



Presenting...



The Guild of Students has just been through two fairly competitive events – the more recent being the election of its executive with the incumbent President, **Makesi Peters**, keeping his position and **Michael Rajnauth** being voted in as Vice President. (*The new executive is on Page 22.*) The other big event on the Guild calendar was the selection of the **2016 Miss UWiverse** – which took place in February at the Daaga Auditorium at the St. Augustine Campus. The winner, **Khedeill James**, representing the Department of Behavioural Sciences from the Faculty of Social Sciences, captivated the judges when she was asked to describe how she has contributed to The UWI's rise in the context of its motto, "*Oriens Ex Occidente Lux*" which means "*Light Rising From the West*". The 12 contestants were exposed to a wide range of pre-pageant activities as they were taken through paces that included meeting with the Minister of State in the Office of the Prime Minister, **Ayanna Webster-Roy** as part of a mentoring element; a fitness challenge; a visit to the **2016 HIV/AIDS Awareness Fair** hosted by the Faculty of Humanities and Education, a "*styling 101 session*," and a particularly inspiring meeting when the Minister of Tourism, **Shamfa Cudjoe** visited the Campus and shared some of her personal experiences with them. Photographer **CHAD SANTANA** captured the final, thrilling moment of Khedeill's victory as the previous **Miss UWiverse Gwaldys Feler** presents her successor to the audience.

Pathways to Diversification – The Economic Recession



■ **NO CRYSTAL BALLS – 08**
Indera-Sagewan Alli on how long it will last

■ **CREATIVE INDUSTRIES – 10**
Practitioners say it can be big, beautiful business



■ **MANUFACTURING – 12**
Engineer believes we can make it if we try

■ **AGRICULTURE – 14**
New technologies make farming viable





UWI
ST. AUGUSTINE
CAMPUS

Faculty of **Science and Technology** Postgraduate Admissions 2016/2017



MSc Biomedical Physics (Specialisation in Medical Physics)

Play a vital role in multi-disciplinary clinical teams and help save lives by using science and technology. You'll be able to:

Work as a Medical Physicist in Radiotherapy and Nuclear Physics Departments

Use analytical and computer-aided techniques to assist clinical staff in the diagnosis and treatment of patients

Administrate radiotherapy quality assurance programmes

Plan and ensure safe and accurate treatment of patients in consultation with medical staff.

Conduct scientific research in clinical and academic environments

Entry Requirements

First Degree from a recognised university in

Physics

Biomedical Engineering

Mechanical Engineering

Electrical Engineering

Biomedical Technology

For further information:

Dr. Nikolay Zyuzikov: Nikolay.Zyuzikov@sta.uwi.edu

Dr. Sybele Williams: Sybele.Williams@sta.uwi.edu

T: 868 662 2002 ext 82051; 83846; 83124



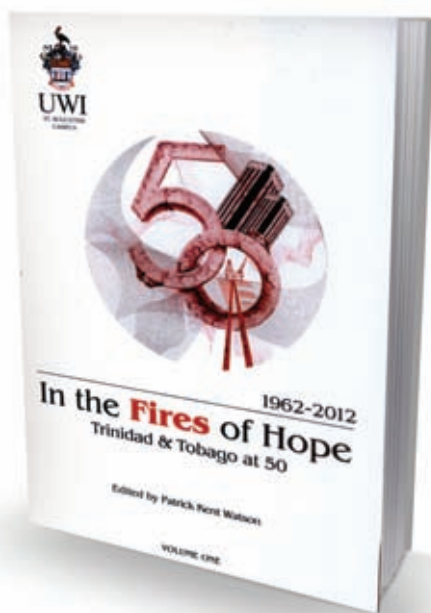
APPLY ONLINE NOW

www.sta.uwi.edu/admissions/postgrad

APPLICATION DEADLINE

May 31, 2016

OUR CAMPUS



Fires of Hope

A line culled from the national anthem, “In the Fires of Hope” is the title of the first of two volumes, a collection of articles marking the 50 years from 1962–2012. This volume, edited by Professor Patrick Watson, Director of SALISES, was launched at the Office of the Campus Principal on March 2.

The book is divided into two parts, the first being edited versions from a series held at The UWI called “Conversations with Prime Ministers.” There are two conversations in there, one with the late ANR Robinson, and the other with Basdeo Panday, both prime ministers with extraordinary terms in office and politics in general.

The second, lengthier section carries a series of articles touching on politics, economics and sociology, as follows:

- **Re-Engineering the Constitution of Trinidad and Tobago for Participation and Performance** – Timothy Hamel-Smith
- **Assessing Lewis’ Industrialization by Invitation (IBI) in the context of the Atlantic Plant in Point Fortin** – Ranita Secharan and Roger Hosein
- **Dutch Disease, Genuine Savings and the Role of Corporate Legitimacy** – Roger Hosein and Rebecca Gokool
- **Towards Economic Diversification in Trinidad and Tobago** – Rohan Longmore, Pascal Jaupart, Marta Riveira Cazorla
- **Woodbrook on the Path to Independence** – Dylan Kerrigan
- **Win-Win: Enhanced Oil Recovery and Carbon Storage in Trinidad and Tobago** – Lorraine Sobers and Selwyn Lashley

The book was reviewed at the launch by former Governor of the Central Bank and Campus Council Chairman, Mr. Ewart Williams. Mr. Williams chose to focus on the three papers on the economy (specifically on the energy sector), though he “could not avoid” commenting on the Woodbrook life he remembered.

He offered a penetrating analysis of the book, making it clear from his thoroughness that he had not done a superficial reading. On the article on economic diversification, authored by three staff members of the World Bank, he closed with these remarks.

“In summary, this is a very informative and provocative article, which perhaps does not go far enough. For economic diversification, we certainly need to get the market incentives right but we need to do more than that – we need to work on our institutions. Improving our business climate is central to building international competitiveness. However, it is time that we accept that this requires not only reducing red-tape and improving our work ethic; it also means dealing with crime and corruption, which too, are major blots on our investment climate.”

The comments on the content of the book were as insightful as his comments on the state of the country, and UWI TODAY will carry his review in our next issue. Meanwhile, the book is available at The UWI Bookshop.

FROM THE PRINCIPAL

Diversifying Our Economy is a Necessity



The first reaction to economic uncertainty is to curb spending, almost to adopt a state of economic hibernation, as an option to mitigate financial risks and vulnerability. The current fiscal landscape is an opportunity to change our thinking, and in some ways to force our hands, to pursue the economic diversification we have been talking about for many years. Our economic circumstances demand greater efficiency, productivity, creativity and competitiveness. But we must not view the current economic climate with trepidation, for in every situation of struggle lies opportunity, and we must continue on a trajectory of national development.

In advancing infrastructural development, we must identify needs and opportunities for wealth creation. Changing the mindset in how we use and benefit from our major capital infrastructure projects is necessary. Should we be thinking about a “cost-sharing model” to finance major infrastructure projects?

Neighbouring countries are building infrastructure through creative design, finance, build and operate schemes; and some have already embarked on the collection of tolls on highways and bridges. And while it is imperative that we find creative paths to funding such as accessing the capital market or attracting investors to pursue such projects, we must always bear in mind that we have to repay.

Nonetheless, we must find a way forward as our traffic woes continue, on the East-West and North-South corridors, a tremendous waste of human time and energy. While a light-transit system is favoured by many, myself included, the cost to develop it needs to be ascertained. Light-transit systems exist in many cities around the world. Infrastructure development can stimulate growth in our economy and the proposed highway to Toco and a port in that area, to link Tobago, can stimulate growth in our north-east peninsula as well as growth of domestic and international tourism in Tobago. So too can a highway to Mayaro/Guayaguayare, stimulating possibilities for the development of our south-east coast in tourism, agriculture, industry, and so on.

Educational tourism is another area of potential growth in this globalized world.

The UWI St. Augustine Campus is well positioned to attract ‘full-fee’ paying students from all around the world; especially in the areas of medicine, engineering, agriculture and law. We need to capitalize on this, considering our geographic proximity to South and Central America, coupled with our strong diaspora linkages with North America, Europe and Asia. Students bring income not only to universities but create vibrant communities.

Many of our Caribbean islands are experiencing the benefits of attracting such students. Our Faculty of Medical Sciences, with new facilities at the South Campus, the new hospitals in San Fernando and Couva and others can make this vision a reality.

Another point I wish to make is that this is the century of the green economy. The use of our natural resources in more meaningful, sustainable ways, creates opportunities for growth, with greater value addition for new industries like furniture from our prized teak for example, or processed fish from our marine environment. Alternative energy technology, such as solar and wind energy, forms part of the green economy, and needs policy support. So too does solid waste management – collection, recycling and the development of new products. The management of our natural environment, like our watersheds, must not be taken for granted.

We also need to work towards food security. This is a time for us to change our eating habits, grow more of what we eat, and eat more of what we grow, and there are real possibilities here, like plantain and cassava chips instead of french fries. Agriculture, with production, mechanisation, transportation, agro-industries, marketing and distribution, including exports can generate employment, wealth and import substitution.

We created the Department of Mechanical and Manufacturing Engineering, with IT/computer-aided design and manufacture, and industrial engineering at the centre, so as to bring advanced training in manufacturing technologies/systems of production. It is the best way in an environment of scarce and expensive labour, and the need for consistent high quality. With energy/oil prices down, our competitiveness in manufacturing will be challenged, as others will ramp up their manufacturing.

Finally, our arts, culture, festivals and their diversity are areas demanding critical attention. Our creative industries are a woefully untapped aspect of income. Service industries, especially a global and regional entertainment industry should be a logical step for us. However, we must begin to adopt a culture of service excellence. A separate Tobago Carnival, on a fixed date, has always had appeal. Our Department of Creative and Festival Arts (DCFA) and our film makers, are well equipped to support this development.

I believe we must create new business, new wealth, and reduce the level of poverty; ultimately to achieve an overall better quality of life for our citizens. The value of what we are able to accomplish tomorrow, depends on the choices we make today.

CLEMENT K. SANKAT
Pro Vice-Chancellor & Principal

EDITORIAL TEAM

CAMPUS PRINCIPAL
Professor Clement Sankat

DIRECTOR OF MARKETING AND COMMUNICATIONS
Dr Dawn-Marie De Four-Gill

EDITOR
Vaneisa Baksh • email: vaneisa.baksh@sta.uwi.edu

CONTACT US
The UWI Marketing and Communications Office
Tel: (868) 662-2002, exts. 82013 / 83997 or email: uwitoday@sta.uwi.edu

■ CAMPUS NEWS

SALISES Violence Against Women Forum

Gender-based violence affects everyone

BY JEANNETTE AWAI

The Sir Arthur Lewis Institute of Social and Economic Studies (SALISES) hosted a forum on *Violence Against Women: A Political Issue?*, on February 24 to the standing room only Institute of International Relations lecture room with panelists Dr. Gabrielle Hosein, Lecturer, Institute for Gender and Development Studies (IGDS); Mrs. Margaret Sampson-Browne, Victims and Witness Support Unit; Amilcar Sanatan, IGDS and surprise panelist Mr. Louis Lee Sing, former Mayor of Port of Spain. He was a last minute substitute for Keron Valentine, the current Mayor, who canceled on the morning of the event much to everyone's disappointment.

Hosein addressed this at the beginning of her presentation, "I could only hope that the mayor's cancellation this morning is not a sign of the kind of behaviour we can expect from him in terms of keeping to his commitments on this issue of gender-based violence."

Each person was to give a 20-minute presentation followed by an open Q&A session. Hosein's presentation was the longest, coming in at over 22 minutes – a remonstrance against the notion that gender-based violence is a women's issue.

"This is not a Government issue or a State issue, it's a national issue."

Change in the attitudes of state officials, Hosein stressed must come from a change in their language and recommended the IGDS manual: Guidelines for the use of non-sexist language by Valerie Youssef and Sue Ann Barratt as a resource. She ended with a call to action for government officials.

"It's not enough to say that the Government will undergo gender education, there must be a deadline for the Mayor's deliverables and consequences for the Government when they do not follow through," she said, noting that the Forum was dedicated to eliciting action-based items.

Mrs. Sampson-Browne followed with statistics on domestic violence victims that shocked the audience, "between 2005 to 2015, 300 women were murdered as a result of domestic violence." [Those figures were later clarified to include men and women.] She also expanded the conversation to include male and female victims of domestic violence, emphasising that victims need advocates like the Victims and Witness Support Unit's AVA: Addressing Victims Anywhere Project. Changing traditional beliefs was the theme of the forum and came up in Amilcar Sanatan's presentation which was centered on men's commitment in the long struggle against gender-based violence and the need to challenge the idea that young people are apathetic.

"Domestic Violence and gender-based violence are men's issues...and sexist statements will not be tolerated. Since sexist statements are made from sexist seeds of thought on a patriarchal plantation."

Louis Lee Sing echoed these sentiments in his impromptu presentation answering the forum's question that "domestic violence is a political issue, it is no longer a social issue."

The almost two-hour long Q&A session brought out a litany of concerns, questions and personal stories from activists, civilians and victims of gender-based violence alike, who voiced their frustrations with the courts' treatment of victims; the need for focused lobbying to drive criminal reform and how to fix the culture that creates domestic violence abusers just to name a few. The Forum ended with audience members from organisations aimed at ending gender-based violence identifying themselves such as the Rape Crisis Centre, PSI Caribbean, Madinah House - Shelter for battered women, I am One and others vowing to work together and talk to each other to help continue the discussion and create change on the ground and at all levels.



