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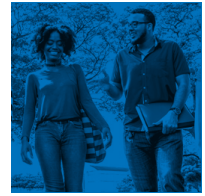
BUILDING AN ENTREPRENEURIAL UWI

► SPECIAL REPORT



UWI

THE WORLD
UNIVERSITY
RANKINGS
TOP
RANKED



Caribbean's #1 | Latin America's Top 2% | World's Top 4%

We've risen from last year's debut positions in both the
Latin America and **World Rankings**, while maintaining our position
as the only Caribbean university to be ranked among the best in the world.

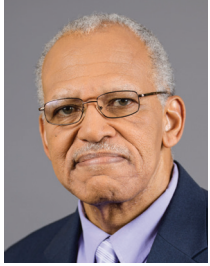
The prestigious **Times Higher Education (THE) University Rankings**
are regarded as the definitive lists of top universities.

For more on The UWI's ranking performance

<https://www.timeshighereducation.com/world-university-rankings/university-west-indies>



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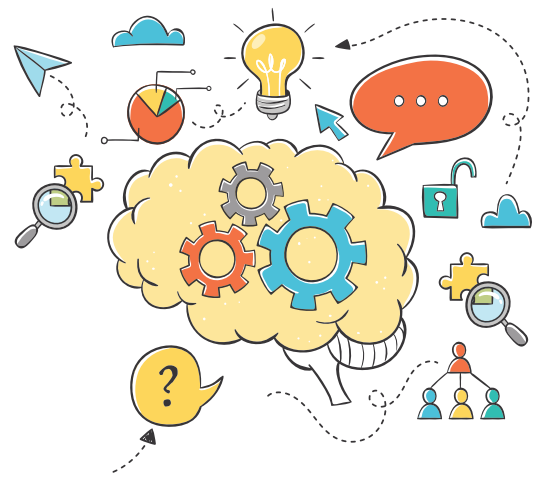
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Produced by the University Marketing & Communications Office in collaboration with the School of Graduate Studies and Research.



PROFESSOR SIR HILARY BECKLES
Vice-Chancellor, The UWI

As a developmental university, The UWI is determined to disrupt the historical constructs that have disadvantaged Caribbean economies.

Building *an* Entrepreneurial University

Economic development in the Caribbean cannot be fully understood without exposing the systems and structures that were historically created to enable it. Such structures did not foster financial independence or support self-actualisation for the majority of Caribbean people.

Characterised for decades by external domination and colonial exploitation, financial institutions catering mainly to the elites, and a lack of social capital among the wider population, the post-independent Caribbean region has struggled to create an enabling environment and provide adequate incentives for indigenous entrepreneurship.

The economies of the Small Island Developing States (SIDS) of the Caribbean are known to be extremely vulnerable to external shocks—natural disasters, climatic events and, as we are experiencing at this moment, global pandemics. This situation is exacerbated by the rules of the international trade system and the current official development assistance framework, both of which do not fully take into account the special needs of Caribbean SIDS.



Against this backdrop, and a regional economy marked by persistent low-growth and high-debt, the Caribbean finds itself at a point of inflection. As a developmental university, The UWI is determined to disrupt the historical constructs that have disadvantaged Caribbean economies.

Entrepreneurship holds the promise to increase diversification, strengthen resilience, and enhance financial inclusion opportunities for the more than six million people across the 17 English-speaking Caribbean countries served by The UWI. However, this calls for an urgent recalibration of systems and processes that will help situate high-demand economic activity at the heart of not only national, but also regional and global value chains.

Universities are central to this process; driving science, technology and innovation, providing training and building entrepreneurial ecosystems that incentivise economic activity for Small, Micro and Medium Enterprises (MSMEs) and catalyse export-led growth in non-traditional sectors.

For this reason, one of the three pillars of The UWI's *Triple A Strategic Plan* (2017-2022 Strategic Plan) themed *Revitalising Caribbean Development*, focuses on strengthening the alignment between academia and industry. The UWI has been leading the charge in fostering a more entrepreneurial ecosystem across our regional university, expanding educational courses and training on entrepreneurship, promoting

Entrepreneurship holds the promise to increase diversification, strengthen resilience, and enhance financial inclusion opportunities for the more than six million people across the 17 English-speaking Caribbean countries served by The UWI.

knowledge exchange through workshops, symposia and consultations with industry and establishing a range of robust collaborations with industry partners.

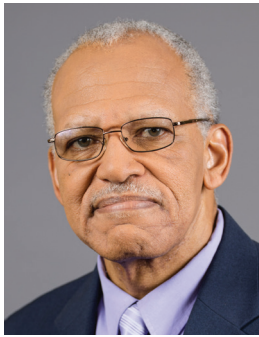
It is this demonstration of our institutional commitment that has helped to position The UWI among the top 4% of universities globally. Our UWI-Coventry Institute for Industry-Academic Partnership will further promote enhanced innovation, entrepreneurship and international competitiveness of Caribbean private sector companies through research and economic partnerships.

I am indeed proud of the many examples of phenomenal work being led by our faculty, staff and students across our campuses, which are featured in this magazine. With your continued support, we will continue to make bold strides towards building a more entrepreneurial university and region.



The UWI Regional Headquarters Building at Mona, Jamaica.

Towards *a more* Entrepreneurial UWI



PROFESSOR STEPHAN GIFT
Pro Vice-Chancellor, School of
Graduate Studies and Research, The UWI

We are now pursuing a third major goal—Innovation and Entrepreneurship—as part of our overall developmental agenda.

The University of the West Indies is now over 70 years old and is an internationally recognised accredited Higher Education Institution. It has over 49,000 undergraduate and postgraduate students on five campuses across the Anglophone Caribbean region. Times Higher Education World University Ranking placed The UWI at 591 among over 25,000 universities in the world for 2018 and this ranking has improved in 2019.

