminants, pigs
 - Improving practice in land use and economy; pest management
- **Technologies**
 - Medical devices
 - Alternative energy systems
- **Natural products & medicinals**

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OPPORTUNITIES II

- **Applied Chemistry (Prof Tivy Dasgupta & Company)**
 - Catalysts for industrial applications
 - Pharmaceutical potential of nitric oxide releasing compounds
 - Vanadium complexes as insulin-mimicking drugs
 - Pesticides in tropical ecosystems
 - Persistent organic pollutant
 - PCBs and Furan derivatives

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THE CHALLENGES.....AND RESPONSES

- Maturity of regional S&T institutions
 - Some investment to encourage innovation
 - Some investment in valorizing research
 - SRC of Jamaica, for example
- Capacity-building in schools and communities
 - Intervention in secondary schools to train and equip teachers of science and technology
 - Role of school science fairs and other 'popularisation' regimes

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THE CHALLENGES.....AND RESPONSES

- **E-Infrastructure** and role of **C@ribNET**
 - Database of researchers and research interests
 - Creating the communities of practice
- **Open Access Initiative** of the Caribbean Academy of Science (CAS) and InterAcademy Panel of the National Academy of Science (IAP)
- **OPEN – NESS**

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THANK YOU!
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