From left, the panel: Mr. Amilcar Sanatan, Mrs. Margaret Sampson-Browne, Dr. Gabrielle Hosein and Professor Patrick Watson. Mr. Louis Lee Sing is not in photo. PHOTO: VIBERT MEDFORD.

Jeanette G. Awai is a freelance writer and Marketing and Communications Assistant at The UWI St. Augustine Office of Marketing and Communications.

SALISES Violence Against Women Forum

*Recommendations
that came out
of the discussion*

1. Focus not just on Domestic Violence, but also safety in public spaces.
2. Training on gender sensitivity should also include training on Non-Sexist Language in Political Life
3. Local Government should take responsibility for taking discussion about gender based violence into communities. GBV is a political issue and therefore a matter for government because it is related to the public good and public health of the country
4. There should be a particular focus on rural communities, south trinidad and women who work at home as 'housewives' so that these groups also get access to education/perspectives about GBV
5. Family violence, including violent forms of discipline, need to be targeted as these socialise children into violent relations
6. Use the Sustainable Development Goals to frame lobbying and drive policy reform
7. Continue training of state officials who interface the public. Keep in mind that trainings eg of police officers, magistrates and so on is already ongoing by various institutions, including UNWomen and different state machineries
8. Court process, especially in terms of Domestic Violence cases, offers a site for specific and achievable reforms, including reforming how victims experience the process, the space of the courts, testifying, delays and so on.
9. Educate children in GBV and reproductive health and rights. Population Services International has developed a GBV training manual for children, has been gathering data and is available to support those who want to extend this work.
10. Enact sexual harassment legislation and create supportive protocols/focal points and so on with state structures for its effectiveness. Should include public education.
11. Create a space for girls to stop them from being housed in the women's prison. This has been budgeted, but never achieved. Advocacy on this front is necessary.
12. Each Regional and City Corporation should have its own gender policy. This has been done before in the Penal/Debe Regional Corporation. Allan Sammy and Sabrina Mowlah Baksh can advise.
13. Child Line was reported as having an inappropriate response to a caller. Engage them on their effectiveness and what support is needed.
14. Reform the process of the Maintenance Courts, particularly around delays and cases being dismissed.
15. Liaise with those already working on violence issues e.g. the women of Medina House, PSI.

– IGDS on Facebook

PARTNERSHIP BRINGS A TRINITY

Teaching, Learning and Researching Our Cultural Arts

The bonds of a partnership were cemented when The UWI and Trinity College jointly hosted the **Turning Tides Caribbean Intersections in the Americas and Beyond International Conference** at the School of Education on February 18 and then later that day, formally opened The UWI-Trinity House on Carmody Road.

Addressing both gatherings, PVC and Campus Principal, Professor Clement Sankat reminded attendees that the partnership had been some time in the making, citing the visit to St. Augustine of President of Trinity College, Dr. Joanne Berger-Sweeney a year ago as a concrete step in that partnership.

“We all look forward to this partnership as it will bring immense benefits to the students and staff of both our institutions – The UWI and Trinity College; in training, in research and in outreach as we are demonstrating today. This conference is the very first, signed under our MOU and for which a physical space is extremely important for the conduct of our business; but it’s the intellectual output and impact that eventually counts,” he said, as he celebrated the partnership.

“We are breaking new ground with respect to international university partnerships here! In fact, we may be unique in this part of the world in what is being achieved between The UWI and Trinity College.”

It was a message he repeated later that evening at the opening of the building that would serve as the physical representation of that partnership.

“For the first time in our university’s history, we allowed another institution, in Trinity College, to have a firm physical presence/footprint on the grounds of our own UWI St. Augustine Campus,” he said.

“I wish to reiterate that our relationship is one that is based on trust, mutual respect and a commitment to supporting teaching, learning, and research, particularly in the humanities, in areas such as the arts, culture, heritage, film, and entertainment among many others, which are all indeed important economic and socio-cultural activities that can play an even greater role in strengthening entrepreneurship and economic diversification in our country and region,” he said.

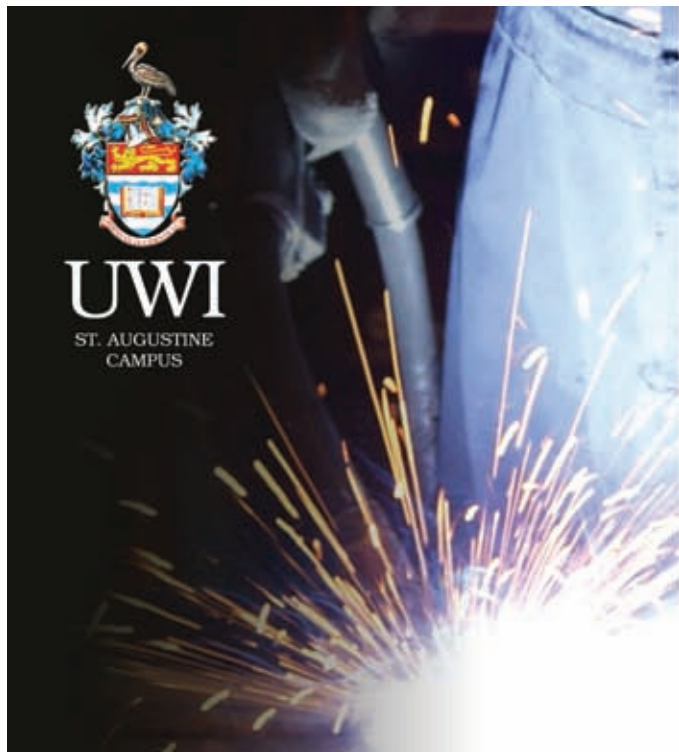
“I can think of no better institution for The UWI St. Augustine Campus to partner with to project to the world, our culture and performing arts. That Trinity College established the ‘Trinity in Trinidad Global Learning Program’ which has been running successfully for over a decade is testimony to their interest and commitment to teaching, learning and researching our cultural arts. It is also worth noting that Trinity College has been promoting the culture of Trinidad and Tobago in North America and the world in a way which no other university I know has done, which also demonstrates their commitment to carving out a unique space for Trinidad and Tobago’s arts and culture on the world stage.” *(More on Page 22)*



At the opening of The UWI-Trinity House, from left, Director of the Office of Internationalisation at The UWI, Sharan Singh, Campus Principal, Professor Clement Sankat, President of Trinity College, Dr. Joanne Berger-Sweeney and Professor Milla Riggio, Coordinator of Trinity in Trinidad Global Learning. PHOTOS: ANEEL KARIM



At the opening of the Turning Tides Conference, from left, Author Earl Lovelace, Campus Principal Professor Clement Sankat, President of Trinity College, Dr. Joanne Berger-Sweeney, Keynote Speaker, Professor Harvey Neptune of Temple University, and Professor Milla Riggio, Coordinator of Trinity in Trinidad Global Learning.



Master of Arts in Leadership in Technical and Vocational Education and Training (TVET) and Workforce Development (WFD)

2 years | Part-time | September 2016

The School of Education in the Faculty of Humanities & Education invites you to enhance your professional training.

This master’s programme is designed to meet the need of public and private sector industrial organisations, training institutions and Ministries of Education, for individuals who are capable and prepared to facilitate and/or provide capacity building, quality training, and leadership to monitor and guide developments in TVET and WFD.

The programme will be offered on a part-time basis over the course of two years, including the “summer” periods. Classes will be conducted via a blended approach (face-to-face and online)

REQUIREMENTS

- A bachelor’s degree from an approved university in Human Resource Development, Training, any TVET, WFD, Science or Technology-related area OR an equivalent qualification acceptable to The University of the West Indies
- Professional qualifications in Education
- A minimum of five years’ work experience in a technical or vocational area is normally required

APPLICATION DEADLINE: MAY 31, 2016

Visit www.sta.uwi.edu/admissions/postgrad to learn more and to apply.



3 GREAT REASONS TO CHOOSE THE UWI

Certificate and Diploma Programmes

Application Deadline: May 31, 2016



1

CSEC graduates – even without CAPE/A Levels, start your tertiary education now and go on to earn your Bachelor's degree or kick-start your career. You can go right into a BSc Nursing (Pre-Registration) with your CSEC passes !

2

Experienced applicants – Been out of school for a while? No CAPE or A-levels? A certificate could be your entry ticket into a degree programme

3

Already have a degree – launch a new career path with a diploma or certificate in another field

Certificate Programmes

The Art and Science of Coaching
Dance & Dance Education
Drama/Theatre-in-Education
Early Childhood Care and Development - One Year
Geographic and Land Information Systems
Local Government
Music
Public Administration
Technical Theatre Production
Visual Arts

Undergraduate Diploma Programmes

Agriculture
Institutional & Community Nutrition & Dietetics
Public Sector Management

Take a Campus Tour and experience The UWI.
Visit www.sta.uwi.edu/campustours and book today!



Download your prospectus and apply online:
www.sta.uwi.edu/admissions/undergrad



Pathways to Diversification

The Economic Recession

The Eggs in the BASKET

A look at some
of the pathways
to diversification



As the weight of an economic recession has begun to settle on the shoulders of a Trinidad and Tobago that had grown merrily accustomed to the virtues and vices of plenty, the foolhardiness of putting all our eggs into an oily basket has become even more stark.

Since the halcyon days of the first oil boom popped open greedy eyes that saw little besides the heady power of consumption, we have squandered every opportunity to diversify the economy. Through slumps and highs over the years, many voices have implored the State to empower other sectors to grow by providing incentives and concessions to build fledgling industries and innovative ideas into viable sources of income and employment.

Policies have been written, research has been done, cases have been made for a variety of industries to be developed, but while they may have been heartily approved, they haven't been implemented. In essence, those voices have been ignored.

In the next few pages, UWI TODAY gathers some of the thoughts of members of The UWI community on possible pathways to diversification.

"To repeat my mantra, economic diversification is priority one, two and three, says economist Indera Sagewan-Alli. "There are no quick fixes to this and it is not an exercise in volunteerism or one where clear responsibility and accountability are difficult to trace. It is also not rocket science and there are many success stories for us to be guided by. It is a full time job needing the requisite expertise

resourced and dedicated to the task of determining through robust analysis the areas of focus."

She is joined by the indefatigable Head of the Department of Mechanical and Manufacturing Engineering, **Professor Boppana Chowdary**, who continues to plod towards getting investors interested in what we can create locally.

"We are targeting specific sectors like agriculture to show what we can do. For example, we are working on cassava grating machines that can be used to process cassava

Since the halcyon days of the first oil boom popped open greedy eyes that saw little besides the heady power of consumption, we have squandered every opportunity to diversify the economy.

flour from what is being farmed in Moruga. This will enable farmers and the community entrepreneurs to sell a finished product to stores and bakeries."

The Minister of Agriculture, **Clarence Rambharat**, has spoken of the untenable situation of a food import bill that is around \$4 billion, and an agricultural sector barely contributing .5% of our GDP. He declares his intention to transform this sector into an Economic Growth Sector by making it "strong, modern, prosperous and competitive." Among the sectors planned for growth is the cocoa industry and with the fairly new **Cocoa Development Company of Trinidad and Tobago Ltd**, there is obvious need for the involvement of **The UWI's Cocoa Research Centre**.

Dean of the Faculty of Food and Agriculture, **Isaac Bekele** shares some of the plans for the development of the agricultural sector and talks about his idea that UWI's role "is to provide scientific and technological support to the region."

Three practitioners from the creative industries – **Carver Bacchus, Danielle Dieffenthaler and Dr. Suzanne Burke** – describe their journeys towards sustainably developing their careers in these areas, and show that it is possible to overcome the stereotype of the struggling artist.

However we do it, the imperative is clear: in these recessionary times, we must take our eggs out of that one basket.

(Vaneisa Baksh, Editor)



Pathways to Diversification The Economic Recession

Economy

At the Crossroads of Adversity and Opportunity

BY INDERA SAGEWAN - ALLI

Trinidad and Tobago finds itself once again in an economic downturn, the last being in 2008 when the global financial market crashed and the oil price plummeted from US\$150 to US\$30 a barrel. By the end of 2010 the price was back up to \$100. Some analysts believe that the current global downturn resulting from the continued fall in the price of oil and gas could result in a more prolonged economic crisis than that experienced in the 1980s, what some referred to as the “lost decade of the ’80s” when within months, Trinidad and Tobago’s foreign exchange reserves were depleted, leading us into an IMF structural adjustment programme with concomitant currency devaluation, cuts in public servants’ salary, COLA suspension, privatization and job losses. The NAR Government paid the political price for imposing severe austerity measures on the population.

I present this context as we take a macro view of where we are today primarily because one of the uppermost questions for many is, “Have we reconfigured the economy following the 1970s, 1980s, 1990s and 2008 crises so that we are not likely to be led down a similar path?”

The answer is simple: no. Not even the collective contributions of all other productive sectors can make up for the financial losses the country is currently suffering due to the global collapse of oil and gas prices. And so, once again, if oil and gas prices continue to fall, we must either make significant adjustments of our own volition or bring in the FUND to do it for us.