This is a testament to our efforts at improving programme quality and internationalising the University. Although we are a traditional University fulfilling the goals of providing Education and conducting Research, we are now pursuing a third major goal—Innovation and Entrepreneurship—as part of our overall developmental agenda. Innovation is a key driver of economic growth and the University must perform a leadership role in promoting innovation and entrepreneurship across the region in order to realise this growth. Specifically, such activity is intended to:

- Produce a new class of University graduates with the skills and passion to start new businesses.
- Initiate new revenue streams to the University by creating and commercialising intellectual property.
- Assist in realising infrastructural modernisation and regional transformation through the development of knowledge economies.

The objective then is to take those steps necessary to make The UWI more entrepreneurial.

To achieve this goal, international best practice requires the creation of an **entrepreneurial ecosystem** across the University that would facilitate and promote the creativity and enterprise necessary for successful innovation and entrepreneurship among students and staff. Some of the strategies for realising this include:

- Engaging staff and students in the generation of innovative ideas.
- Incorporating ideas relating to innovation and entrepreneurship in most academic programmes.
- Encouraging the establishment of small businesses by students as part of their curriculum.
- Exposing students to real-world business activities and education through internships and industry partnerships.
- Providing suitable and adequate resources to enable the development and eventual commercialisation of new ideas.
- Developing a strong research capability with staff who are able to engage in industrial activity and not be unduly encumbered by teaching and research requirements such that industry requests can be successfully met.
- Incorporating in the University's staff evaluation systems recognition and rewards for successful engagement in innovative and entrepreneurial activity, thereby encouraging staff involvement.
- Providing seed funds, incubator services, intellectual property services and venture capital support on each campus for product commercialisation.



The University has taken several steps, consistent with those outlined above, to establish an entrepreneurial ecosystem:

1. Presentations to all Faculty Boards within the University following which Faculty Entrepreneurial Committees have been established in each Faculty. Each Committee will be the forum within a Faculty where staff and students can discuss ideas and programmes needed to promote innovation and entrepreneurship among staff and students.
2. Consultations with industry representatives (from Trinidad and Tobago, Barbados and Jamaica thus far) in order to enable important inputs to the process of building out the entrepreneurial ecosystem and nurturing a UWI-Industry partnership through continuing engagement.
3. Webinar presentations by successful entrepreneurs from other organisations that have helped to stimulate interest in the exercise.
4. Planning and introduction of courses and programmes on innovation and entrepreneurship.
5. Establishment of an Innovation Laboratory in the Department of Electrical and Computer Engineering at The UWI St. Augustine Campus with assistance from one major local company and one major international company. The laboratory will be working closely with these companies to develop and test advanced telecommunications products and services and to foster innovation and entrepreneurship among staff and students.

Each of our five campuses has begun establishing facilities and services in support of innovation and entrepreneurship. This has led to a heightened interest in innovation and entrepreneurship among staff and students as demonstrated by an increased rate of invention disclosures at the University.

These initiatives are encouraging as the University vigorously pursues this exciting programme of becoming more entrepreneurial. The expectation is that this transformative and far-reaching project will enable our institution to have an even more positive impact on the region in the years ahead.





GERRY BROOKS
Professor of Practice, The UWI

It presents itself as not only an academic institution, but as a viable industry partner that is open for business.

LEVERAGING POST COVID-19

Opportunities to Drive Innovation and Entrepreneurship



Recent UWI grad and young innovator, Elisse Ramsbair with her Electric Beach Tricycle.

A conducive innovation and entrepreneurship ecosystem supports innovation behaviour in Micro, Small and Medium Enterprises (MSMEs), and strengthens their global competitiveness. Evidence of this is present in Germany, the United Kingdom, and other parts of the world especially in the Organisation for Economic Co-operation and Development countries.

In Trinidad and Tobago, however, our post-2009 period has shown significant lag. Efforts to catalyse new industry and business clusters have shown modest impact. The International Monetary Fund, the World Intellectual Property Office, and other global indicators, reflect a Trinidad and Tobago economic performance as being tepid to moderate at best, with slow to negative Gross Domestic Product growth, low innovativeness (ranking 91st globally), and a middling global competitiveness ranking (79th globally).

Our current and future reality is even more challenged as the Corona virus disrupts the global ecosystem, putting major airlines, shipping, retail and manufacturing industries, and MSMEs under serious threat. This has had an adverse knock-on effect on the financial services and energy sectors.

Despite these challenges and even as the global environment experiences unprecedented disruption and volatility, there is opportunity. In the near term, we must ensure restoration of personal and national health, business continuity, employee retention, supply chain restoration, and liquidity and cash flow improvements. We must re-examine our business models, their resilience, and value proposition. Prospectively, business models must be recalibrated to deepen online and virtual capability; fine-tune lead indicators to adapt to evolving market needs; proactively engage in innovative behaviour; leverage new systems, products, and processes which can secure competitive advantage, and reposition the business to be globally competitive.

As in the 1990's, we must reinvent ourselves to take advantage of *post-COVID-19* opportunities. If we are to create the seismic shift in our country, this new national imperative must be supported by an even more

integrated Innovation and Entrepreneurship architecture. Regionally and nationally, we must create a new normal designed to strengthen the enabling environment and the innovation ecosystem.

The UWI's *Triple A Strategy 2017-2022: Revitalising Caribbean Development* defines the new ecosystem required: one which integrates local industry, government, and academia to promote and support all aspects of the innovation and entrepreneurship journey. Functionally, diverse stakeholders do not simply merge into a harmonised ecosystem. Rather, this cohesive architecture facilitates effective and meaningful collaboration. We have pushed the boundaries within The UWI to create *The UWI Ventures Limited* which will serve as a central facilitator to operationalise the Triple Helix concept. When operational, UWI Ventures will be critical to enabling the seamless flow of knowledge, intellectual property, talent and capital, between key stakeholders of the ecosystem including industry, corporations, private equity investors, the university and start-ups.