Reality check: we have done insufficient since independence to bring corrective measures to address the source of our conundrum: the country’s over-reliance on oil and gas revenues to maintain a dependency model of development. In this model the State uses the largesse during buoyant energy prices to ramp up national expenditure without sufficient spending on productive diversification. Over the last 10 years alone, successive governments have more than doubled the national expenditure, so that in 2016 over \$63 billion is needed to maintain living standards, mostly via transfer payments.

In essence, neither for expediency nor necessity have we put the economy on a path to sustainable development



where a number of major productive sectors rather than just one generates national income. Instead, as government’s national expenditure – fuelled by energy revenues – has grown, other sectors such as manufacturing, agriculture, tourism and the creative industries have declined.

Are we now in a recession?
Mere semantics.

The economy is in decline

Government, the largest consumer and employer is faced with a serious revenue shortfall which increases daily. At the start of this fiscal year, on the assumption of an oil price of US\$45 per barrel, there was already a projected revenue shortfall of \$21 billion. Since then, oil has reached US\$28 per barrel with global analysts projecting that it could reach as low as US\$20 per barrel. Obviously, this has negative implications for the Government’s revenue projections.

Not surprisingly, the Government has mandated a 7% cut in all public expenditure and we await further cuts in its mid-term review this month. Moreover, it has signalled its intent to sell off State assets; draw down \$1.5 billion from the Heritage and Stabilization Fund and turned to taxpayers through increased taxation (VAT, land and building taxes, business levy) to make up the shortfall.

Is this enough?

The signs of economic malady are already upon us; unemployment has started to increase with the growing fatalities in the energy and State sectors. In the latter, we have seen the non-renewal of short-term contracts of many young professionals operating this way for more than three years. The foreign exchange shortage continues to worsen as the energy sector, the largest foreign exchange earner, shrinks. Recent statements by the Minister of Finance indicate contractions in oil by 70% and gas by 45%. The fact that demand for foreign exchange continues to grow – whether a reflection of legitimate need or capital flight driven by fear – has led to creeping devaluations of the official band, the most recent movement taking the exchange rate from \$6.43 to \$6.53 with the black market rate as high as \$8. This has resulted in rising prices, made worse by the Government’s initiative to widen the value added tax net in order to shore up its revenue stream. Prices are increasing at an accelerated rate, negatively affecting the cost of living. The Prime Minister and Minister of Labour have made public pleas to the private sector to protect employment. This is not realistic. In the global energy market, when the bottom line is threatened, businesses send people home.

We have done insufficient since independence to bring corrective measures to address the source of our conundrum: the country’s over-reliance on oil and gas revenues to maintain a dependency model of development.



At the start of this fiscal year, on the assumption of an oil price of US\$45 per barrel, there was already a projected revenue shortfall of \$21 billion. Since then, oil has reached US\$28 per barrel with global analysts projecting that it could reach as low as US\$20 per barrel.



How long will this crisis last?

There are no crystal balls, just best guesses. The international market (outside of our control) will dictate what happens. We are price takers in this game and our fortunes fluctuate (not for the first time) on the basis of the dynamics at play in the global market; whether it is changing geopolitics, deliberate efforts to squeeze competitor fuels off market, or shifts in supply and demand.

Since 2014, there has been a growing global glut of oil and gas. It would take almost a year of consumption at current levels to use up this surplus and bring the market into supply and demand equilibrium. The likelihood of increased demand is constrained by economic slowdown in China, Japan and the Eurozone. In addition, the US, once the largest net importer of oil and gas is today a net exporter thanks to shale oil. While it still imports more than 10 million barrels of oil per day from 80 different countries, with OPEC remaining the biggest supplier, its overall imports are at a 17-year low while the nation's production rate is at a 24-year high because of hydraulic fracturing.

Even as the oil price falls below US\$30 per barrel, OPEC, usually the global price stabilizer, has taken a stand not to curtail production to drive prices up but is allowing the price free-fall, arguably to bring US shale oil to its knees.

Saudi Arabia has the deep pockets to do this with \$741 billion of currency reserves and a \$15 billion surplus at the end of its last fiscal year. It can run budget deficits for several years without harm to the country's finances.

Then there is Iran, estimated to comprise the world's fourth biggest oil reserves. With the removal of sanctions by Europe and the US, Iran has announced its full return to the global oil market by ordering an immediate increase in production, prompting warnings from fellow OPEC members that it risks prolonging the biggest price crash in a decade.

Major oil companies are cutting back. The Brazilian oil company has cut its five-year investment programme by 25%. While this will eventually lead to a slow-down in production, that time is not in the immediate future.

Where does all of this leave Trinidad and Tobago?

If the trends in the global energy market continue, we will experience further revenue decline, worsening foreign reserve, more currency devaluations (whether formal or informal), job losses, price increases, cuts in transfer payments, capital flight, brain drain as more and more young professionals are unable to find jobs, worsening social tensions and criminal activities.

We can either buy time by drawing down on the HSF and selling off assets to prop up an obviously overinflated expenditure while we wait for the price of oil and gas to recover or we can take responsibility for turning adversity into opportunity. I hope for the latter. This requires us to be realistic to the worst case possibilities and get on with the task of deciding what needs to be done to minimize the fall out and return to positive growth in the fastest possible time in such a climate.

Economic Diversification

To repeat my mantra, economic diversification is priority one, two and three. There are no quick fixes to this and it is not an exercise in volunteerism or one where clear responsibility and accountability are difficult to trace. It is also not rocket science and there are many success stories for us to be guided by. It is a full time job needing the requisite expertise resourced and dedicated to the task of determining through robust analysis the areas of focus.

We no longer have the financial luxury of simply identifying a "new growth sector," say film, setting up a special purpose vehicle, an advisory committee, giving grants to film makers and hoping for the best, without any key deliverables or performance indicators to measure whether we are achieving the stated objective.

We need to determine whether we have sufficient comparative and competitive advantage in the film industry to render it an industry with revenue, employment, and the capacity to generate foreign exchange. A desire for a film industry is not sufficient to justify it being resourced by taxpayer's dollars. This requires a detailed analysis of the

global and local film industries, future trends, competitors, geographic scoping, input-output, value chain; all geared towards evaluating the potential for a profitable industry. The next stage would be to develop a plan of action based on a strategy.

What I am describing here is by no means an exercise in academic report writing but a robust practical approach which has been proven and tested in some of the most competitive countries: Finland and Norway two examples. This requires full-time bodies out in the field gathering data, others on technology analysing data and studying global industry trends and yet others studying competitors and best practices approaches. It requires true collaboration amongst all stakeholders; working together in an industry cluster with a management structure for implementation of strategy. We need political will for such an approach, as it is business unusual for Trinidad and Tobago and necessitates decisions which prefer competence over loyalty.

To sum up, we have to get serious about the business of economic diversification now that money has become a scare commodity, the limited sums must be allocated in ways to maximise the potential for multiplication. Yes, governments have spoken of commitment and resourced diversification, but they have failed at strategy, delivery and accountability because monetary flows from oil and gas dimmed the conditions of necessity.

We are again at this junction of economic decline, not for the first, second or third time. Each time though, it is more difficult to reverse as the level of State dependence is further entrenched, the national expenditure larger and larger and the global dynamics more volatile. Unless there is another war in the Middle East, or it is in the interest of developed interest to see the price of oil climb, we are in for a reasonably long dry spell from oil and gas. The diversification imperative is stronger than ever. We must strengthen our efforts to the task but in new, practical and transformative ways, guided by data-based analysis and strategy.



Pathways to Diversification The Economic Recession

Culture Creative Business has its Rewards

BY PAT GANASE

Culture means many things to different people; and is discernible in art and creative expressions, manifesting who we are – as Trinbagonians – in the world. **Dr. Suzanne Burke**, lecturer in Cultural Studies at the UWI St Augustine, provides the philosophical framework to support a Trinidad and Tobago creative industry. **Danielle Dieffenthaler**, filmmaker, and **Carver Bacchus**, environmental communicator, demonstrate pathways to sustainable creative businesses.

The Case For Culture

“There are many examples of young creative entrepreneurs who are approaching their craft in smarter, more strategic ways. Just look at the winner of this year’s International Soca Monarch. Aaron ‘Voice’ St. Louis is a third year student at UWI in the Theatre Unit of the Department of Creative and Festival Arts (DCFA). St. Louis is part of the writing collective known as Full Blown Entertainment which has penned the last five Soca Monarch winning songs. In 2014 he co-wrote the winning Groovy Soca song *Too Real* for Kerwin Dubois.

“Another student, Keegan Taylor, who is completing his MA in Cultural Studies wrote this year’s Road March *Waiting on the Stage* for Machel Montano as part of the four-man collective Badjohn Republic. This idea of collaboration is fundamental to how culture works, and how our creative industries can develop.”

Suzanne Burke, Lecturer in Cultural Studies at the UWI’s Literary, Cultural and Communication Studies Department St. Augustine, believes that developing the intrinsic and instrumental values of culture are equally important. She is clear that strategies for sustainable creative enterprises need to be mounted: an enabling policy environment; adequate resourcing of the institutions of support; education and training in the core creative arts and supporting systems; and incentivizing investment in the sector.

“So there’s the challenge: to make sure that culture is integrated with development so that cultural awareness and sensitivity are evident throughout the society. We have to address our disjointed approach to culture. In every area, culture needs to be mainstreamed; to be acknowledged and integrated in policy.”

Burke had an epiphany when she was Regional Manager (East) for the YTEPP programme – to train and employ young people – in the early 1990s.

“I saw the response of young people to courses in the performing arts. They were discovering who they were in the world. They were empowered; they developed self-confidence; they learned life skills.”



Dr. Suzanne Burke

We must start with the belief that the cultural pie is infinite; the society and its economy can be self-sustaining.

Later on, she went on to her Master’s thesis at the Institute of Social Studies, The Hague, Netherlands, entitled ‘Cultural Industries and Economic Development: The case of the Carnival Sector in Trinidad & Tobago.’

She returned and picked up the post of General Manager at the Entertainment and Industrial Development Company (EIDECO), an umbrella organization affiliated with TIDCO aimed at developing the entertainment sector: “It failed fabulously.” Figuring out why it failed led to her deep investigations on cultural policy; and the PhD from the University of Essex.

In a 2011 presentation on Treatment of the Arts in Multicultural Policy, she proposes “convergence across various policy areas and sectors” including: community development; education and training; trade and industry;

economics and finance; media and broadcast; tourism and urban development.

More recently, in the 2014 Cultural Mapping Exercise that she conducted for the Ministry of Culture, she collected evidence that revealed that the arts and cultural industry sector includes enterprises that have a variety of business models, governance systems, employment patterns, motivations and are at different stages of business development. The study underscored the need for a co-ordinated approach to the sector’s development.

Convergence and connecting will build the framework, she believes, for eventual critical and commercial success. “In government, there should be an Inter-Ministerial Committee or a similar mechanism to coordinate policy and programming action in the cultural and creative industries.”

Unusual and individual instances – like this year’s winners for the International Soca Monarch and Road March; Bunji Garlin’s acclaim as part of the vocal team for Diplo & Skrillex’s award-winning album, *Jack Ü* - prove that Trinbagonians have the talent. Some of what Burke calls “the creative ecosystem” may be in place, but the whole fabric is still to be developed.

She sees a role for The UWI in gathering the evidence to demonstrate the pathways to success; even as she acknowledges how difficult it is to teach, to supervise and to research.

In her parting shot, she looks at the Carnival. She played mas with Minshall for 13 years, and more recently with K2K. “It can’t only be about turning a profit,” she says. “Smart enterprises understand that cultural goods and services are implicated in the construction of identity, the promotion of diversity and the encouragement of social cohesion. Strategic policy understands that it is involved in maintaining equilibrium between the social and economic aspects of culture.”

“We must start with the belief that the cultural pie is infinite; the society and its economy can be self-sustaining. We must say no to the tyranny of the ‘either/or’ and embrace the power of the ‘and’ if we are to move towards a more disciplined and deliberate activation of the culture to a creative industry in the service of our overall development and well-being.” -

The Film Producer

In 2010, Danielle Dieffenthaler was guest lecturer in the Film Department at The UWI. Her seminar, intended for third-year students, was titled The Film Producer. She brought experience and insight garnered over 20 years of being a producer (director, script-writer, negotiator, distributor and financial director) to the classroom.

Her most important lessons were practical insights into working in Trinidad and Tobago. She says she returned to Trinidad in 1990 technically adept (Bachelor of Applied Art, Radio & Television Arts, Ryerson Polytechnic University, Toronto, Canada) and then had to re-learn to adapt – “we make it happen” – in the Trinidad arts and business environment.

“It’s very important to be able to speak the language of business in Trinidad, to be business savvy, not just an artist.

“A lot of people jump in to film with no thought about making back some money. To some extent, I jumped in to see how *Westwood Park* would go. That series went on for six seasons, and in each season, we tightened and improved.

“You realize that you might be on the way to having a sustainable business – building an industry. But you cannot do it alone. Government supports are essential. The sectors that are important to a film industry – tourism, trade, culture, technology, community development and education – are oceans apart. Forward-thinking businesspersons must understand the opportunities for investment. Corporate Trinidad and government ministries need to understand each other, need to talk with each other.”

In 1990, Dieffenthaler and her colleague Walt Lovelace, working with Banyan Limited, filmed the release of hostages and surrender of the Muslimeen at *TTT*. This marked an initiation into Trinidadian media, history and filmmaking. Subsequently as CEO, producer, writer, editor of her own company Earth TV (1991-2006) she produced the *Ecowatch* series and the impressive *Westwood Park* series. *Westwood Park* ran for six seasons – 100 half-hour segments – the longest running, most widely viewed indigenous drama series in the history of Trinidad and Tobago television.

“We have stories that are ours. We need to be ourselves, to be genuine. We have to figure out how to be Trinidadian in our stories, to tell our own stories, and to tell them well enough,” says Dieffenthaler who has also produced memorable music videos, documentaries, commercials and corporate videos. In 2013, she received an award from the Trinidad and Tobago Film Festival celebrating pioneering work in filmmaking.

Carver Bacchus

Working for myself has been very difficult but also incredibly rewarding.



In 2007, she produced *The Reef*, a 13-part half-hour series set in Tobago. Later this year, she expects to start production on a crime drama series, *Plain Sight*. According to the blurb, the new series revolves around two characters who grew up in the same community. One becomes a drug lord and the other a forensic detective, both operating on their Caribbean island where “danger lurks just beneath the surface and criminals hide in *Plain Sight*.”

As guest lecturer at the film school, she shared the experience of 20+ years dedicated to her craft; including these guidelines:

- Don’t do this for money or fame.
- Look for financing up front; consider distribution possibilities.
- Your budgets will dictate everything: people, time, locations
- Plan each project as much as possible: pre-production is most important. Take time to get the right people around.
- Find your market: who are you making this film for? Who will be interested?
- Consider investors; and include a plan to pay back the investment; never assume that you are being given a grant.
- What is your product? We have to start viewing our films as products.
- Hire the right crew, not just your friends. Feed your crew and build a team.
- Make sure everybody on your project is on the same page: everyone must understand the vision for the film. Take time to ensure that everyone knows what everyone else is doing.
- Select locations that are practical for everyone: visual, sound, cast, crew.
- Be honest about time and resources.

Dieffenthaler has learned that honesty about what she can afford to pay is the best policy. She tells the story of finding the main location for *The Reef* in Tobago. “You knock on the door and find the perfect location. But you have to say that \$X is what you can afford to pay for a month in the man’s house. It was not a lot for a place that goes for a couple thousand US\$ per night. But he looked at me, and said ‘ok.’ Sometimes you do get lucky!”

A Better Place

In November 2015, the Green Screen – Environmental Film series, opened its annual event with a feature film based on the work in five communities towards sustainable development. *A Better Place* spotlights persons in Trinidad and Tobago whose projects for survival and sustainability might otherwise go unnoticed. The film is joyous and optimistic in its vision of the natural land and sea scapes, as well as the passion for life of ordinary and challenged Trinbagonians. The lasting impression from *A Better Place* is resilience, creativity and hope. Yes, we can build a better Trinidad and Tobago!

The film is the latest production by Carver Bacchus of Sustain T&T which is an organization focused on environmental and sustainability education in Trinidad and Tobago. Since 2011, the organization has developed and implemented programmes to mainstream environmental issues - in particular climate change - towards action. The Green Screen – Environmental Film series was launched with that mission; and because Trinidadians are easily engaged by this medium.

“From my perspective the creative industries are an important component of diversification. So we are sitting at the crossroads between the creative sector, sustainability and design. Sustain T&T is creating a platform for education, information sharing, and social marketing of behaviours that are necessary to maintain our environment while diversifying our economy,” says Bacchus.

With a BSc in Communications from the Florida Institute of Technology (1996), it had taken another ten years to crystallise his personal vision and the focus of his work



Danielle Dieffenthaler

We have to figure out how to be Trinidadian in our stories, to tell our own stories, and to tell them well enough.

in Trinidad and Tobago. The time spent in merchandising, in marketing, in sales and communications, in private businesses and in public sector institutions, provided the bedrock for engaging with communities in all walks of life. The Diploma in Motion Picture Directing from the Brighton Film School, UK, (2008) was an important stepping stone.

“One of our core messages is economic sustainability and diversification for long term survival in T&T,” says Bacchus.

“Sustainability is about how people live and interact with their homes, places of work, school, communities and each other. What people want for themselves and where they see themselves in the future must be at the centre of planning. People have to be engaged with this process and care enough to make their voices be heard. It is Sustain T&T’s job to make them care.” He knows he cannot do it alone: environmental issues affect everyone, the nation, the world; collaboration is essential.

“I am working to develop and formalise a network of creative hubs to support the expansion and legitimisation of our creative sector. Sustain T&T operates out of a creative co-working space called Home, a partnership between Anya Ayoung Chee and Abovegroup. Home provides a space where creatives can meet, work, collaborate and exchange, but there are many similar spaces, at different levels of development, all over Trinidad and Tobago. My goal is to bring them together and coordinate a series of ongoing programmes to facilitate creative exchange, training, capacity building and development, ultimately positioning Trinidad as the creative industry hub of the region. Sustain T&T has already designed an extensive proposal for developing the hub network.”

Bacchus concludes, “Working for myself has been very difficult but also incredibly rewarding. I have had to be very patient but now I am seeing some fruits. The best part is that I am doing exactly what I want to be doing – creating media content and experiences for the purposes of social awareness and behaviour change.”



Pathways to Diversification The Economic Recession

Engineering Caribbean Manufacturing – *has its time come?*

BY JOEL HENRY



“Manufacturing is the backbone of developed nations,” Professor Boppana Chowdary, Head of the Department of Mechanical and Manufacturing Engineering at UWI St. Augustine, tells me for the second time.

The first was more than a year ago, in a discussion on 3D printing, the manufacturing sector and the Caribbean’s need for diversification.

A year later, and the conversation is almost the same. In truth, with some variations, the conversation has been the same for decades. Some would say since Independence, as the colonies whose role was to supply crops to the colonial power found themselves with vulnerable, agrarian economies.

Since those days there has been an understanding of the necessity for economic diversification and the growth of manufacturing. And there has been progress – just not enough. So the conversation continues. But perhaps the time has finally come for the dynamism required to make diversification a reality.

With years of low growth and high unemployment behind it and more of the same on the horizon (recent estimates from the ECLAC forecast Caribbean growth in 2016 at 0.3%), the region has a critical need for new solutions. And now even Trinidad and Tobago, bolstered by its energy sector-driven export trade is being hit by low oil prices. On top of this, there are fears of a global turndown, which will affect Caribbean services and commodities. The islands now have more motivation for strong diversification measures than ever before – desperate necessity.

Professor Chowdary has been ready.

“I was at a gathering hosted by InvesTT (one of Trinidad and Tobago’s investment promotion state agencies),” he recounts, “and I told the stakeholders from the manufacturing sector ‘if you are willing to come forward one step, I will come forward seven.’”

As Head of the Department, he is facing a dilemma. The UWI decided to combine the existing Mechanical Engineering Department with Manufacturing with the intention of training a cadre of manufacturing engineers to support an emerging, vibrant manufacturing sector. That sector has not emerged. There is a relatively successful manufacturing sector in Trinidad and Tobago but its contribution to GDP is small (estimated at TT\$7,633.2 million or 8.1% of GDP in 2015). But the sector is certainly not enough to attract engineering students away from the far more prosperous energy sector. Nor is it at the level of sophistication in manufacturing technology to even need trained manufacturing engineers.

“Caribbean manufacturing has several challenges,” Professor Chowdary says, “outdated machinery, limited raw materials, expensive or unproductive labour and lack of funding for research. Because of this, Caribbean manufacturing companies are struggling to compete internationally.”

Several pieces have to be put in place for an internationally competitive manufacturing industry to develop in the region, training engineers and researching and developing innovative manufacturing technologies and processes comprise one piece. Without the others it will not work.

“All the developed and developing nations with strong manufacturing have collaboration between the universities, business and government. That is what we are missing in the Caribbean,” he says.

Universities such as MIT, Stanford, the Indian Institute of Technology (IIT) and many more, routinely collaborate with governments and the private sector to achieve mutually beneficial national goals. In fact, the development of Trinidad and Tobago’s oil and gas-based sector is an

Professor Boppana Chowdary
Head of the Department of Mechanical and Manufacturing Engineering at UWI St. Augustine

“All the developed and developing nations with strong manufacturing have collaboration between the universities, business and government. That is what we are missing in the Caribbean.”

example of precisely this kind of collaboration for economic development. This level of partnership, each performing its role in a clearly defined strategy, is what is required to develop a sector.

What is interesting is that knowing the limits of his power in the situation, Professor Chowdary, a very soft-spoken man (every sentence seems to trail away into a whisper, the more emphatic his point, the quieter he becomes), remains resolute. If training and research is not enough, then the next step is big-picture strategy and advocacy.

“Bygones are bygones, we have to do what we can do now – The UWI, industry and governments,” he says.

The closer the better

A good example of the kind of limitations regional manufacturing faces is the ubiquitous water bottle. Water bottles are everywhere and we manufacture them locally. What we don't manufacture is the bottle cap. That means every water bottle you see or buy, even though local manufacturers are involved in the process, adds to the import bill, the negative trade balance and the loss of US currency.

Why is this? The cost of acquiring the raw materials and manufacturing the cap is three to four times what it costs to import them. And why is it so much more expensive – because of import duties on the necessary raw materials and manufacturing process-related costs. Put another way, in this scenario manufacturers are limited because of structural hurdles that make local manufacturing inefficient.

“As a business person you cannot justify the risk,” Professor Chowdary says. “There is no research, no encouragement, no incentive.”

This is why he believes the business-government-university partnership is so crucial. Policymakers' role is to create the enabling environment through laws and regulations and provide incentives through direct funding or provision of resources to the industry and the university. The industry and entrepreneurs invest in modernisation and labour and embark on new manufacturing ventures.

As for The UWI's role – Professor Chowdary has no shortage of ideas:

“We definitely need to do more. We must build confidence in the university. If we are not showing anything, if we are sitting in our offices, if we are not exhibiting our talent, nobody will realise our strengths.”

Confidence, the Professor believes, is one of the keys to making change work, especially to bring the manufacturers and entrepreneurs on board, who, more than the other groups, face fatal financial risk if new schemes fail.

To instil greater confidence, the department will host exhibitions of mechanical and manufacturing engineering projects every May/June to showcase the capacity of its students and staff. In addition, working with academic staff such as Rodney Harnarine (who has been featured in earlier issues of UWI Today for his work with students in agricultural innovation, see <http://sta.uwi.edu/uwiToday/>



An impeller manufactured through the Computer Numerical Control machining process.

archive.asp) the department has designed, constructed and sold a functional model of a channa-splitting machine. There are several other projects in the works focused specifically towards food processing.

“Our approach is incremental,” he says. “We are targeting specific sectors like agriculture to show what we can do. For example, we are working on cassava grating machines that can be used to process cassava flour from what is being farmed in Moruga. This will enable farmers and the community entrepreneurs to sell a finished product to stores and bakeries.”

This goes beyond showing what The UWI can do to contributing directly to the development of the sector. The benefit of this as well is that by using machines developed through UWI research the cost to manufacturers is much lower. The university's research objective is to contribute to development and impact on the society, not turn a profit.

One of Professor Chowdary's most ambitious goals is the creation of a design and manufacturing innovation centre that is specifically tailored to meet the needs of industry – regional and international.

“I have discussed a proposal with Professor Stephan Gift, Dean of Engineering, for a school of engineering that focuses more on the business and commercial aspects,” he says. “I would like a space where companies can set up offices within the institution so that we can collaborate more closely. We can tweak our curriculum and training programmes to suit their needs. We can support their existing operations. We can create a pipeline for our students from the university to employment in the industry.”

The Professor points out that this type of institution is nothing new. In fact, he has experienced it first hand at the Indian Institute of Technology in Delhi, where these types of relationships with big multinational players in science, manufacturing and technology are the norm. To this end he has already been in discussion with regional and even international players about partnering with The UWI.

“We will be the engineers to meet their requirements,” he says, “whatever they want.”

MSc in Manufacturing Engineering and Management

No matter what measures the Department takes, it will come down to the quality of its educational programme and its graduates. Because of this the MSc in Manufacturing Engineering and Management is a comprehensive programme that stresses the technical, professional and managerial aspects of the profession.

“I am linking the programme with the current and future needs of the industry,” Professor Chowdary says. “To have confidence in us the industry needs to see our capabilities. We have to show them that there is no need to send their engineers for training in the US or Canada.”

The programme will provide training in flexible and cost-effective manufacturing technologies like computerised numerical control (CNC) and 3D printing. With six compulsory and four optional courses and extensive hands-on experience in the laboratory and on machines, the MSc is aimed at producing “complete” manufacturing engineers.

“The industry needs a crossbreed of engineers and technicians that will service and deal with all areas of mechatronics. If I'm going to hire a technician that technician must be capable of doing multiple jobs,” he says.