The UWI has begun to aggressively realign its strategy towards proactive engagement with industry. It presents itself as not only an academic institution, but as a viable industry partner that is open for business. This is the only way forward for the University, its graduates, and the region.

The process of realignment began with the enhancement of other critical entities—the St. Augustine Centre for Innovation and Entrepreneurship (StACIE), the Mona Office of Research and Innovation (MORI), the Cave Hill Office of Research and Innovation and the Open Campus Business Development Unit. In addition, the institution offers key innovation programmes from such faculties as Food and Agriculture, Engineering, Medical Sciences, and Science and Technology, to name a few.

By orienting these entities towards the business community and focusing on key growth poles such as agri-business, energy, energy conservation, ICT, maritime services, medicine, plus key social enterprise activities, The UWI is leveraging talent and research expertise to strengthen its impact within industry and create a new channel of opportunity for graduates.



Economic strictures, fuelled mainly by global recession, have led The UWI to develop alternative models to positively transform the Caribbean. This is in line with The UWI's mandate of serving this region and helping it develop a robust and sustainable economy over the past seven decades.

One mechanism is to turn the excellence of The UWI's research into commercial commodities for the long-term benefit of this regional institution and the nations that support it—in other words, by building an Entrepreneurial University.



The Percussive Harmonic Instrument (P.H.I.), an innovation out of the Steel Pan Research Laboratory at the St. Augustine Campus.

A One-UWI INNOVATION *and* ENTREPRENEURIAL Ecosystem



Medical students at work with the Mona Campus' Cardiac Simulator innovation.

The University's vision for the Caribbean is holistic. It moves beyond providing education and conducting research to engaging in innovation and entrepreneurship. The ultimate goal is a robust and sustainable Caribbean economy.

History shows that innovation is a key driver of social and economic growth. The UWI has therefore taken on a leadership role to promote innovation and entrepreneurship Caribbean wide by providing new revenue streams to the University; imbuing graduates with the skills and passion to start businesses; promoting economic growth in the region, thereby reducing unemployment; and assisting in creating knowledge economies in the region.



ALIGNMENT *with* INDUSTRY

Alignment strengthens the innovation capacity and provides practical, integrated solutions to the multi-dimensional development challenges faced by regional economies. Even more, it creates higher levels of growth through entrepreneurial activity. One feeds the other.

Commercialisation of the University's research is being energetically pursued as part of the strategy to establish an I&E ecosystem by creating relevant value-added relationships with alumni and wealth generators, and collaborating with governmental, non-governmental, entrepreneurial and international partners to ensure that the University's offerings fulfil the needs of all the communities that it was established to serve.

The UWI's campuses have embarked on a central mission: create a Caribbean-focussed entrepreneurial ecosystem with an effective pipeline that transforms ideation to product.



STRATEGIC OBJECTIVE
ALIGNMENT
INCREASE AND IMPROVE
ACADEMIC/INDUSTRY
RESEARCH PARTNERSHIPS

TAKING RESEARCH *into* *the* COMMERCIAL SPACE

The regional University is moving the excellence of its research into the commercial space and each faculty and department at each campus has a remit to "spin off" companies to take their research to market. Exploitation of these Intellectual Property (IP) assets is critical to international competitiveness, and to the growth of a sustainable future economy.

Pro Vice-Chancellor, Graduate Studies and Research, Professor Stephan Gift notes that the establishment of an entrepreneurial committee structure across the campuses has progressed extremely well. "Staff and students display open enthusiasm about the prospects ahead regarding the generation, patenting, and commercialisation of intellectual property in all aspects of human creativity. The UWI has indeed entered a wonderful and exciting phase of its development."

Professor Gift leads an **Entrepreneurial Steering Committee**, coordinating the building of an entrepreneurial eco-system university-wide. At the campus level, **Campus Entrepreneurial Committees** support the framework and treat relevant nuances and issues in their respective territories. Further, in each faculty, on every campus, there are staff/student **Faculty Entrepreneurial Committees** which explore and implement plans and programmes that promote Innovation and Entrepreneurship.



CAVE HILL'S OFFICE OF RESEARCH AND INNOVATION

The UWI Cave Hill Office of Research and Innovation is expanding and co-ordinating research, innovation, and commercialisation on the campus; collaborating with internal, external, public, and private institutes.

Among its activities, the Office is arranging grant writing workshops for staff and students plus funding agencies' presentations, the first two of which will be delivered by the Inter-American Development Bank and the Caribbean Development Bank.

MONA OFFICE FOR RESEARCH AND INNOVATION (MORI)

Recognising the need to prioritise the development of research and innovation, MORI has been restructured and strengthened to serve the needs of the campus. First established in 2012, MORI has sought to create an enabling environment that supports, fosters and increases the quality, quantity, and output of academic staff.

While this is done primarily through tailored comprehensive research collaboration, support, and leadership and by working with facilities and research entities to improve output, the Office also promotes interdisciplinary approaches. Its efforts are focused on two main streams: training in the identification of funding opportunities, grant and proposal writing and submissions as well as providing support for strategic research and academic-industry partnerships by increasing research capacity through collaboration and workshops.

The Office also provides other related support by working collaboratively with campus services such as IT and the library to build capacity in ethics, intellectual property policy conservation, and patent applications.

MONA'S ENTREPRENEURIAL AND COMMERCIALISATION CENTRE (MECC)

An Incubator and Investment Readiness Training Workshop has enabled staff at Mona to develop project plans for implementation by their respective faculties/units. MECC hosted Boot Camps for 14 start-up companies, eight of which were selected to participate in a 12-week long Entrepreneurship Development Programme, funded by the Development Bank of Jamaica.

OPEN CAMPUS BUSINESS DEVELOPMENT UNIT

The Business Development Unit works closely with the Open Campus' leadership team and divisional heads to drive the corporate strategy of the campus to develop its core business and increase revenue from diversified income sources. Under a Memorandum of Understanding between the Consular Corps of Jamaica and The University of the West Indies, the Open Campus is currently hosting a six-part webinar series on International Trade and Investment in Global Markets.

The webinars are aimed at anyone interested in international trade—manufacturers, brokers, traders, exporters, MSMEs as well as the University fraternity. *Europe under explored; the prospects for trade and investment with Jamaica in the 21st Century* kicked off the series in November 2019; the next, in March 2020, focused on *Emerging International Cannabis Trade: Opportunities and Legal Challenges*.

ST. AUGUSTINE CENTRE FOR INNOVATION AND ENTREPRENEURSHIP (STACIE)

In 2018, St. Augustine Campus laid the foundation piece in the creation of its entrepreneurial eco-system with the establishment of StACIE. Two years later, that transformative eco-system was advanced by two further steps, the establishment of The Entrepreneurship Unit and The UWI Ventures Ltd.

StACIE nurtures ideas at the early stage and navigates them all the way to market entry. Put simply, its mandate is to monetise campus research by partnering with industry and governments—in fact anyone willing to join in their mission.

Support and some handholding are expected and necessary. The Entrepreneurship Unit provides strategic input, mentorship, coaching, and training. The Unit works closely with the Office of the Campus Principal and played a significant role in establishing The UWI Ventures Charter.





The UWI Ventures Ltd. is a significant advancement in building an entrepreneurial university. Legally incorporated in June 2019, it is chaired by Professor of Practice Gerry Brooks and is targeted to begin official operations in the first quarter of 2020. To that end, the company has already established financial partnerships with Shell, the National Gas Company, and Republic Bank Limited.

UWI Ventures adds the speed and connectivity vital in any entrepreneurial endeavour. Applicants can submit online and have their commercial ideas speedily assessed through 'Accelerator App'. This digital innovation and entrepreneurship ecosystem will seamlessly take the budding entrepreneur, innovator, or funder through the other links in the circle—StACIE and the Entrepreneurship Unit. Applications are welcomed from alumni, students, faculties, the public and/or entrepreneurs in viable high-value start-ups within the Caribbean and the Diaspora—regardless of age, gender, geographic location, or ethnicity.

The Campus now has a well-established innovation discovery and entrepreneurship ecosystem to promote local and regional entrepreneurship wherever it is located globally.

UWI Ventures adds the speed and connectivity vital in any entrepreneurial endeavour.

13 PATENTS AND SPIN OFF COMPANIES

Presently St. Augustine maintains 13 patents and spin off companies. Some examples include:

- **Formation of Percussive Harmonic Instrument (PHI) Innovations Limited**, a joint venture company between The UWI, the inventors of the PHI, and the Government of the Republic of Trinidad and Tobago, to exploit the licence for PHI, for which The UWI is the owner of 10 patents in different countries;
- **A US PATENT** for new fingerprint technology (2018) which will be commercialised;
- **A CHEMISTRY DEPARTMENT SPIN-OFF** to commercialise new products such as an asphalt based marine coatings;
- **A COCOA RESEARCH CENTRE SPIN-OFF** to sell chocolate and other innovative cocoa based products;
- **A LICENSE AGREEMENT** between The UWI (owner of the IP) and Lake Asphalt of Trinidad and Tobago (2019) for two products in return for a percent of profit from the sales;
- **LAUNCH OF UWI VENTURES LIMITED**, with a board of mainly business persons (2019) to bring in venture capital from industry and speed-up the entrepreneurship process in The UWI;
- **A GLOBAL PATENT** (2020) for a new antibiotic adjuvant.





JULIAN HENRY

Talks about the
Entrepreneurship
Unit at St. Augustine

Julian Henry is the Programme Manager, Entrepreneurship Unit in the Department of Management Studies

Q: How do the Entrepreneurship Unit and UWI Ventures work together?

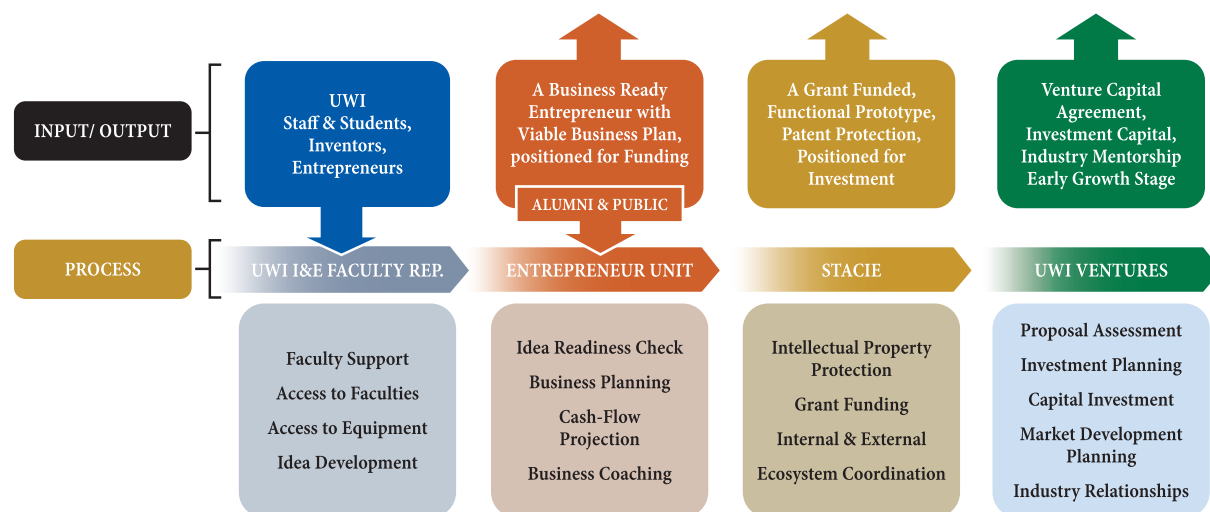
A: The Entrepreneurship Unit (EU) provides operationalisation support to UWI Ventures by enabling the incubation process and serving as a hands-on coach and advisor for developing entrepreneurs and innovators. In this incubation period, EU coaches clients and refines early entrepreneurial ideas and business plans to professional quality and readiness for onward presenting to UWI ventures for equity investment. This is a stepped process that includes collaboration with other key entities within The UWI ecosystem, such as StACIE. To be effective, it is critical to utilise advanced incubation management software that both facilitates virtual coaching as well as efficient collaboration among the key internal and external entities that must work together to deliver successful start-up projects. UWI Ventures, supported by the EU, is establishing an online, virtual environment for entrepreneurs and innovators to gain 24/7 access its business development services.