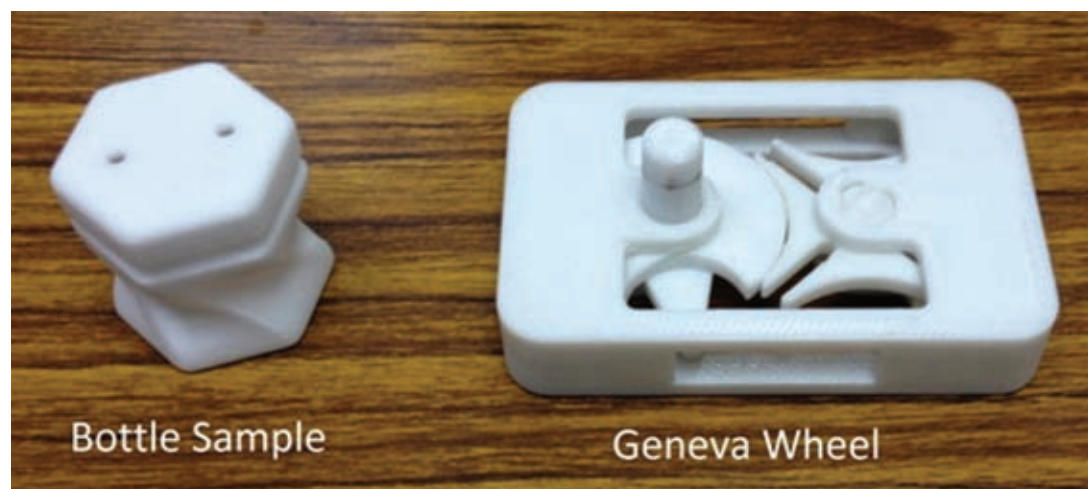
And like the Department Head himself, the MSc graduates, apart from specialising in modern design and manufacturing, will have the big picture view of Caribbean manufacturing and be its advocates and enablers.

“They are going to give the kind of awareness and exposure we need to the people in the system. These manufacturing management engineers will implement what they have learned and show its benefits,” he says.

The potential of these moves and the persistence of the man behind them are hard to deny but the forces of inertia have been more resolute than any plan of change when it comes to Caribbean diversification. Since our last interview it is clear that Professor Chowdary has come up against the inertial wall that has resisted so many efforts to drive past it. Nevertheless, he is still fighting.

“People keep asking ‘where is manufacturing in this country?’ Who will answer those questions for this region, God? We are the people who must answer this question. We are the people who must create change.”

Professor Boppa Chowdary can be reached at Boppa.Chowdary@sta.uwi.edu



Parts built using the Rapid Prototyping process.



Chess pieces manufactured through the Computer Numerical Control machining process.



Pathways to Diversification The Economic Recession

Agriculture

Everybody has to eat

New technologies make farming a real option

BY VANEISA BAKSH

“The UWI’s role is to provide scientific and technological support to the region,” says the Dean of the Faculty of Food and Agriculture, Isaac Bekele. He thinks that this economic downturn demands a social transformation, and the role of agriculture must be magnified. But with limited resources everywhere, he does not think that the University should be extending its reach arbitrarily into commercial enterprises. Its role should be to enable and empower both the public and private sector to fully develop their capacity.

“For us to add value to the ongoing debates about development, we need to do things that others are not doing,” he said.

Agriculture can be income-generating through export to foreign markets, he says but first you have to build and target niche markets. He cites the way English taste buds have blossomed with the spices from India – tikka might now be the national dish, he ventures.

Food security has to be the main priority, he says. You have to identify the demand-driven crops for the country, those needed for local consumption, and you have to develop the local sector so that it can feed its population.

“Our task has to be to provide good lines of crops. We have to do the breeding, and partner with the farmers to grow them and process and package them. There is no reason to import food crops,” he says.

His Faculty (FFA) has been reorganizing itself over the past few years at various levels. With decreasing numbers in regional enrolment, not only is there reform of the curriculum, but the Faculty is proposing a two-year diploma/associate degree which will shorten the actual Bachelor’s degree programme. The Faculty is also developing a matriculation pre-university certificate programme for CSEC certificate holders in CAPE subjects, which should come on stream this year.

So, while they are trying to encourage more people to see agriculture as a career, they are also trying to broaden the scope of what is being taught and to encourage more research.

One of the major thrusts of the Faculty is in graduate training, and the partnership with the China Agricultural College (CAU) is a fine example of how these relationships can work. UWI graduates spend two years at CAU pursuing an MSc in plant genetics and breeding (including a practical project) and return to St. Augustine to do the PhD under joint supervision. Four Caribbean students are involved at this point and the hope is that they will form part of the cadre of teachers in these areas. The Dean hopes that livestock genetics and breeding will be the next step.

In his most recent internal report on the FFA, the Dean stresses the need to develop its infrastructure and diversify its income sources. The FFA earns income from short-term courses and its farm operations.



Professor Pathmanathan Umaharan, geneticist, believes the industry can be revitalized.



Minister of Agriculture, Land and Fisheries, Clarence Rambharat: The Ministry has the responsibility to develop and execute government policy. PHOTO: ANEEL KARIM

“Over the last three years, the Faculty has been engaged in the development of a new farm at the Orange Grove site while strengthening and expanding the livestock operations in the Mt Hope farm,” he wrote. “Well-developed modern farms are critical for training at the undergraduate and postgraduate levels so the focus on farms at one level is part of the Faculty’s focus on curriculum reform.”

He notes though that this involves “a modern technology-based foundation” and he cites the introduction of greenhouse technology to the region as one example. The Faculty currently operates 2234m² newly constructed greenhouses at Orange Grove.

Inside are tomatoes of all kinds and sizes at different growth stages, they are trellised with strings so efficiently rigged that the tautness can be simply adjusted by a twist of the wrist. There are chili peppers: hot, mild, flavourful, long, short, red, purple, green (one type of bell pepper has some heat we are warned). There are thin-skinned cucumbers, and hardy pawpaws, gorgeously veined swiss chard. And delightfully, miniature watermelons, “Single-serving,” says the Dean.

These are among the first harvests from Orange Grove; there have been new varieties of corn as well, coming from China – and this is what the Dean means when he talks about the University’s role in seeking out crops that can be grown in this tropical environment and breeding and propagating them so farmers can reap that bounty.

Conceptually, it is not like the State-run mega farms, which have all but crumbled, according to the Minister of Agriculture, Land and Fisheries, Clarence Rambharat.

“None of the mega farms are productive,” he said, saying that the UPick one in Chaguaramas is only about three acres, and the most productive one at Orange Grove, west of the Piarco International Airport is about 200-300 acres. That one is being run by the Cunupia Farmers’ Association, he says, adding that this is the way the mega farms experiment should go.

The Minister was discussing plans for agriculture in the climate of an economic recession, the need for regional food security and the enormous food import bill.

While he admits the challenges are daunting, he is unfazed.

“I know the sector well,” he says as he relates how his father worked in Forestry and he grew up running around its offices and has always had an interest in politics, despite his legal background.

He drafted the PNM’s agriculture policy, which contained 18 points of action designed to “increase agriculture’s share of our GDP, increase employment in the sector and in particular increase the contribution of agriculture to economic growth and development in Trinidad and Tobago.”



Swiss Chard from the greenhouse. PHOTO: TERRY SAMPSON



A participant at a chocolate making workshop. PHOTO: ANEEL KARIM



Single-serving miniature watermelon. PHOTO: TERRY SAMPSON

He had noted in this draft policy that “Agriculture contributes just 0.5% of our GDP, while our food import bill is now \$4 billion,” a situation he considered untenable. (Elsewhere in this issue, Gerard Best reports that half of CARICOM countries import more than 80% of their food.) And from his contribution to the House of Representatives on October 20, 2015, he believes it is time to get cracking.

“I have said across the Ministry, I believe everything that has to be researched in agriculture, fisheries, food production, has already been researched. There are very few things for us to research. I believe that every conference that has to be attended to, Trinidad and abroad, has been gone to. I believe that every publication that is to be published and produced has been produced, and it is time for us to get down to the business of putting farmers and fisherfolk in front of this country.”

He has taken personal responsibility for two areas he considers priority in the first year: oversight for spending and governance. And he has found them to be both complex and challenging and fraught with obstacles. A Ministry like his, with many sub divisions (like the ADB, NAMDEVCO, Seafood Industry Development Co. Fisheries Division, aquaculture: the IMA, the Cocoa Development Company of Trinidad and Tobago Ltd, to name a few), was full of duplications in myriad ways. The structures had to be recalibrated, he thought, and he needed to identify the areas that needed to be centralized.

“The first priority was moving out of Port of Spain,” he said, and the Ministry should occupy its new headquarters in Chaguanas by April. He’s had a lot of issues to manage, one of which was the recent appointment of the Cocoa Development Company’s Board.

“Beginning all over again, we have a new Board, to be funded by Government. We have lands, using CEPEP,” he said, as he talks about the Government’s plan to “rebuild and rehabilitate” the cocoa industry.

“We should be aiming to be up in the high end production of gourmet beans.”

Professor Pathmanathan Umaharan, head of the Cocoa Research Centre (CRC) at The UWI, gave an idea of what the basic beans can fetch.

“The price varies depending on whether it is bulk cocoa or fine flavor cocoa. The bulk cocoa sells around US\$2500 per ton. Fine flavor itself has varied prices. Trinidad cocoa sells between US\$5000 to US\$7000 per ton because of its reputation. Specialty branded cocoa is known to sell as high as US\$12,000 per ton or more, but this is small volumes,” he says.

This is where the Minister wants to see things going.

“For the cocoa industry to take off, we need to bring confidence to the sector, through the Cocoa Board [CDC],” he said. “Rehabilitate, replant, change some of the practices, and bring the beans together; they have to be aggregated. I think it will happen in cocoa.”

Dr. Darin Sukha, a research fellow and food technologist at the CRC, had been a member of the Board of the CDC when it replaced the Cocoa and Coffee Industry Board in 2014. He no longer sits on that Board, but in a sense, the CRC is represented as the chair of its Cocoa Research Advisory Committee, Winston Rudder, has been named to chair the CDC. He believes cocoa’s time has come.

“A confluence of factors within recent years has contributed to cocoa emerging as a prospect for consideration. A key has been the leadership provided by CRC in taking responsibility to examine and document issues along the entire cocoa value chain from farm/bean to consumer/chocolate bar; to coordinate with other institutions/organizations: the Ministry of Agriculture, farmers, exporter, cocoa growing communities/leaders, chocolatiers local and foreign, in addressing issues impacting the different stakeholders. As a result, cocoa is poised to be a significant earner of foreign exchange not only through production and export of high quality beans but high quality chocolate. A key incentive too is the trend in international cocoa prices: they have been consistently high and rising!” he said.

Obviously, any conversation about the development of cocoa in this country has to include the CRC. The under-resourced CRC located at the St. Augustine Campus is a colossal name globally for its research and training and its cocoa pedigree as custodian of the International Cocoa Genebank.

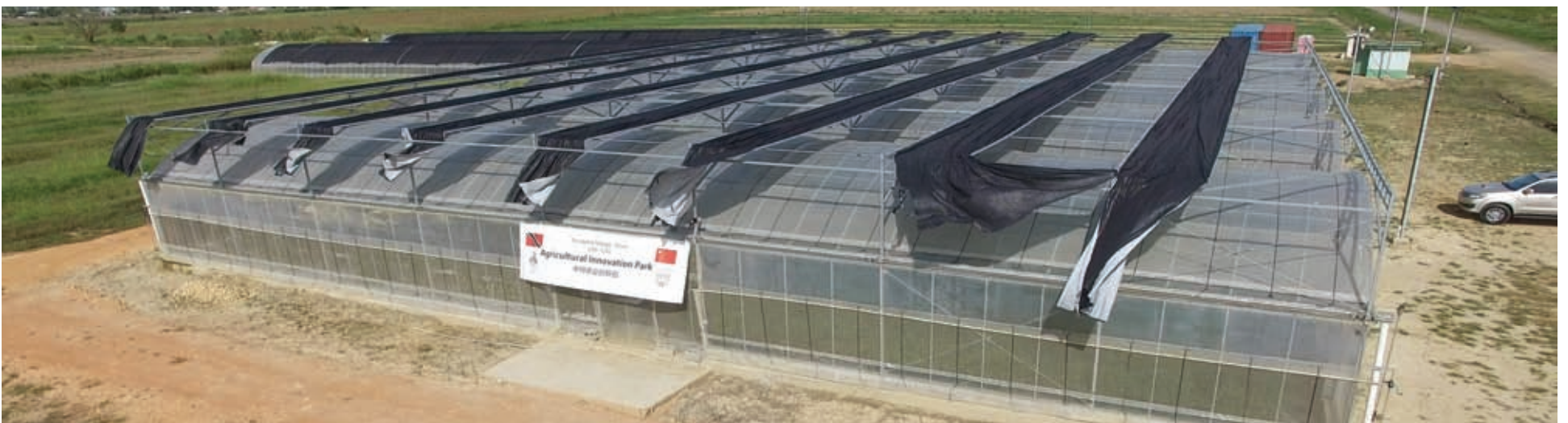
The CRC has been hosting several regular workshops for farmers, for chocolatiers, for cocoa research over the years, and just hosted a labour consultation to compile the concerns of farmers and workers in the sector. A group of 54 members of cocoa estates and farmers had been formed to look at moving germplasm around the estates as a conservation method and they are facing labour shortages.

At the consultation, three models were to be presented for discussion and possible adaptation for different sized estates – one was a CEPEP model. The recommendations from this were to be sent to the CDC and then to the Ministry. Sukha talks about these elements of the work of the CRC as critical aspects of nurturing an industry which can be rehabilitated as the Minister says. Talking about the chocolate making workshop he was facilitating the following day, he says, “You cannot teach how to make chocolate if you don’t know how. We have trained over 100 people in chocolate making. It’s a responsibility, if you want to promote development of the sector. You’re talking value-addition.”