Q: Tell me a bit more about the EU.

A: The EU is an initiative of the Department of Management Studies, Faculty of Social Sciences and its primary purpose is to work with all UWI innovators and *entrepreneurs*, across the Campus, to develop viable start-ups. In doing so, EU liaises, where required, with key campus stakeholders, especially UWI Ventures and StACIE towards providing critical resources to support project development.. Further, the EU is an available resource to Faculty Entrepreneurship Chairs, supporting their respective faculty entrepreneurship programmes and reporting to UWI Ventures on exciting projects that could benefit from UWI Ventures engagement.



UWI Innovation & Entrepreneurship High Level Process



Culture change and an acceptance of entrepreneurship as a viable career option are essential if this thrust is to succeed. EU does workshops, training, and coaching sessions on entrepreneurship targeted at both UWI stakeholders as well as the general public. Recent workshops include a three-part series on entrepreneurship to the 2019 ‘World of Work’ students, a one-hour **Entrepreneurship Lunch-time** workshop on business planning for administrative personnel; and a two-part series on business planning and cash-flow forecasting and management, **Entrepreneurship 101**. We delivered a customised version of this to the Cocoa Research Centre at their new Cocoa-Business incubator at The UWI Field Station in Mount Hope.

Q: Once UWI Ventures is operational, where does the Entrepreneurial Unit fit?

A: Going forward, EU will play a major role in the entry of Entrepreneurs into The UWI Ventures support system. Management of business mentorship, project development, and the acceleration component of entrepreneurs are all key. Simply, EU would be delivering on its core mandate but with the collaborative strength of The UWI Ventures Online Platform and Venture Capital Services. EU will coach the applicants who do not meet StACIE’s grant funding criteria to a point of readiness.

Q: Would you say EU is an essential underpinning of St. Augustine’s I&E ecosystem?

A: The EU is one component of The UWI I&E Ecosystem. Remember, this is a collaborative system with all the parts working together – StACIE, UWI Ventures, and all entrepreneurially focused entities on and off the Campus. The model is designed to identify entrepreneurial potential, mould these into viable projects, and connect these projects to project funders and investors. While the EU’s role in the model is the moulding element but that does not mean persons with good projects cannot approach UWI Ventures or StACIE directly.

This entrepreneurial webinar series turned the spotlight on The UWI's transition to an entrepreneurial university. The School of Graduate Studies and Research hosted regional and international experts to share best practice to a mixed audience—the University community, regional industry, and anyone with an interest in the area. Topics were chosen to stimulate discussion and an 'entrepreneurial university' mind-set. The recorded webinars are available for viewing at www.uwi.edu/gsr/entrepreneurship/webinars

Lessons on Building an Entrepreneurial Culture

The Entrepreneurial UWI Webinar Series



Towards an Entrepreneurial UWI: Lessons learned from The UWI Cardiac Surgery Simulator

PROFESSOR DANIEL COORE

Professor of Computer Science, Department of Computing,
The University of the West Indies, Mona Campus

"To achieve an entrepreneurial UWI, the most important sub-goal is to establish a highly effective technology transfer capacity. What that would do is encourage more disclosures, stimulate applied research as researchers would see the successes of work that was properly licensed which would encourage them to try it for themselves. It would then allow inventors and creators to recognise that it is possible to be both entrepreneurial in their research and not exactly be entrepreneurs. Entrepreneurs need to convince investors that value is going to persist and that they can handle that bigger scale and that often requires convincing investors that the product being sold or service being rendered is protected from larger enterprise that can somehow ramp up an operation faster than the start-up brand and this is exactly what IP tends to provide."



Licensing the patent for The UWI Cardiac Surgery Simulator

Professor of Computer Science Daniel Coore

at the Department of Computer Science at the Mona Campus shared his experience in licensing the patent for The UWI Cardiac Surgery Simulator. This device uses software to animate a pig's heart in a mock (human) chest cavity to simulate the conditions of the operating theatre during open heart surgery, for the purposes of training in cardiac surgery.



Building an Entrepreneurial University: International Lessons Learned and Future Possibilities for The UWI

PROFESSOR DAVID WHEELER

Co-founder of the Academy for Sustainable Innovation, Canada

“We must also reform our curricula and we must play to the jobs and industries of the future and the inter-disciplinary skills that they would require, there is no longer a case for staying within our disciplinary silos; if there ever was, the jobs and work of the future will require deepening of skills, design skills, soft skills in management, understanding of science and technology. That is how we will navigate these transitions and we have to make sure we are teaching our students those skills in an inter-disciplinary way. We also have to change our delivery models which have to take into account the exponential growth in technologically enhanced learning, online learning, micro credentialing, badging, the implications of cognitive science and recent pedagogical research that tells us how millennials and generation Z learn.”