T&T won at the International Cocoa Awards last year. “Two of our samples won and five made it to the top fifty,” says Sukha proudly. “We have some beans left over from that and we decided to make some chocolates and have a farmers’ appreciation day.”

This is essentially an extension of what the Dean of the Faculty of Food and Agriculture meant when he said that the university’s role is to provide scientific and technological support to the region.

That’s how you are adding value. That’s how you are building a sustainable economy.



An aerial view of the Orange Grove site with The UWI’s greenhouses. PHOTO: TERRY SAMPSON

RESEARCH

A black sorrel flower soaked in white rum, spices and sugar, then dipped in dark chocolate – have you ever eaten something so decadent?

I have; thanks to Matthew Escalante, the chocolatier at UWI's Cocoa Research Centre (CRC).

Matthew, 28, trained at the Trinidad and Tobago Hospitality Institute in Chaguaramas (TTHI) before joining the CRC to do his Master's degree in Food Technology.

Between classes Matthew whips up vanilla ganache hearts and gold-patterned cardamom-and-pepper squares that joyfully explode in my mouth. It's a tough gig...

He is constantly experimenting with flavours and textures. His bubbly personality belies a well-trained palate and his carefully considered alchemy. Yes. Alchemy.

When we meet, Matthew is in a white lab coat, pacing up and down the laboratory-cum-kitchen, brimming with excitement and talking at high speed in the language of food.

"I'm fat, and I love food," he says. "Food is about passion. If you lose your passion, you can't create."

His culinary acumen honed by years in restaurant kitchens, led Matthew to CRC as their chocolate maker in February 2014. Working on a carbonated cocoa pulp drink as his final year project as an undergrad in Nutrition and Dietetics, brought him into close contact with the CRC. His research won the Freeman Prize for best third-year undergraduate project in cocoa, so when their current chocolate maker left for French Guiana, they immediately thought of Matthew.

Matthew takes the raw cocoa bean from fermentation to the artisanal stars and hearts that melt in my mouth and leave me craving more. Which apparently only the best chocolate can do: no aftertaste, and you can't stop eating. The fridge in his lab is filled with Ziploc bags of the batches of chocolate that came out with the perfect desired taste: raisin, red berry, passion fruit.

He never stays still and is up and down the lab, opening cupboards and flasks, unzipping bags and unwrapping more delightful concoctions.

"Do you like milk chocolate?" he asks.

I hesitate and tell him I now find it too sweet; I used to eat loads of milk chocolate and have now switched to dark.

"Most people think it's bad and dark chocolate is the only one that's good for you, but there's no 'good' or 'bad,' it's just different."

Matthew slides open a bag that holds the biggest slab of chocolate I've ever seen, breaks off a chunk with a satisfying snap and hands me to taste: it's silky and raisiny, a result of Matthew's hand tempering that adds shine and snap. I am amazed by its subtle delicacy: not too sweet; I immediately want more. This is milk chocolate? It is nothing like the stuff you find on supermarket shelves.

We then try a tiny frilly-edged button chocolate that has a distinct passion fruit taste. Absolutely delicious. Matthew pops one into his mouth to confirm my findings. He's delighted to help.

The beans CRC gets for chocolate making are from the International Cocoa Genebank in Centeno and are picked from their fields and sent as one batch.

The first stage after the beans arrive is fermentation. Matthew takes me to the fermentation building where the raw beans are in ventilated wooden boxes covered with a layer of banana leaves, then a layer of the crocus bags the beans are transported in. The sour flies that flit around us influence the growth of yeast.

The Alchemist

Matthew Escalante finds his creative passion

BY ALLISON SHEPHERD



Matthew Escalante at one of the Cocoa Research Centre's recent chocolate making workshops.

There is a not unpleasant hot wine-like smell in the room with an underlying bitter chocolate aroma. Matthew measures the temperature of the fermenting beans.

After three days the beans have reached a temperature slightly above 44 degrees Celsius and are ready to be turned. They are then left for six to eight days. After fermentation they are taken to the roof of the Frank Stockdale building (home of the CRC) to dry. We take the ancient lift to the roof where the beans are laid out drying in the sun. It is a hot day and the drying gets rid of any mould.

His chocolate only uses hand-picked beans. "They should be the same size, plump, no splits or cracks and mould free," Matthew explains.

He chooses a couple of already roasted beans, breaks them open and fills my hand with cocoa nibs. "Try them." They're bitter with a slightly acid sharpness.

Flavour depends on each stage of the chocolate-making process from bean to bar including genotype, roasting and conching.

Matthew, always experimenting with flavour, is isolating the beans from each field to see if the chocolate has a unique "field" taste. This could then influence the notes of the chocolate he produces.

"We are trying to determine the flavour potential of each of the Centeno fields," he says.

Experts like CRC's food technologist Darin Sukha are trained to detect 40-50 flavour notes. Someone like me should be able to detect around seven including floral, fruity, nutty and earthy, Matthew says.

I'm thinking I should eat some more – just to see if I can improve.

To learn how to make chocolate for yourself join one of CRC's classes. Courses start at \$3000.

■ HEALTH

The Zika THREAT

and the regional reality



BY GERARD BEST

While the explosive spread of the Zika virus through the Americas is getting noticed worldwide, the Caribbean should be equally concerned about non-communicable diseases. The threat of Zika, though formidable, is hardly singular. Heart attack, stroke, chronic respiratory diseases, cancers and diabetes cause high morbidity and drain regional governments' health budgets.

It's not hard to see why Zika has captured the world's attention. It has been fodder for global news, prompting mass media hyperbole. Not since the West Africa Ebola outbreak has a disease so consistently generated such panicked headlines. The mosquito-borne virus quickly became a flashpoint for arguments over everything from climate change to reproductive rights, not to mention heated debates over what we can and cannot yet know about it.

The reality remains unknown, in part because a definitive link between the virus and other serious complications appears difficult to establish. Notably in Brazil, an observed but not yet confirmed link to a surge in microcephaly – babies born with abnormally small heads – is troubling; as is another unproved link to Guillain Barré Syndrome, a neurological illness that causes paralysis.

That uncertainty is fanning the flames of the worst health scare in recent history, in spite of assurances from World Health Organisation (WHO) Director General Margaret Chan that Brazil is doing a good job ensuring that the Olympic games it will host in August will be safe for athletes and visitors. The WHO declared the Zika outbreak, which has spread to more than 30 countries, an international health emergency on February 1.

If you had to put a number to the level of uncertainty surrounding Zika, it would probably be 1.8 billion. That's roughly the figure that US President Barack Obama asked Congress to set aside for work on halting the spread of the virus. The bulk of the money would go to the Center for Disease Control and Prevention, which has dedicated hundreds of staffers to responding to the outbreak.

Some Caribbean leaders matched their US counterpart's concern, although our national and regional public health agencies lack the equivalent operational capacity and access to finances. In Trinidad and Tobago, the Health

Ministry's declaration of a national emergency actually came days before the World Health Organisation declared the global health emergency. The UWI has set up a task force specifically to address it.

Zika fully deserves that level of attention, not just from regional leaders but all Caribbean citizens. Eradicating mosquito-borne disease is a responsibility we all share. And the only way to deal with the virus at present is to reduce the population of the *Aedes Aegypti* mosquito vector, which is an old friend to the Americas, having long facilitated the spread of yellow fever, dengue and Chikungunya. Health officials must now redouble perennial efforts to educate and motivate information-swamped publics to get rid of potential mosquito breeding sites.

At the same time, the region's tourism industry – many states' economic mainstay – has to stomach the prospect of vacationers rethinking their trips. The CDC has warned pregnant women and those planning to become pregnant against travel to several popular regional destinations. Some airlines are reportedly offering free postponements or full refunds to customers holding tickets to places identified by the CDC as affected.

If the threat of Zika is immediate, far-reaching and multi-layered, the region's response must also be urgent, consultative and multi-sectoral. Regional leaders should follow the same playbook of urgent, aggressive, collaborative action to eliminate non-communicable diseases (NCDs). The Caribbean has both the highest prevalence of NCDs and the highest mortality from NCDs in the Americas. Four out of 10 deaths under the age of 70 are potentially preventable.

In Trinidad and Tobago, where NCDs are the leading cause of death, there have been some encouraging signs. NCD-reduction has been identified as a national priority development issue, and the government identified the development of the National NCD Strategic Plan as a priority.

Regionally, a 2007 CARICOM Heads of Government Summit on NCDs produced the Port of Spain Declaration, which helped to lead the way to the 2011 United Nations High Level Meeting. The process of evaluating the national and regional implementation of the Port of Spain

Declaration is ongoing, and recommendations are to be presented to the World Health Assembly in May and to the CARICOM Heads of Government meeting in July 2016.

The highest risk factors for NCDs are being overweight and obese, and part of what feeds poor dietary choices is the vast amount of unhealthy foods being imported into the region and insinuating themselves into everyday consumption, according to a 2015 State of Food Insecurity in the CARICOM report released by the United Nations Food and Agriculture Organisation Subregional Office for the Caribbean based in Barbados.

The imported foods we eat are literally making us sick, contributing to the increased prevalence of chronic NCDs. Sedentary lifestyles and a predilection for food low in nutrients, energy-dense and high in fats, oils, sweeteners and sodium leave us vulnerable to diabetes and hypertension, stroke, heart disease and some forms of cancer.

Food imports are by far the largest source of food for CARICOM countries, which import more than US\$4 billion in food annually. Processed foods, grains and livestock products are among the top five food import categories, accounting for over US\$ 1 billion or approximately 25% of annual food imports regionally. Half of CARICOM countries import more than 80% of the food they consume.

In part, the Caribbean's inherent vulnerability to natural and economic shocks is responsible for undermining efforts to advance regional food security. From 1990 to 2014, 182 major natural disasters occurred in the region. But improved public policy is critical to achieving improved food and nutrition security. Public policies are essential for the sustainable management of food systems such as school feeding programmes and early childhood nutrition programmes. Strong leadership is needed to ensure beneficial health outcomes for our populations.

Even as we formulate our response to Zika and other infectious diseases, we would do well to apply any lessons learned to the fight against NCDs. We certainly cannot afford to allow Zika to simply become just the latest distraction from our more longstanding, widespread and intractable health issues.



UWI
ST. AUGUSTINE
CAMPUS

Evening University

Undergraduate Admissions 2016/2017



The University of the West Indies continues to provide opportunities for persons across geographical boundaries, broadening access to classes and programmes.

BSc Public Sector Management

Get an understanding of the intricacies of public management systems. Learn how these systems should work rather than how they currently do. See how International Relations and International Politics fit into the mix.

Find out more about the

BSc Public Sector Management

and other exciting programmes at:

www.sta.uwi.edu/evening

Faculty of Food and Agriculture

Majors:

BSc Agribusiness
BSc Human Ecology
BSc Human Nutrition and Dietetics

Faculty of Social Sciences

Department of Behavioural Sciences

Majors:

BSc Criminology and Criminal Justice
BSc Psychology
BSc Sociology

Department of Economics

Major:

BSc Economics

Department of Management Studies

Specials:

BSc Banking and Finance

Majors:

BSc Insurance and Risk Management
BSc Leadership and Management
BSc Management Studies
BSc Sports Management

Department of Political Science

Specials:

BSc International Relations
BSc Public Sector Management

Major:

BSc Political Science

Diploma:

Dip. In Public Sector Management

Certificates:

Cert. in Public Administration
Cert. in Local Government Studies



APPLY ONLINE NOW

www.sta.uwi.edu/admissions/undergrad

APPLICATION DEADLINE

May 31, 2016

SYSTEM MUST CATER FOR SPECIAL NEEDS

BY S A B E E R A H A B D U L - M A J I E D



PVC and Campus Principal, Professor Clement Sankat at the opening of the National Consultation on Education on February 15, at the Teaching and Learning Complex at St. Augustine. At the head table from left are Dr. Lovell Francis, Minister of State in the Ministry of Education, Anthony Garcia, Minister of Education, Colm Imbert, Minister of Finance, Zena Ramatali, President of the National Parent Teacher Association and Devanand Sinanan, President of TTUTA. PHOTO: ANEEL KARIM

The UWI School of Education (SOE) made a significant contribution to the three-day National Consultation on Education (NCE). Our experts' advice ranged from best assessment and health and family life practices to early childhood interventions to curb school violence. SOE staff also addressed meeting students' special needs through a comprehensive, national inclusive education programme. To lend further support to this Ministry of Education initiative, staff and graduate students also served as moderators and rapporteurs for panels at the three venues.

At the first consultation, Dr. Jerome De Lisle shared his expertise in public examinations and large scale assessments. He cautioned Trinidad and Tobago against benchmarking and borrowing assessment policy from countries, which are high performing in international assessment. He advised that the focus should be on formative assessment (to monitor student learning and provide ongoing feedback to improve teaching and student learning). This is done in Hong Kong and Singapore. Finland also focuses on this type of teacher-led assessment from the early grades. Reforms in the US also include such a focus and consider the use of challenging performance assessment for performance understanding among students.