Designing an Entrepreneurial University

PROFESSOR EMERITUS THOMAS “ROCK” MACKIE

Medical Entrepreneurial Coach, Investor & Chief Innovation Officer
at University of Wisconsin-Madison Health

“What should the ideal University Incubator look like? It should have a location where faculty, staff and students can gain education and experience in entrepreneurship. It should be led by someone with start-up company and/or investor experience. It should select projects with a community investment board, so you need to involve your community and local investors. Apply a small amount of cash for technology de-risking, in other words, small experiments to show that the projects can be used and scaled up. Have project managers with industry experience to guide projects and tech project management. Take advantage of community mentors for company development. Let projects incubate until most of the technical risk are eliminated. Help the project find business managers and assist with incorporating and funding financing.”



A UWI Innovation and Entrepreneurship Ecosystem for Revitalising Caribbean Economies

PROFESSOR BRIAN COPELAND

Pro Vice-Chancellor and Campus Principal,
The University of the West Indies, St. Augustine Campus

“What would success look like? At a country level we would have worked to create an environment that has effective government systems, much more effective than they are now and have a much more mature social culture where manmade disasters are a near impossibility— crime, social exclusion, income gap, all these issues would have been well under control. We would be looking at a society that has effective formal, informal and non-formal education systems, and those speak to education outside of the halls of the high schools, universities, and to other learning institutions, at home, NGOs and civil society who can build a citizen. We are talking about citizens who have the capability to build the strong economies buoyed by a robust Caribbean Mittelstand—that is a robust healthy network of innovation driven by competitiveness.”

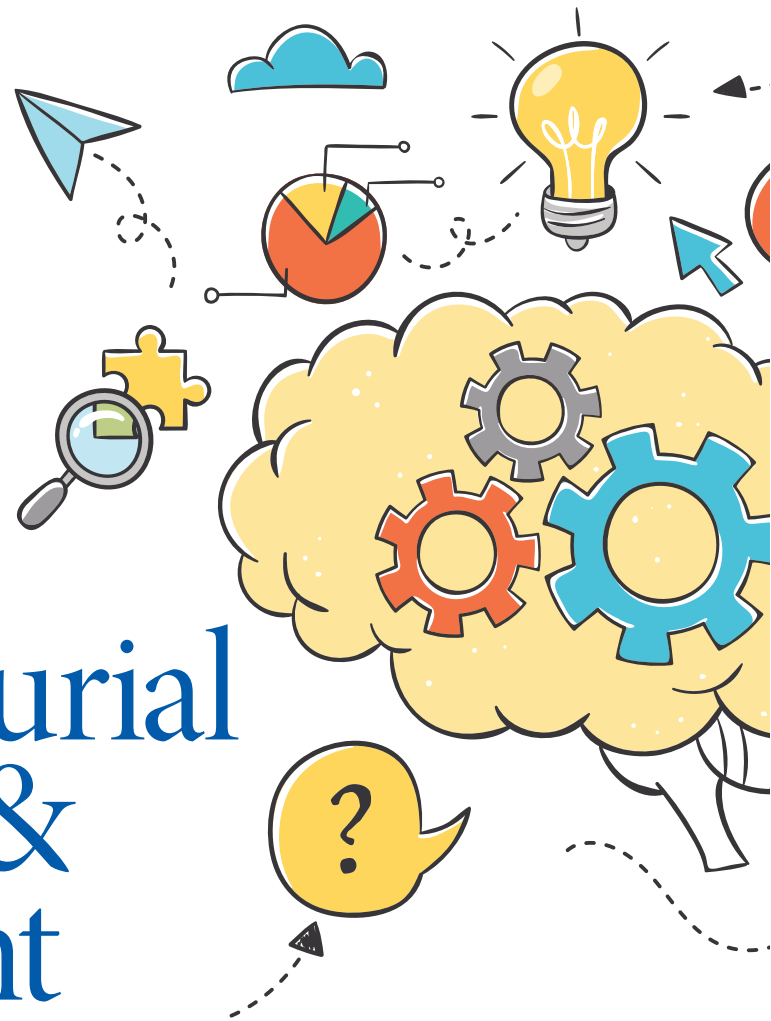
An entrepreneurial education is a differentiator in today's world—especially in a world transformed by the COVID-19 pandemic. The UWI understands that stimulating entrepreneurial activities can serve as a catalyst for high-value job-creation to support much-needed economic growth in the region. It is widely understood that wealth and a high majority of jobs are created by small businesses started by entrepreneurially minded individuals, many of whom go on to create big businesses. The institution has unequivocally stated the aim of developing graduates whose skill sets are aligned with the needs of industry, country and region.

Entrepreneurial Education & Engagement

Therefore, entrepreneurial education, aimed at faculty and staff as much as at students, is essential if this University is to effect a culture change within the University community and among the citizenry in our regional communities. Classroom training, along with the experience of some, the guidance of others, and the opportunity to question and to get practical answers are important inspirational and game-changing mechanisms.

The UWI entrepreneurial education programmes are designed to teach students to think, innovate, and create new products and services. These programmes aim to develop the core skills that are required to be an upskilled entrepreneur. These skills include but are not limited to: stimulating curiosity to identify problem areas, developing solutions imbued with creativity and design thinking, time management, operational efficiency, financial management, networking, communicating, and branding. It is anticipated that these experiences will enable students to develop the insights required to discover and create entrepreneurial opportunities, and the expertise to successfully start and manage their own businesses.

This all gives graduates choices—to opt for the traditional professions or to choose an entrepreneurial path because they have the confidence and the knowhow to do so.



Some of the entrepreneurship degree programmes currently offered at The UWI:



**CAVE HILL CAMPUS
SCHOOL OF BUSINESS**
Masters in Business Administration
(Entrepreneurship)



**MONA CAMPUS
SCHOOL OF BUSINESS**
BSc Entrepreneurship



OPEN CAMPUS
BSc Management
(Entrepreneurship Major)
Certificate in Entrepreneurship
and Small Business Management



**ST AUGUSTINE CAMPUS
FACULTY OF HUMANITIES
AND EDUCATION**
MA Creative Design Entrepreneurship

It is a given that the collaboration of academia and industry works both ways because the benefits work both ways.

UWI and Industry Alignment

The University's research finds impact beyond its boundaries and through student opportunities. Industry obtains solutions to their issues through state of the art innovation and research and employees who bring an innovative mind set into their organisations.

Engagement is unquestionably critical. That goal came a lot closer in 2019 following a series of consultations between the School of Graduate Studies and Research in association with the University Office of Planning and the highest levels of business leaders throughout the region.

Sessions in Port-of-Spain, Trinidad and Tobago, Cave Hill, Barbados, and Kingston, Jamaica, solicited new ideas from stakeholders in the areas of **Research and Innovation; Entrepreneurship and Commercialisation; Teaching and Learning;** and opportunities for **University-Industry Collaboration.**

There was consensus in the excellence of these conversation starters as a lead in to better understanding across sectors. This is especially true with regard to increased research collaboration in industry-relevant projects, where industry can influence the research agenda.

Here are just some examples of how better engagement means better outcomes for everyone.



Senior executive leadership of The UWI meet with government and private sector officials at stakeholder consultation meetings.

Business Incubator

Cave Hill's **Business Incubator** space is part of the Campus's 'Smart Campus initiative'. The Smart Campus concept reflects Cave Hill's reorientation in the delivery of higher education goods and services in Barbados and the Eastern Caribbean. Cave Hill's partnership with Suzhou China's Global Institute of Software Technology has led to a state-of-the-art facility—3 computer laboratories, 3 business incubator spaces, a 75-seat lecture theatre, office spaces, meeting rooms, and more—for its BSc Software Engineering programme. Graduates of this programme are also expected to take advantage of the space to start new businesses.

Green Technology

Cave Hill Campus has signed a Memorandum of Agreement to collaborate on a Global Environmental Facility funded project, '**Strategic Platform to Promote Sustainable Energy Technology Innovation, Industrial Development and Entrepreneurship in Barbados**'.

The Green Technology Cluster is part of a Barbados Investment and Development Corporation / United Nations Industrial Development Organisation/ Ministry of International Business and Industry/ Caribbean Centre for Renewable Energy Efficiency initiative. By signing the agreement, the Cave Hill Campus has been established as a Green Technology Cluster Partner.

The project's focus is on creating shared prosperity, advancing economic competitiveness, safeguarding the environment, strengthening knowledge and institutions, and using cross-cutting services to advance global and regional development.

A presentation introduced the initiative to recent graduates, students, and faculty who may own or plan to start a company as well as those who are interested in full time work or internships.



One of the 'smart classrooms' at The UWI Cave Hill Campus.



The historic Mutual Building in Bridgetown, Barbados converted to Cave Hill's new state-of-the-art facility.

Co-Generation Plant

Mona's Co-Generation Plant is one example of an innovative university working with industry to overcome a major financial challenge. With 19,000 students, 3,000 staff, and growing, the Mona Campus is one of the largest consumers of electricity in Jamaica, consuming some 6 Megawatts (MW) of electricity at its peak with a base load demand of just about 3 MW. Its annual bill at the start of January 2019 was US\$6,090,129.49.

Mona Campus has set out on a journey to become energy self-sufficient by constructing a power plant and connecting it to existing heat absorption chillers to generate electrical and thermal energy for its own use. Mona is collaborating with Pelican Power Limited

to construct a 7.0 MW dual fuel (Liquefied Natural Gas (LNG) or Liquefied Propane Gas (LPG) power plant consisting of five 1.4 MW Jenbacher GE Engines. The use of waste heat to generate electricity for air conditioning absorption chillers will result in further cost savings.

The co-generation plant represents a significant technology transfer and practical educational vehicle for the Mona Campus' Engineering Department. In the initial 7 to 9 years, Marinsa (GE engines' certified service partner) will operate the plant and train selected UWI Mona personnel so as to transition the plant's operations to UWI Mona over a prudent time frame. Annual cost savings from self-generation is projected to be within the range of USD \$23,864,704.00-\$44,746,320.00.



Imagine, then, being able to generate your own electricity. Imagine being able to add to the bottom line by selling excess electricity. Consider the trickle-down benefit to students from training and from reduced tuition fees.

The Bmobile-UWI Innovation Laboratory Powered by Huawei

A world-class Innovation Laboratory at St. Augustine, the result of a tripartite agreement between The UWI St. Augustine Campus, Bmobile, and Huawei, brings Trinidad and Tobago closer to the country's strategic goal as the centre of innovation in the Caribbean. Evidence has shown that there is a direct correlation between ICT development, including high speed broadband penetration, and economic growth.

A first of its kind in the English-speaking Caribbean, the laboratory will receive cutting edge telecommunications technology from Huawei and so deepen collaboration between the University, Enterprise, and Industry for research and development in new technologies like Artificial Intelligence (AI) and Cloud Computing, assisting in accelerating Trinidad and Tobago's digital transformation. The equipment will be configured to replicate the Bmobile network, thereby providing fertile ground research in areas such as mobile and fixed networks, Optical Transmission, IP networks, Core and IT.

Based in the Department of Electrical and Computer Engineering, at the St. Augustine Campus, the world class laboratory will be a training ground for students and ICT professionals across the Caribbean, propel academic research, and facilitate testing and development of new and innovative tech-based products and services whose unique IP could be commercialised.



Pro Vice-Chancellor and Campus Principal at The UWI St. Augustine, Professor Brian Copeland (centre) with Dr Ronald Walcott, CEO of TSTT (left) and Jeff Jin, CEO of Huawei (right) inspect a model of the innovation laboratory.