He lamented that this focus is missing in both teacher preparation and system emphasis in Trinidad and Tobago. High stakes summative assessments (like SEA and CSEC which evaluate student learning at the end of an instructional unit) continue to be important for benchmarking and providing the full picture of learning nationally. Dr. De Lisle warned that we must be cautious of trying to use one assessment to (1) select and certify; (2) promote and support learning; and (3) monitor student learning standards. Implementing these kinds of assessments in the classroom require significant improvements in teacher preparation and professional learning. He also recommended a review of policies which promote measurement-driven instruction (as contained in current SEA/CAC practice).

At the Inclusive Education forum, Dr. Elna Carrington-Blaidies reported on a recent UWI study which indicated

that approximately 37% of the students have some type of emotional behavioural disorder; far greater than the projected 15% to 25%. She also lamented the lack of legislation and a framework to guide the delivery of inclusive services for students with special needs. Her recommendations included field research to accurately identify the prevalence of various disabilities; teacher training to focus on differentiated instruction to assist all teachers to modify curriculum and instruction to meet the needs of diverse students; and developing a framework for identifying and matching students with special needs to required services.

“The output of our education system should facilitate the building of a more competitive, sustainable, caring and safer society. From such a perspective, we can then take some key issues like learning outcomes, performance rates, behaviour in our schools, access, quality and funding of education and especially at the tertiary level, the training of our teachers for all sectors, relevant and efficient curricula, and especially the role of science and technology, engineering and mathematics as important ingredients for supporting a technologically driven society; the role of technical and vocational education to meet the manpower needs of business and industry, business innovation and entrepreneurship and infusing the humanities and education to build more understanding, caring societies are also important,”

Professor Clement Sankat

As an early childhood specialist, I noted that school violence usually starts as challenging behaviours in pre-schools and early primary classes. Some of our gifted students may be among those displaying behavioural problems because school is boring. Left unattended the problems escalate. In the absence of interventions for addressing challenging behaviours, young children can become bullies or “troublemakers.” It is critical therefore to make behavioural interventions before children reach age 6. Thereafter interventions are still possible but more complex and costly. While the home situation is often the root cause, reasons for “acting out” behaviours are varied and can be exacerbated when schools are not equipped to assist students with social and emotional problems. We therefore need research to understand the scale of the problem. We also need to introduce policy, teacher professional development and developmentally appropriate intervention models to assist young students with challenging behaviours.

All stakeholders, including families, should be included to identify and solve problems.

In relation to health and family life issues Dr. Bernice Dyer-Regis, Dr. Madgerie Jameson-Charles and MPhil student Chinyere Onuoha, stated that 60% of all deaths in Trinidad and Tobago are caused by health behaviour and lifestyles established early in life. The Trinidad and Tobago Global School Health Survey (2011), found that 26.2% of students were overweight. Further, only 29.2% of students were physically active for a total of at least 60 minutes per day on five or more days over a seven-day period. Statistics also revealed smoking, alcohol and drug abuse problems among students. The good news is that schools can promote good health among students through health and family curriculum and everyday practices. The Ministry of Education has already produced policy and curricula for Health and Family Life Education. They need to fully implement curricula at the primary and secondary levels; improve teacher training; and re-visit the School Health Policy to facilitate the development of health promoting schools.

CAMPUS NEWS

Dr. Chandra Mukherji, Visiting Lecturer in Hindi at the Centre for Language Learning (CLL), hosted a one-day workshop, “Orientation for Hindi Learners” for learners and teachers of Hindi on February 21. The workshop, held in collaboration with the Indian High Commission was officially opened by HE Sri Gouri Shanka Gupta, High Commissioner for the Republic of India. Pundit Dr. Rampersad Parasram spoke on “Development of Hindi in Trinidad & Tobago.” Another participant was Dr. Deepak Kumar Pandey, Second Secretary for Hindi and Culture of the High Commission. The participants and visitors were welcomed to the CLL and the Campus by Dr. Beverly-Anne Carter, Director of the CLL.

Learning HINDI

Dr. Mukherji who arrived in Trinidad and Tobago in October 2015 is on assignment from Government Degree College for Women, Begumpet, Hyderabad, Telangana State, India where she is Associate Professor

and Head of the Department of Hindi. She is the most recent academic who has been sent to UWI St. Augustine by the Indian Council for Cultural Relations to support the teaching of Hindi as a foreign language. Dr. Mukherji is already making her presence felt both in and out of class with activities such as this workshop and her role leading her students in song in the CLL’s end-of-year concert in November 2015.

Hindi is one of the 10 foreign languages taught at the CLL. Conversation classes will be offered in the mid-year programme which runs from May 02 to July 28. Registration for Semester 1 classes 2016/2017 will begin on August 22. Find out more about Hindi at the CLL http://sta.uwi.edu/fhe/cll/courses_Hindi.asp



Dr. Chandra Mukherji is surrounded by workshop participants as they show off their certificates.

Advance Visit by Rear Admiral

Trafficking in narcotics and people; natural disasters; security and defence – issues which are significant within the Organisation of American States (OAS) – are high on the agenda when Rear Admiral Martha Herb, Director, Inter-American Defense College (IADC) returns to Trinidad and Tobago with her class in April.

The Rear Admiral was in the country in mid-February and paid a courtesy call to PVC and Campus Principal, Professor Clement Sankat, where she told him that this was actually an advance visit before her class arrives under an arrangement with the T&T Government and the Defence Force.

The IADC operates under the aegis and funding of the OAS and the Inter-American Defense Board. It provides a professionally oriented, multidisciplinary, graduate-level course of study over an eleven-month programme, giving students opportunities to travel abroad and to study security issues.



Rear Admiral presents Professor Sankat with a token.



It seems a little odd to associate a jazz concert with a cake sale, but to complicate it with an actuarial science seminar takes it just over the edge. Maybe this is what the Department of Mathematics and Statistics was trying to achieve when they softened their seminar with a bit of jazz brought in by Samuel Broverman, a full-time professor in Actuarial Mathematics at the University of Toronto. Broverman, at 60, has never been able to separate his music from his math, and that’s what he did at the seminar on February 18.

■ ENVIRONMENT

Region at RISK

BY LA DAANA KADA KANHAI AND DAVE D. CHADEE

Kick 'em Jenny can kick up a tsunami

From 1498 to now, 85 to 106 tsunamis were reported the Caribbean. The most devastating was the 1946 tsunami in the Dominican Republic which resulted in the loss of 1800 lives. The 2010 Haiti earthquake resulted in a tsunami which caused at least three fatalities. Trinidad and Tobago experienced tsunamis/'tsunami-like' events in 1795, 1825, 1831, 1991 and 1997.

Is it likely that T&T will be subject to a future tsunami? It is likely and may be caused by the eruption of Kick 'em Jenny (an underwater volcano located off Grenada) or earthquakes. Such a scenario ought to generate concern as a significant percentage of T&T's 1.3 million inhabitants live in low-lying coastal areas around both islands; many locals and tourists visit the country's beaches for recreation, and coastal infrastructure exists on both islands.

In T&T, the three organisations which are involved in tsunami awareness and preparedness are the Seismic Research Unit (SRC), the Office of Disaster Preparedness and Management (ODPM), and the Tobago Environmental Management Agency (TEMA).

Although local agencies have conducted work regarding tsunami awareness and preparedness, this does not automatically imply that as a country we are prepared to deal with such an event. In order to provide some quantitative information regarding this issue, a knowledge, attitude and practice (KAP) survey (Kanhai et al. 2016) was used to gather information from locals in communities deemed vulnerable to potential tsunamis (those located on land less than 10 metres in height).

Knowledge, attitude and practice (KAP) surveys are tools which have been used to investigate what people know, how they feel and what they practice regarding a specific topic. The findings from such surveys can be used to evaluate the effectiveness of existing programmes and inform the implementation of appropriate interventions regarding a specific issue. The KAP survey technique was therefore utilised in our study to assess the knowledge, attitude and practices

of coastal communities in Trinidad and Tobago about tsunamis.

A total of 350 persons were interviewed using a targeted questionnaire in seven coastal communities across Trinidad (Maracas, Grand l'Anse, Mayaro) and Tobago (Buccoo, Charlotteville, Speyside, Roxborough).

The main findings of our study were that there was an overall lack of awareness about tsunamis. Fewer than 20% of interviewees were fully aware of a basic definition of a tsunami. Only 57% indicated that it was possible to foretell a tsunami's arrival based on signs in the natural environment. Although interviewees were aware of tsunamis that had occurred in other parts of the world, 92% were unaware that tsunamis had occurred in the Caribbean in the past. There was also an overall lack of preparedness by the interviewees as the majority (93%) indicated that their family did not have an emergency plan for a tsunami. Despite the fact that local agencies had previously conducted tsunami awareness activities, 80% of all interviewees indicated that public education programmes had never been conducted in their community. Furthermore, at least 46% of interviewees indicated that there was no/little likelihood that a tsunami would hit Trinidad and Tobago within the next ten years. If a tsunami were to hit the country, 57% of interviewees indicated that God would be the entity that would most likely prevent the loss of life.

In the Caribbean, the arrival time for a tsunami caused by local or regional sources is predicted to be short: less than 30 minutes to an hour. It is therefore critically important that locals (especially those living in vulnerable communities) possess basic tsunami awareness that will enable them to take appropriate action (initiate self evacuation and move to higher ground) if a tsunami is coming.

The findings of our study indicate that in spite of the work by local authorities in T&T in relation to tsunami awareness and preparedness, it is apparent that there is still much to be done.

Tsunami Awareness

In order to build awareness and preparedness amongst the local population regarding tsunamis, some measures that may be taken are:

- **development of a national plan of action regarding this natural hazard,**
- **inclusion of the topic of tsunamis on the primary and secondary school syllabi,**
- **delivery of tsunami awareness presentations to all primary/secondary schools and key stakeholders located in coastal communities,**
- **installation of warning systems in all vulnerable coastal communities, and**
- **use of the media to raise tsunami awareness amongst locals.**

One of the 'Be Tsunami Smart' signs posted at Maracas Bay, Trinidad. PHOTO: DR. TRUDY KAWAL



A Caribbean-American Fusion

BY REBECCA ROBINSON

Applying the Jamaican patios phrase ‘likkle but tallawah’ is a succinct yet effective way to describe the proceedings of the *Turning Tides* conference recently held at the St. Augustine Campus.

‘Likkle’ in the sense that it was only three days long but ‘tallawah’ (strong) in variety of content, quality of discourse and diversity of interests, people and presentations.

The UWI St. Augustine hosted the conference in collaboration with Trinity College, which is based in Hartford, Connecticut, USA. Its sub-title elucidated the focus as being on *Caribbean Intersections in the Americas and Beyond*.

Co-chair of the conference and Dean of the Faculty of Humanities and Education, Dr. Heather Cateau said that, “*Turning Tides* provoke wide-ranging and trans-disciplinary conversations centred on the Caribbean. The themes include identity, religion, culture, history, theatre, film, music, education, literature, ‘gangspeak,’ gender, sport and sustainable development.”

Co-chair Professor Dario Euraque in his greeting said that, “The *Turning Tides* conference actually represents a deepening of academic and administrative ties between Trinity and The UWI. There is a long history of inter-institutional relations between the two universities that dates back to the 1990s through an initiative that was nurtured with the great Trinidadian intellectual Lloyd Best.”

One of those agreements was marked by the official launch of *Trinity House* collaborative research centre. It is the on-campus home for a programme in which Trinity students take UWI courses, as well as courses organized and offered by the Trinity academic staff and distinguished

Trinidadian lecturers. The *Trinity-in-Trinidad* programme also includes bringing students each semester to become immersed in local culture.

It is coordinated by Trinity professors Milla Riggio, Pablo Delano and Dario Euraque. Core courses are directed locally by playwright Tony Hall and Dr. Armando Garcia.

Some 20 Trinity College academics participated alongside UWI-based presenters at the *Turning Tides* conference. There were sessions open to the public on the last day of proceedings in which Trinidad and Tobago’s 2016 Olympic bid was discussed, and Professor Patricia Mohammed screened her documentary film, *City on a Hill*.

The conference also paid tribute to Peter Minshall on the 40th anniversary of his first band, with the screening of the documentary *Paradise Lost*. Christopher Laird presented the Banyan feature called *Inside the People TV: Our Images, Our Stories, Money in the Bank*; and there was a conversation with Pablo Delano of Trinity College whose exhibition, *The Museum of the Old Colony: An Installation/ Exploration*, took place at *Alice Yard* in Port of Spain and the conversant was writer and editor, Nicholas Laughlin.

At the opening of the conference, Harvey Neptune delivered the keynote address. A professor of History at Temple University, Neptune attended Siparia Boys R.C. and Presentation College in San Fernando before migrating to the US and pursuing his higher education. The conference literature highlighted his being the keynote as emanating from his grounding and experiences ‘as a transnational citizen.’ Indeed he projected the three days of the *Turning Tides* conference with all its diversity and inter-disciplinarity as truly ‘likkle but tallawah.’ (See Page 5)

New Executive of Guild of Students

PRESIDENT

Makesi Peters

VICE PRESIDENT

Michael N Rajnauth

TREASURER

Jonathon St Louis Nahous

SECRETARY

Liana Lai Awa

POST GRADUATE PRESIDENT

Seon Raymond

PART TIME & EVENING
REPRESENTATIVE

Jamie Martin

PUBLICATIONS COMMITTEE
CHAIRPERSON

Enrique Ali Cashier

STUDENT ACTIVITY COMMITTEE
CHAIRPERSON

Dexter Wilson

NATIONAL AFFAIRS

COMMITTEE

CHAIRPERSON

Darrion Narine

INTERNATIONAL AFFAIRS

COMMITTEE

CHAIRPERSON

Yenver Caesar

GAMES COMMITTEE

CHAIRPERSON

Darien Subero



It was 159 votes that separated Makesi Peters (left) from Nikoli Edwards the former secretary of the Guild.

FACULTY OF

FOOD & AGRICULTURE

Tariq Ali

FACULTY OF

SOCIAL SCIENCES

Lynford Allen

FACULTY OF SCIENCE

& TECHNOLOGY

Dahryn A Augustine

FACULTY OF HUMANITIES

& EDUCATION

Shenell Felix

FACULTY OF LAW

Crystal Charles

FACULTY OF

ENGINEERING

Sherlanna Ferret

FACULTY OF

MEDICAL SCIENCES

Andre Earle



THE
ANTHONY N. SABGA
CARIBBEAN AWARDS
FOR EXCELLENCE

CALLING EXCEPTIONAL PEOPLE

The Anthony N. Sabga Caribbean Awards for Excellence has existed since 2005, and has recognized and rewarded 27 outstanding Caribbean nationals for their work in science, arts, public work, and entrepreneurship with prizes of a half-million dollars (TT) and a medal and citation.

The nomination deadline for the 2017 awards is March 31, 2016. Nominations for next year’s awards may be in arts, sciences, public works, and entrepreneurship.

The Foundation’s statement noted that while “we are proud to have recognized doctors, scientific researchers, writers, literacy activists, human rights and children’s activists, musicians, archivists, and missionaries,” there is room for others from different disciplines.

“We have musicians, archaeologists, and sustainable development experts, but we have no architects, visual artists, television producers, dancers, or designers.

“We would like to see entrepreneurs in everything from food production to fashion design, to media, and we are sure they exist, and work, and deserve to be rewarded. We would like to see the scientist in the obscure field, or the activist working quietly for his or her cause.”

For details on the Awards, nomination forms, and links to videos of laureates, events, and ceremonies, please visit www.ansacaribbeanawards.com.



2015 Laureates, from left: Prof Patrick Hosein (Science & Technology) from Trinidad & Tobago; Mr Herbert Samuel (Entrepreneurship) from St Vincent & the Grenadines; Prof Suresh Narine (Science & Technology), from Guyana; and Dr Paloma Mohamed Martin (Arts & Letters) from Guyana.

Life on the Eighth Continent

English, the top language of internet users, is giving way to Mandarin Chinese

BY JO-ANNE FERREIRA

The Masterclass, Web Optimisation for International Trade, was a learning opportunity like no other. Offered by the Centre for Language Learning (CLL), the Masterclass was part of Language and Competitiveness, an RDI-funded project conceptualised and led by Dr Beverly-Anne Carter, Director of the CLL at The UWI St. Augustine.

The Masterclass was practical and thought-provoking, with a resource manual, exercises, and checklists. Led by Sarah Carroll of Grow Global, the Masterclass covered topics such as:

- The International Web Opportunity
- How the International Web Works
- Visibility on the International Web
- Options for an International Digital Strategy
- Building and Optimising an International Website

This is an era that affords businesses opportunities aplenty. Information is accessible to potentially everyone, regardless of the GDP of a country. The International Web has become a virtual continent, the eighth continent, inhabited by potentially every human being. Citizenship on the eighth continent means crossing every tangible border, especially physical and geo-political borders.

Yet there remains one unidirectional border still in place for speakers of English – the language border. It is time for speakers of English to cross that border.

Other world citizens have long dispensed with the hurdles of language communication by investing in and prioritising the teaching and learning of English. But it has not usually been a two-way street. Speakers of English often remain complacent and confident in the false idea that English speakers have the edge, because everyone else seems to speak English. This actually puts others at an advantage, and puts English speakers at clear disadvantage.

One of the hallmarks of an international website is basic and multilingual Search Engine Optimisation (SEO). As it stands, 70% of online search enquiries are not in English. International communication requires multilingual and intercultural thinking. The benefits of being able to communicate with overseas colleagues, students, clients, suppliers and buyers are enormous, as are the reverse – the costs of lacking that ability and facility. Sometimes, there may be only one chance to impress.

Participants were told “Don’t just focus on one country and one language. Adapt your website and optimise it for international trade. Get it right in English first. Make it good for home-based users first, but reach out – go beyond English.”

Apart from multilingual content, optimisation also includes structuring each website for mobile devices, home page design, navigation, and creating calls to action.

Of the seven billion citizens of the planet, well over three billion are internet users, close to half the world, and the number is growing daily. Of these, one in four people



“Of the seven billion citizens of the planet, well over three billion are internet users, close to half the world, and the number is growing daily. Of these, one in four people now use social networks. Almost 50% of internet users are in Asia, with China and India sharing one billion and 28 million users. From China alone, come 674 million users (50% of China’s population), and 354 million come from India (28% of India’s population).”

now use social networks. Almost 50% of internet users are in Asia, with China and India sharing one billion and 28 million users. From China alone, come 674 million users (50% of China’s population), and 354 million come from India (28% of India’s population).

The top 10 countries by number of internet users include only three countries that use English as an official or main language, namely, India, the USA and Nigeria. But all of these three countries are multilingual. India, in second position with 354 million internet users, has 447 living languages (not dialects) of which 63 are institutional

(with statutory recognition), one of which is English. The USA, in third position with 281 million users (87% of its population), has 216 living languages, three of which are institutional (English is only a de facto national language in the USA, not a de jure one). Nigeria, in seventh position with 93 million users (51% of the population), has 520 living languages, of which 20 are institutional, including English.

Given the status of English as an international lingua franca, and its presence on every continent, it is not surprising that English is still the top language of internet users, with 852 million users, but Chinese (Mandarin) is not far behind, with 705 million internet users from China and other countries. Although only 50% of China’s population currently uses the internet, the number of Chinese users is almost 2.5 times that of the USA. When the number of Chinese users rises to almost 90% of their population, there will be five times the number of Chinese users vs American. This has huge international implications for language use, and that includes us in the Caribbean and the rest of the Americas.

The main UWI websites are considered to be in relatively good shape, and there are many good websites across the English-official Caribbean. (Interestingly, Bevil Wooding, of T&T, is one of seven gatekeepers of the internet.) However, what nearly all these websites are lacking is the multilingual, international approach.

The Caribbean has at least 70 known languages, only six of which have official status, namely, Dutch, English, French, Haitian, Papiamentu and Spanish. Four of these are international European languages used on most continents. These six official languages are a start, and Mandarin Chinese is next. Searches in these languages (and possibly related languages) can pick up sites with content in these languages. As one concrete example, school-leavers from Aruba, Bonaire and Curaçao (the ABC islands) speak four languages a matter of course – Papiamentu, Dutch, English and Spanish. They customarily choose Holland (which offers degrees in English) and the USA. Why not UWI?

Historically, Trinidad & Tobago has been the Babel of the Caribbean, with a few heritage languages still surviving (Spanish, Patois (French Creole), Hindustani (Bhojpuri), Cantonese and Arabic among them), and a number of immigrant languages on our shores, and right at The UWI, St. Augustine campus. Interestingly, google.tt can be searched in five languages. Everything is in place for not just a bilingual, but a multilingual T&T. The choice of internet language will depend on the choice of market.

In these days of STEAM, not STEM (Science, Technology, Engineering, Arts and Mathematics), the Language and Competitiveness project could not have been more timely. Closing off the week was the launch of the website of the project Language and Competitiveness. Language competence offers the chance to grow in cultural sensitivity and respect, shows interest, builds trust, and provides the platform for effective communication.

UWI CALENDAR of EVENTS

MARCH–JULY 2016

CAMPUS LITERATURE WEEK

March 14-18, 2016
UWI St. Augustine

The Department of Literary, Culture and Communication Studies and the Faculty of Humanities and Education present their annual Campus Literature Week, featuring Noontime Readings from March 14 to 17 from noon to 1pm at the Alma Jordan Library AV Room. You can look forward to readings from past and present MFA in Creative Writing Fiction students; contemporary fiction writers and UWI Lecturers. Lit Week ends with a Gala Closing on March 18 at 7pm highlighting this year's Writer-In-Residence, Mr. Lawrence Scott by his MFA students.

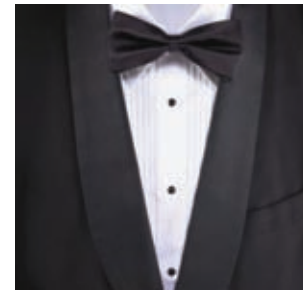
For more information, please continue checking the Campus Events Calendar at www.sta.uwi.edu/news/ecalendar.

BASIC SURGICAL SKILLS WORKSHOP

March 19-20, 2016
Eric Williams Medical Sciences Complex, Mt. Hope

The UWI Department of Clinical Surgical Sciences in conjunction with the Royal College of Surgeons host "Basic Surgical Skills (Intercollegiate BSS) Workshop." This workshop costs TT\$9500.

For more information, please contact Ms. Melrose Yearwood: 645-3232 or 662-7028 ext. 2864. Fax: 1 (868) 663-4319. Email: melrose.yearwood@sta.uwi.edu.



IIR – BLACK TIE DINNER
April 8, 2016
UWI St. Augustine

The Institute of International Relations (IIR) presents their 50th Anniversary Black-Tie Dinner from 7 to 11pm at the University Inn and Conference Centre, St. Augustine Circular Road, St. Augustine. Tickets cost \$1000 and all proceeds will be used to facilitate IIR student development.

For more information, please contact 662-2002 exts. 83235 or 82011 or email iiri@sta.uwi.edu.

PROMOTING PEOPLE'S DIGNITY AND WORTH

March 16, 2016
UWI St. Augustine

In honour of their 25 year Silver Jubilee celebration the Social Work Unit is hosting an International Conference on Social Work, Education and Social Development titled Promoting Human Worth and Dignity: Social Work and Social Development in Trinidad. The conference will cover topics ranging from Social Work Education to Crime and Justice. The cost of registration is TT\$200, payable at the Bursary, UWI St. Augustine Campus.

For more information, please visit the Conference's website: <http://sta.uwi.edu/conferences/16/icsw/>.

RIGHTS AND ACTIVISM

April 23, 2016
UWI, St. Augustine

The UWI Network and Outreach for Disability Education and Sensitisation (NODES) presents their one-day symposium on the theme, Rights and Activism in the wake of the Ratification of the United Convention on the Rights of Persons with Disabilities. The Symposium takes place at the Noor Hassanali Auditorium.

For further information, please contact Dr. Jean Antoine-Dunne at jean.antoine@sta.uwi.edu or visit the website: www.nodes.co.tt.

PERCUSSION ON THE GREENS

March 19, 2016
DCFA, St. Augustine

The Department of Creative and Festival Arts (DCFA) presents Percussion on the Greens – a picnic-style concert celebrating rhythmic instruments like concert bells, xylophone, vibraphone, marimbas and more. Patrons are encouraged to walk with their blankets when they come at 3.30pm to the DCFA Gordon Street location. Tickets for adults cost \$60; children, \$20.



For further information, please contact Michelle 663-2141 or 645-1955 or email dcfa@sta.uwi.edu.

CAMPUS COUNCIL LIVE

March 22, 2016
UWI, St. Augustine

Each Campus of The UWI has a Campus Council, which is the governing and executive body of the Campus. At each meeting of the Campus Council, the Campus Principal reports on the previous academic year, and these include academic and curriculum updates, changing statistics on students enrolment and graduate throughput, and staffing; management and expansion of the physical Campus sites; and strategic initiatives. Additionally, the Campus Bursar reports on the audited financial statements for the year in review, and beyond the balance sheet and income statements information is provided on cash flow, finances, accounts, and investments. The annual meeting, chaired by Mr. Ewart Williams, will be streamed live, so you can log on to the UWI website to view the proceedings.

LIFE SCIENCES RESEARCH SYMPOSIUM

April 7 to 8, 2016

The Department of Life Sciences presents their 6th Annual Research Symposium with the theme, Sustainable Development. Both days will showcase the research being carried out by the Departments MSc, MPhil and PhD students with poster, oral and video presentations. Some of the themes that students will explore include Ecosystem Services, Wildlife Monitoring, Molecular Biology and many others.

Updates will be posted on the Campus Events Calendar at www.sta.uwi.edu/news/ecalendar.



SPORT AND HIGHER ED
May 18-20, 2016
UWI St. Augustine

Save the new date for the 2nd Biennial Conference on Sport Studies and Higher Education: An Interdisciplinary Approach under the theme, Physical Literacy: Gender, Science, and Sport for Development. This conference will contribute to the development of research and scholarship on sport which can support programmes of sport in tertiary and higher education institutions. They conference will feature panels addressing sub-themes including but not limited to topics such as The Role of the State; Sexuality and Gender Identities in Sport, Anti-Doping Policy and more.

For further information, please email sportstudiesconference@sta.uwi.edu or visit www.sta.uwi.edu.

UWI TODAY WANTS TO HEAR FROM YOU

UWI TODAY welcomes submissions by staff and students for publication in the paper. Please send your suggestions, comments, or articles for consideration to uwitoday@sta.uwi.edu