Plastic Cement and Primer

Cement and Primer built for extreme conditions were the marvel at a St. Augustine Campus Innovation Conference three years ago. The suite of coatings included indoor and exterior paints, red oxide primer, marine coating, 4-in-1 coating and plastic cement. On June 11, 2019, St. Augustine turned that innovative research into its first spin-off company. Local raw materials are used in the development of the products—UWI Plastic Cement and UWI Primer—which are designed to withstand the heat, salt water, and rust of the Caribbean's extreme conditions. This means the attractively priced products are even more effective in temperate climates and competitive enough for the export trade.

In signing a licence agreement with Lake Asphalt of Trinidad and Tobago to bring **UWI Plastic Cement** and **UWI Primer** to market, St. Augustine demonstrated an entrepreneurial university turning its IP into revenue.



Among the coating products on display at the Innovation Conference were a primer, marine coatings and plastic cement, some asphalt-based and all with short drying times, and lower costs than comparable items.

Cocoa Research Centre Spin Off Company

The Cocoa Research Centre (CRC) at The UWI has established a spin-off company of the St. Augustine Campus, which has the potential to revitalise the regional cocoa industry and develop into a knowledge based service centre for the Latin America and the Caribbean region is truly exciting. Cocoa can one day again be King.

The CRC, custodian of the largest public collection of cocoa types globally, is justly proud of its status as the oldest cocoa research institution in the world—since 1930. With the support of a €2 million grant from the European Union/African, Caribbean and Pacific (Science and Technology Fund), its 10-acre model cocoa orchard will showcase innovations in production and postharvest processing, establish business and technology incubators, and purchase equipment for a commercial chocolate factory. Its other partners are The UWI and the Caribbean Fine Cocoa Forum.

It will comprise a chocolate factory, a business incubator facility, a living museum of cocoa plants, a cocoa tourism centre, a restaurant, kitchen and labs, and a Chocolate Academy for courses in chocolate making. The chocolate factory will produce cocoa nibs, cocoa liquor (the unsweetened liquid base for chocolate), and couverture or finished chocolate (both dark and milk). Its total bean-to-bar model is intended to stimulate the sector and enable applied research for real community and industry impact.



L-R: Programme Manager, Entrepreneurship Unit in the Department of Management Studies, Julian Henry, Head of the Cocoa Research Centre (CRC), Professor Pathmanathan Umaharan, and Pro Vice-Chancellor and Campus Principal Professor Brian Copeland



The CRC runs its own small in-house chocolate factory in The UWI since 2012, making a delicious 70% dark chocolate bar from locally grown cocoa

UWItv

In a mere four years of existence, **UWItv** has established itself as the multimedia public information and education service of The University of the West Indies and one of the drivers of the Global UWI goal. **UWItv** is the go to source for critical analyses of common issues, concerns, and socio-economic priorities in the region and the wider Caribbean diaspora. It is in fact a key tool that underpins and facilitates The UWI's tradition of service.

There is an immense amount of original UWI content in its broadcasting. But, even more than this, partnerships with regional and international agencies such as CARICOM and the UN, allow **UWItv** to air

interviews, documentaries, research, ground-breaking work and issues that directly affect the Caribbean and its peoples.

All of which amplifies the importance of the **UWItv/Flow** agreement signed on October 17, 2019 by The UWI's Vice-Chancellor Professor Sir Hilary Beckles and Flow Country Manager (Barbados) Jenson Sylvester.

The combination of cable television and the internet has given the University access to a global audience. Via Flow channels, **UWItv** is now accessible to millions of viewers across the Caribbean and, through the Flow EVO service, subscribers have access to 24/7 content from the regional university.



L-R: Senior Manager, Communications, Southern Caribbean, Flow, Ms Marilyn Sealy, Country Manager, Flow Barbados, Jenson Sylvester, Vice-Chancellor, The UWI, Professor Sir Hilary Beckles and Managing Director, **UWItv**, Ms Janet Caroo posing for a photo following a signing ceremony to launch a partnership between The UWI and Flow.

The UWI-Coventry Institute for Industry-Academic Partnership

This **Institute for Industry-Academic Partnership** will complement The UWI's leadership role in promoting innovation as a driver of economic growth, and support its entrepreneurial quest to foster and increase partnerships with industry. Like The University of the West Indies, Coventry University in England has a long tradition of service in education—though admittedly, this award-winning university has a 105-year head start.

Coventry has a unique way of co-investing, co-creating, and co-prospering with innovation partners. This has resulted in an enviable track record on industry engagement and collaboration with some of the largest companies in the UK and around the world. Those partnerships have led to the creation of

innovative products, new services, and research with impact.

The two universities, thousands of miles apart, are about to forge a relationship with a difference. The genesis of the partnership lies in The UWI's consultations with the private sector in a range of areas including research and innovation, entrepreneurship and commercialisation, and university and industry collaboration.

This new UWI-Coventry Institute will enhance international competitiveness in the Caribbean private sector through research and economic partnerships and provide research training at the postgraduate level and host a raft of master's degrees in the Caribbean.



Vice-Chancellor, The UWI, Professor Sir Hilary Beckles (2nd right), greets the Vice-Chancellor of Coventry University, Professor John Latham (2nd left) at the launch of The UWI-Coventry Institute for Industry – Academic Partnership held at The UWI Regional Headquarters on Thursday, December 19, 2019. Also pictured are Dr Luz Longworth, Pro Vice-Chancellor and Principal, The UWI Open Campus (left), and Ambassador Dr Richard Bernal, Pro Vice-Chancellor Global Affairs at The UWI (right).

*To explore the potential for partnership
with The University of the West Indies, please contact:*

SCHOOL OF GRADUATE STUDIES AND RESEARCH

The University of the West Indies

Sir Frank Stockdale Building

St. Augustine Campus, Trinidad and Tobago

T: 868-224-3733 | 868-224-3725 | 868-224-3729

E: ThePVCResearch@sta.uwi.edu